

African Institute for Mathematical Sciences

Next Einstein Initiative

Final Evaluation 2017

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Final Report

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EXECUTIVE SUMMARY

The African Institute for Mathematical Sciences (AIMS) engaged MDF Training & Consultancy to conduct an evaluation of the institute, focusing on the Academic Program, the Industry Initiative and the contribution of AIMS Alumni to Africa's development. The primary focus is the Academic Program, which is linked to the Industry Initiative through adaptation of the course curriculum building sustainable partnerships and facilitating internships in order to enhance outcomes for graduates within the context of AIMS five formative areas:

- Mathematical, Computing, and Scientific Knowledge and Skills
- Communications
- Research and Analytical Skills
- Attitudes and Values
- Innovation and Entrepreneurship

This evaluation focuses on the aspects of AIMS funded by DFID and IDRC from 2010 to 2017. It should be noted that further funding from the MasterCard Foundation was received building on the foundation laid by the DFID and IDRC grants. These elements are only dealt with peripherally in this evaluation, where they affect the effectiveness and impact of the funding program. It offers an external and independent assessment of the quality, rigour and consistency of delivery of the Master's Program across the AIMS pan-African Network, enabling:

- Learning from the program to build the next phases of the AIMS program
- Measuring progress towards the Academic Program IDRC/DFID targets and Career Development Strategy as part of the Industry Initiative.
- Assessing the consistency of the delivery, quality and outcome of education across all AIMS centres
- Assessing the recognition and credibility of the program across the continent
- Identifying the strengths and challenges in the delivery and management of AIMS

The data collection methods included document review, key informant interviews, site visits with interviews and focus groups, an expert panel review and a web-based comparison with other universities. The evaluation covers the period from 2010 to 2017.

Key Findings

The findings were gleaned from all of the data that was collected, sifting through what was relevant for achieving the purpose of the evaluation. Some key overall findings are:

- Progress has been made towards achieving the results set out in the IDRC/DFID logframe, particularly in the areas of increased access to mathematical science education, increased demand for, and interest in mathematical sciences and an increased number of well-qualified graduates engaged in the private and public sectors, academia, business and civil society (although the percentage of graduates so engaged has not increased over the years).
- AIMS is well-recognized across Africa, and is gaining recognition globally.
- While AIMS has a number of areas which should be reviewed and where improvements could be made, it has many strengths that it can build upon in making those changes.

Relevance

AIMS is relevant towards its mission and the need for mathematical science capacity development in Africa. AIMS provides a program that goes beyond academic education to help prepare its students to succeed in employment and life.

The AIMS curriculum is intended to develop graduates who are well-rounded scientists, can use their knowledge in continued academic pursuit and can formulate and address problems of relevance to African development. The range of student research papers indicates that AIMS students are interested in and preparing themselves for many fields relevant to the African context. There is an opportunity for increased relevance of the students research if done in conjunction with organizations/institutions such as hospitals, banks, telecom and other sectors and institutions that are carrying out research that could be used to move Africa forward.

Efficiency

This evaluation found that while AIMS is striving towards and has achieved some efficiencies such as with their application and selection process, there are factors that work against efficiency including the existence of six different centres in different countries, the efforts directed to development of new centres, and the need to engage lecturers anew each year. These, however, do not seem to seriously undermine efficiency. Some specific areas where further efficiencies could be gained include: exploring the possibility of having some core lecturers augmented by visiting lecturers, establishing a centralized curriculum office to support standardized curriculum, and moving to an electronic database.

Effectiveness

AIMS has been effective in increasing access to quality mathematical science education, in providing relevant curriculum, and in moving towards high quality education, and in increasing the number of AIMS graduates engaged in the workforce and academia. The ever increasing number of applicants could mean an increased demand for and interest in mathematical sciences or it could mean AIMS is gaining recognition across Africa; or a combination of both. The successful applicants are uniformly not from poor backgrounds.

As with any university, AIMS is not effective for every student. All but nine students attending AIMS have graduated; but there was substantial variation between Centres in respect of student satisfaction with different aspects of the curriculum, the delivery of the courses, the accommodation and the facilities. Some students and alumni have also indicated that the curriculum was not always relevant for their interests and needs even though they are persevering and completing the program.

AIMS is moving towards increasing gender equality. While the number of women applicants has increased by only three percentage points, now approximately 30% of AIMS' students are women, with a goal to achieve complete gender balance. Issues of inclusivity have not been addressed so comprehensively either in the Secretariat or at the Centres; and some students have reported discrimination and favouritism.

Sustainability

AIMS has a sufficient number of applicants and there is adequate availability of international volunteer lecturers interested in coming to AIMS for three-week course blocks. The AIMS degree is recognized by other universities, although some want AIMS students to do an additional year prior to moving into a Ph.D. program. The students themselves are recognized as having high potential.

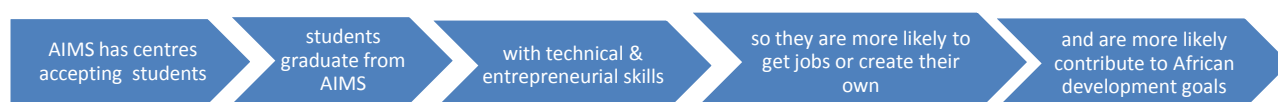
The most serious area of concern is the long-term financial sustainability of AIMS. DFID and IDRCs grant has come to an end as planned and the current Master Card Foundation grant will end in 2020; the only remaining student funding from IDRC is earmarked either to a climate change program and a francophone oriented Skills for Employability program that goes beyond AIMS centres targeting other universities in other countries. Besides the donor support, all six host country governments have made pledges with varying levels of contribution although to date only the South-African government has made a significant contribution of its pledge.

Impact

AIMS has a significant impact on its students. This is not surprising as many of the students are still transitioning into adulthood and making decisions about their lives. Many AIMS students want to obtain a further advanced degree and although the numbers are increasing, the proportion has declined over the last 6 years. The increasing proportion

wanting to move into employment is matched by an increasing proportion in employment; but increasing competition from other African Universities and a relative lack of STEM jobs make it difficult for graduates to move into employment; so the rate of unemployment among AIMS graduates is increasing significantly.

Considering a results chain in order to determine if AIMS is contributing to achievement of Africa's development goals, it is evident that AIMS has created access to a STEM post-graduate degree for approximately 170 students each year and that those students are perceived by the small number of employers interviewed to have the necessary skills. The evaluators believe it is too soon to determine the long-term contribution of AIMS to achieving Africa's development goals. However, if AIMS continues to improve and produce graduates, the movement along the results chain thus far indicates that it is likely to contribute to achieving African development goals.



Value for Money

AIMS is relatively cost efficient, gaining those efficiencies through some centralized functions and the use of international volunteer lecturers, reducing the number of salaried positions at AIMS. The combined tuition and living expenses are very similar to that of Oxford University, being more than the University of Stellenbosch in South Africa and much less expensive than Carnegie Mellon College in the United States, making it mid-range in a group of six renowned universities. From the perspective of the students, AIMS provides them with an opportunity to obtain an advanced degree at no cost to themselves. On the other hand, the proportion of students entering into senior positions in academia, the public or private sector has not increased.

Conclusions

The AIMS academic programme is relevant towards its mission and the need for mathematical science capacity development in Africa. The following gains have been made from 2010 – 2017:

- Five new centres have been opened
- Administrative functions are now more centralized
- The number of applicants and graduates has been steadily growing
- All but nine students have completed the program and obtained a degree
- Over 1000 student research papers have been written on a variety of topics

Financial sustainability is AIMS' most pressing issue. Without financial sustainability, AIMS will cease to exist and will not have the opportunity of achieving its goals of contributing to practical STEM research, providing high quality post-graduate mathematics education, encouraging young people, particularly women to go into mathematical sciences, and contributing to an improved quality of life in Africa.

AIMS has achieved a good number of its results and in some cases exceeded the expectations set out in the IDRC/DFID logframe. AIMS is strong in the following areas:

- Being relevant for most students and to the African development agenda
- Creating increased 'free' access for Africa's young people to post-graduate mathematics education
- The academic program reaches the desired level equivalent to that of an international qualification of MMath and is innovative whereby students, whilst focusing on the mathematical sciences, are introduced to a broad variety of subject matter across five formative areas.

- Recognizing the importance of combining practical work skills and attitudes with technical mathematics ability, in particular, including entrepreneurial training which is of high importance so long as there are limited STEM positions and in the context of increasing competition from graduates of other African Universities.
- Providing a high quality learning environment that supports students in focusing on their academic achievements. This includes: highly regarded volunteer international lecturers, dedicated tutors, good computing facilities and a 24/7 learning environment
- The current centralised on-line application and selection process is efficient and effective in selecting the desired quality of students across the continent.

The ambitions of AIMS are high. Because it is a developing organization, there are still some questions over aspects of the model and not all of its results and aspirations have been achieved. There are some goals that were not achieved based on the IDRC/DFID logframe. Some areas that should be reviewed include:

Academic Program

- Matching programming to the actual wishes of the students, which previously were for most, to continue on to further advanced degree studies, but which are now reorienting towards the world of work. This trend will need to be monitored and adjusted based on students' aspirations.
- Better induction programs and continuous mentoring for tutors so as to become more effective.
- Variations across centres with distinct differences between South Africa and the rest and between those in Anglophone and those in Francophone countries, and over years.
- Developing a common rubric across the Centres for marking and eventually grading course assessments and assessing student research paper in order to achieve consistency in the quality of the papers
- While gender and inclusivity are perceived to be important by the centres, a more systematic and continuous approach is required targeting the students, tutors and staff of the academic program.
- Connecting students with other institutions such as hospitals, banks, or insurance companies in order to support the development of their research papers and eventually their results being used

Besides the contextual differences in each country, the evaluation concludes that the following centre characteristics are critical towards a centre's success:

A. Presence of a full-time in-country academic director that sets-up the curriculum; recruits and supports international lecturers and tutors; and monitors academic quality and innovation.

B. A clear partnership with a national public and/or private university that is able to absorb AIMS graduates into further studies and assists towards certification of degree's and accreditation of the institute within the NQF of the country.

C. Full-time in-country leadership of the centre via a centre president/director, academic director, chief operating officer, admin/HR manager, and facilities manager is to be in place.

In countries where these characteristics are fully met the centres flourish. Where none of the above criteria are met centres underperform. Others are in between.

Industry Initiative

- The current approach to potential employers is AIMS-supply-based mostly focussed on setting up internships for the students. It needs a more systematic approach encompassing both demand and supply to setting up partnerships in identified skill sectors with both public and private employers. This involves understanding the needs of potential employers both in terms of their desired profile of potential employees and of the extent that their future plans for development would profit from the skills of AIMS graduates.
- Informed choice of countries for the Co-Op initiative; not all African countries have a sufficient sector basis for providing internships or employment to several mathematical scientists

Organisation, Management and Funding

- The length of the academic program needs to be extended to ensure there is sufficient time for students to absorb the extensive learning opportunities provided by AIMS. This could also involve extending the length of courses, as students describe the programme as ‘intense’, ‘challenging’, and ‘hard-work’ across all centres visited. The efficiency of the national Academic Councils and the efficiency and responsiveness of a Secretariat that is meant to provide supportive functions such as financial resource and grant management, gender, human resources and monitoring and evaluation
- The consistency of the response to both gender and inclusivity issues, with specific reporting systems being set up for any instances of discrimination across a pan-African organisation is needed.
- Greater recognition of the newer centres by ensuring all centres are accredited and that the websites for each centre fully present the potential of AIMS
- Reviewing the monitoring and evaluation framework to ensure that the indicators focus on outcomes and impact as well as outputs and that there is an efficient system for collecting the necessary data
- Developing an electronic administrative and monitoring database that is open-sources, is regularly updated by the provider, has a large community of developers, provides for easy data input and can be configured to meet AIMS’ needs without a software developer. The database should have the capacity to generate reports relevant to multiple users.
- Approach to obtaining permanent long-term funding whether from pan-African institutions, African governments or other donors.

Recommendations

Recommendations emerging from this evaluation are:

Funding

- A. That financial sustainability should be AIMS highest priority. Steps that could work toward achieving financial sustainability include:
 - Obtaining national, regional, and international accreditation for all centres so they can receive government funding
 - Working with the governments where centres are located to secure substantial core funding
 - Work with bilateral and multilateral donors to establish long-term funding from them; soliciting specific donations from organisations for targeted programs
 - Develop an Africa-based foundation that focuses on global donations in order to create a consistent amount for the student entry bursaries
 - Establish a capital fund to support continued improvements to all centres.

Academic Program

- B. Given the broad diversity of student competencies in a class, and the request from the academic and labour markets for increased specialisation of AIMS graduates, that the Academic program split into two streams after the skills phase: one stream oriented towards a career in academia and research and a second stream preparing students for obtaining employment upon graduation. This latter stream could be accommodated by expanding the Co-Op program to centres located in countries where there is a sufficient pool of employers in the appropriate sectors of the economy. The split is to be made after the skills phase as this allows students to make an informed decision which they often do not have once applying. Specific skill courses entirely focusing on one stream might need to be moved to the review phase (i.e. entrepreneurship) and review courses that are introductory and applicable to both streams might need to be moved to the skills phase. Review courses that are

applicable to both streams should be joined by students together. It is recommended that the research phase for the labour market oriented stream is completed with an action oriented type of research linked to an industry player in order to solve or contribute to solving a real-life problem in the Industry. As the labour market stream is supply-demand driven, market demand needs to be present. Therefore this stream does not necessarily need to be offered in each country but only at those Centre countries that show a clear demand i.e. South Africa, Ghana among others. The streams do also not need to be equally divided into 50/50 although a minimum number of students are necessary to run a stream.

- C. Shortening the review phase by one month and extending the whole program by one month to allow sufficient time for the students to write 20,000 word research papers which could then allow the program to be considered as a Research Masters
- D. Prioritise consistency in quality and financial sustainability of each centre, over expansion to other countries. Especially, the large differences in experiences and outcomes between the South Africa Centre and the rest and between Anglophone and Francophone students are important to act on and remedy

Industry Initiative

- E. Develop an Industry Initiative strategy that is based on a review of the current demand for mathematical scientists in general and AIMS graduates in particular, and includes strategies for increasing that demand.
- F. Locate a full-time student development officer at each centre with knowledge of and connections to businesses and institutions. The officer's role would be to develop possibilities for internships and collaborative research projects as well as advise students on the types of positions that are in demand. The focus should be on developing new opportunities as well as maintaining the existing partnerships.

Organisation and Management

- G. Ensure the presence of a full-time in-country academic director that sets-up the curriculum; recruits and supports international lecturers and tutors; and monitors academic quality and innovation.
- H. Ensure full-time in-country leadership of the centre via a centre president/director, academic director, chief operating officer, admin/HR manager, and facilities manager.
- I. Develop a clear partnership with a national public and/or private university that is able to absorb AIMS graduates into further studies and assists towards certification of degree's and accreditation of the institute within the national qualification framework of each country.
- J. It is advised that the entire leadership and management of the secretariat is centralised in Kigali, Rwanda.
- K. Develop a monitoring and evaluation system with indicators directly linked to AIMS goals and objectives. The indicators should be clearly defined with realistic targets, the data readily available and stored in an electronic database that easily generates report, is regularly updated by the provider, has a large community of developers, provides for easy data input and can be configured to meet AIMS' needs without a software developer. The Sustainable Development Goals' indicators provide a good starting point for indicator development.
- L. Consider options for improving the perceived quality of the degree including:
 - Extending the length of the three-week course blocks
 - Establish standards for the marking and grading of assessments
 - Developing a rubric for assessing students' research papers
 - Providing an opportunity for revision of the research papers following the oral presentation

The first suggestion has implications for the volunteer international lecturers and for program design and would need to be carefully reviewed in terms of feasibility and balanced against the real benefits that would be gained.

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ACRONYMS

ACCPAC	Sage ACCPAC is an enterprise resource planning (ERP) software system (for accounting)
ADB	African Development Bank
AIMS	African Institute for Mathematical Sciences
AIMSSEC	AIMS School Enrichment Program
AU	African Union
BSc	Bachelor of Science
CAD	Canadian Dollar
CAMES	Conseil Africain et Malagache pour l'Enseignement Supérieur
CFO	Chief Financial Officer
COO	Chief Operating Officer
Co-Op	Co-Operation Master's Program - Senegal
DAAD	German Academy Exchange Service
DFID	Department for International Development - United Kingdom
EAC	East African Community
ECOWAS	Economic Community of West African States
ESMT	European School of Management and Technology
FGD	Focus Group Discussion
GDP	Gross Domestic Product
GEI	Gender Equality and Inclusion (AIMS)
GER	Gross Enrolment Ratio
GWG	Gender Working Group (AIMS)
HEI	Higher Education Institution
IDRC	International Development Research Centre - Canada
ICTP	International Centre for Theoretical Physics
IIT	Indian Institute of Technology
ILO	International Land Organization
IMST	Institut de Mathématiques et de Sciences Physiques
KII	Key Informant Interview
KNUST	Kwame Nkrumah University of Science and Technology
MDF-ESA	Management Training and Consultancy Eastern and Southern Africa
MSc	Master of Science
MCF	Master Card Foundation
MoU	Memorandum of Understanding
MTE	Mid Term Evaluation
NEI	Next Einstein Initiative

NQF	National Qualifications Framework – South Africa
OECD DAC	Organisation for Economic Co-Operation and Development - Development Assistance Committee
PhD	Philosophiae Doctor (Doctor of Philosophy)
SA	South Africa
SADC	Southern African Development Community
SAMI	Supporting African Mathematics Initiative (Tanzania)
SDG	Sustainable Development Goals
SDO	Student Development Officers
STEM	Science Technology Engineering and Mathematics
STISA	African Union’s Science, Technology and Innovation Strategy for Africa (STISA 2024)
ToR	Terms of Reference
TOEFL/IELTS	Test of English as a Foreign Language / International English Language Testing System
UCC	University of Cape Coast
UG	University of Ghana
UNESCO	United Nations Educational, Scientific and Cultural Organization
USD	United States Dollar
VfM	Value for Money

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In addition, we would like to thank the staffs at the AIMS Secretariat and centres, who were extremely open, supportive and Co-Operative during the entire period of the evaluation. All those interviewed and surveyed were very willing to participate and share their experiences and opinions on AIMS. The Centre staff also provided helpful practical support before and during the country visits, arranging visas, facilitating in-country transfers and showing us around the AIMS facilities.

We would finally like to thank AIMS stakeholders for sharing their ideas and visions for AIMS. All have proved to be useful in conducting this end of program evaluation. Finally, we thank the participants of the Expert Panel who gave their time to externally and objectively review the AIMS program.

I INTRODUCTION



1 Introduction and background

MDF Training & Consultancy, with McGuire Associates, was engaged to conduct an end-of-program external evaluation of the Department for International Development (DFID)/International Development Research Centre (IDRC)-funded aspects of the African Institute for Mathematical Sciences (AIMS). The terms of reference for this evaluation are attached in Annex A. The evaluations therefore considers only the period after 2011, when the first centre outside South Africa opened. This report presents the background, process, findings, conclusions and recommendations related to this evaluation.

1.1 An Overview of AIMS

The African Institute for Mathematical Sciences (AIMS) was established in 2003 as a partnership project of the following 6 universities: Cambridge, Cape Town, Oxford, Paris Sud XI, Stellenbosch, and Western Cape. The goals of AIMS are:

- To promote mathematics and science in Africa
- To recruit and train talented students and teachers
- To build capacity for African initiatives in education, research, and technology¹

The Next Einstein Initiative (NEI), launched in 2008, established a pan-African Network of centres of excellence established in Senegal (2011), Ghana (2012), Cameroon (2013), Tanzania (2014) and Rwanda (2016). The NEI has four key components²:

- Training, offering an intensive one-year Structured Master's degree. In Senegal, the AIMS Master's Program has since 2015 included a cooperative (Co-Op) program in which students spend 6 months on an internship within the labour market. In conjunction with Stellenbosch University, the AIMS program in South Africa offers a B.Sc. (Honours) in mathematics with a focus on biomathematics.
- Research centres are currently located in six African countries, with plans for a total of 15 across Africa. Each of the research centres is expected to develop areas of specialization in collaboration with local government and university partners. Current research initiatives include the AIMS Research Chair Program, the Small Research Grants Program and Post-AIMS support through bursaries and travel grants. All research centres also host workshops and conferences for students, researchers and other members of the scientific community.
- Public engagement is intended to promote a pipeline of students into secondary and tertiary mathematics education through strengthening teaching capacity and reaching as many students as possible. This is done through events such as seminars and exhibitions as well as through global discussions with key stakeholders. This component is rather recent compared to the others.
- Industry Initiative connects AIMS graduates with vacancies in organizations such as IBM, ATOS, Barclays, Microsoft Research, and African Development Bank, to name a few.

Both the Government of Canada, through the International Development Research Centre (IDRC) and the United Kingdom Department of International Development have contributed substantial amounts to AIMS. All of the funds are administered by IDRC and have ended in September 2017.

¹ <https://www.aims.ac.za/en/about/about-aims>

² <https://www.nexteinstein.org/the-industry-initiative-2/?lang=en>

1.2 AIMS Mission, Values and Goals

The AIMS mission is to “enable Africa’s brightest students to flourish as independent thinkers, problem solvers and innovators capable of propelling Africa’s future scientific, educational and economic self-sufficiency.”

According to the AIMS theory of change³, Africa lags significantly behind other global economies in advanced mathematical sciences training and scientific research. It sets out the goal of advancing Africa into the 21st century by revolutionizing mathematical sciences training and research looking at a simple results chain:

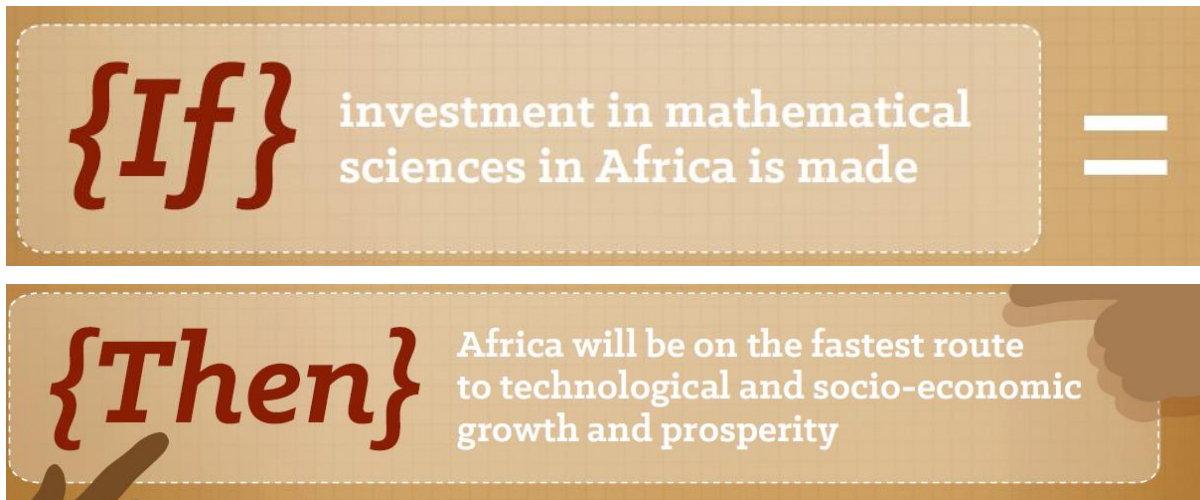


Figure 1: AIMS vision of change

This is to be carried out by:

- Contributing to the resources necessary for practical research in mathematical sciences and development priority areas
- Providing high quality postgraduate mathematical sciences training that will equip the next generation of technological innovators and entrepreneurs
- Through public engagement, promoting positive perceptions of mathematical sciences and its applications in solving everyday societal challenges
- Partnering among academia, industry, government and civil society so that job opportunities, innovation and policy translate into improved quality of life.

1.3 The AIMS model

The Academic Program

The regular program consists of three phases, which take 10 months in total to complete and are structured as follows (Figure 2):

1. Skill Phase: 9 weeks (3 blocks)
2. Review phase: 18 weeks (6 blocks)
3. Research phase: 10 weeks

³ Advancing Africa into the 21st century by revolutionizing mathematical sciences, training and research (2014)

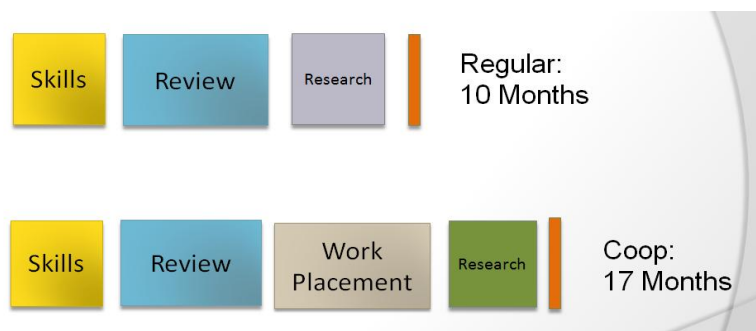


Figure 2: Structure of regular and Co-Op programs

The 'skills phase' courses (taken over nine weeks) are fundamental courses that provide introductory foundational material and are compulsory. It is structured to achieve pre-defined outcomes, with limited flexibility in their content. With some centre variation, the skills phase is reasonably consistent in content across the AIMS centres typically including aspects of mathematical/physical modelling and data analysis, scientific computing, linear algebra, LaTeX, statistics and probability, training in language and professional communication (scientific writing in English and where appropriate French), and skills for employment and entrepreneurship.

The 'review phase' courses (taken over 18 weeks) typically cover a wide range of contemporary topics in applied and pure mathematical sciences including theoretical physics, math biology, computing, algebra, analysis, number theory, statistics, big data, probability, differential equations, mechanics, fluid mechanics, quantum mechanics, continuum mechanics, quantum field theory, relativity and cosmology, statistical mechanics, industrial applications, topology and geometry.

The review courses taught differ among the centres and across academic years. They are largely determined by the expertise of the different international lecturers available that year and contemporary academic developments in STEM. More significantly, review courses are determined by the specific needs of the host government or region in which the AIMS centre is situated. Thus the review courses on offer are optional and variable. The selection is guided by a balance between the five formative areas although there is no agreed upon percentile division between them. Students generally choose 11 of the 18 courses offered; they report that they pick the review courses based on their interest and assumed difficulty of the course, often opting for the easier course.

During the 2016/17 academic year, four of the six centres left out two of these areas in their course due to unavailability of suitable lecturers. Tanzania included all of them, while the coverage in Rwanda and South Africa was less broad.

In the 'research phase' (lasting 12 weeks) students undertake a research project leading on from material met in the review phase which they finalise with a 10,000 word dissertation and an oral defence.

The Industry Initiative

AIMS intends to address the skills gap in terms of making its STEM graduates more employable from the employers perspectives than the majority of the other 250,000 STEM graduates annually from African Universities⁴⁵. The initiative includes: a) setting up partnerships with industry partners; b) creating awareness around internships and job opportunities for AIMS graduates; c) focusing on innovation and entrepreneurship; and d) post-graduate development and industrial applied research.

⁴ IMF, (2013) <https://www.imf.org/external/pubs/ft/wp/2013/wp13201.pdf>

⁵ AfDB (2016) https://www.afdb.org/fileadmin/uploads/afdb/Documents/Boards-Documents/Bank_Group_Strategy_for_Jobs_for_Youth_in_Africa_2016-2025_Rev_2.pdf

Alongside these areas AIMS runs different projects and programs of different timelines and budgets from different donors in relation to teacher training, outreach, and research chairs which are not part of this evaluation. This evaluation largely focuses on point's a, b, and c of above paragraph.

Elements of the AIMS System

AIMS began with its first centre in South Africa and, with funding from IDRC and DFID, established five additional centres from 2011 through 2016.

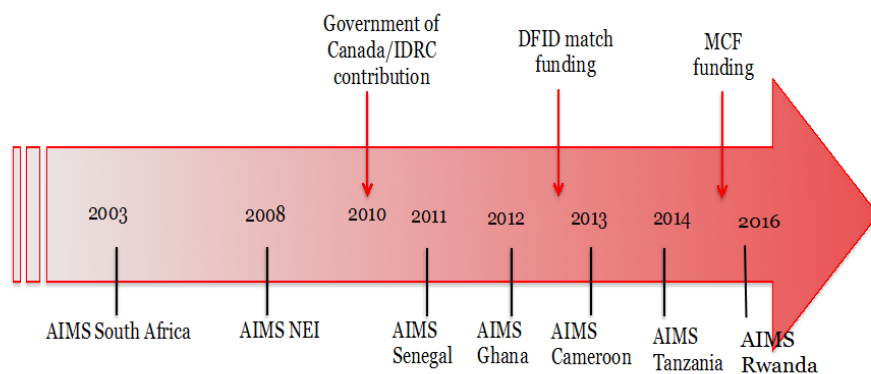


Figure 3: Evolution of the AIMS program

AIMS has multiple drivers, multiple funders, multiple sites, multiple programs and a complex governance structure making it a complex initiative. As pointed out by Williams and van't Hof complex situations are *those where identifying problems is not easy and selecting good solutions is even more difficult*.⁶ Following are some characteristics of complex initiatives that have been taken into account in this evaluation:

- A complex initiative is always changing – sometimes in unpredictable ways
- Everything is connected, yet often autonomous. If you change one part of the system it will affect all parts of the system
- Context matters – minor changes in the context can cause change in a part of the system which in turn can have a snowball effect on other parts of the system
- The relationship among the different components of a system are dynamic and as important as the components themselves
- Cause and effect is not linear and often difficult to determine because so many factors are involved

The elements of the AIMS system that are considered in this evaluation are:

The drivers:

- The African Union Commission African Agenda 2063
- Science, Technology & Innovation Strategy for Africa 2024
- Continental Education Strategy for Africa 2016 – 2025
- Initially the Millennium Development Goals and since 2015, the Sustainable Development Goals

The funders:

- IDRC
- DFID

⁶ Williams, Bob and Sjon van't Hof. (2014) Wicked Solutions A Systems Approach to Complex Problems www.gumroad.com/l/wicked p.1

Funding from other donors, such as the MasterCard Foundation (MCF), is another factor that has been considered.

The Centres:

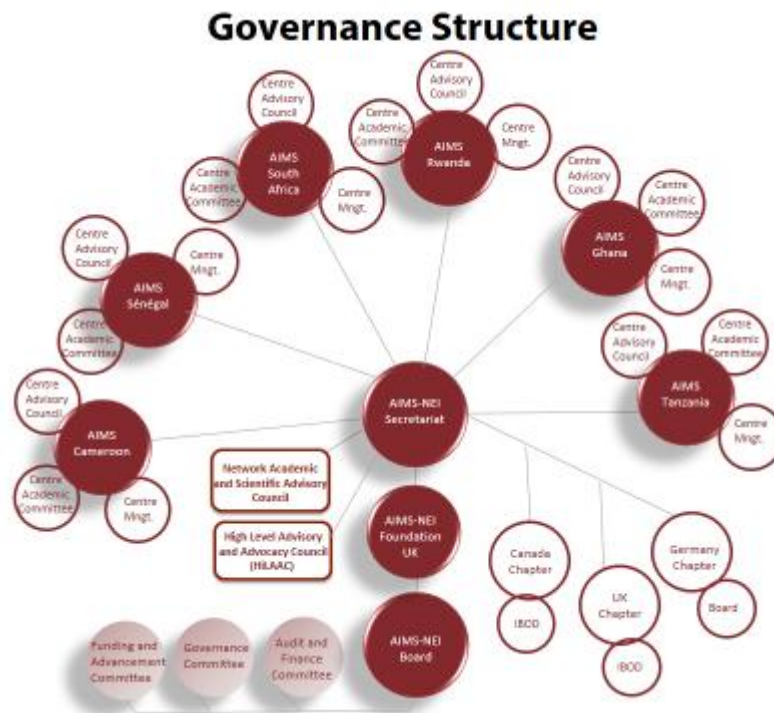


Figure 4: Six AIMS centres as of 2017

The Programs:

- Academic (regular, cooperative program in Senegal since 2015)
- Industry Initiative

The Governance Model



Implications for the Evaluation

The implications of complexity for this evaluation are:

1. Using a systems approach which takes into account:
 - the nature of the relationships among the different elements
 - what is happening and the contributing factors
 - what works for whom under what circumstances
2. Applying a theory of change rather than a simple logic model
3. Use of different logframes/counterfactuals to address the different evaluation questions
4. Taking into account the change in context between 2010 and 2017
5. Accepting that many things are difficult to measure and attribution is difficult to determine

1.4 Purpose and Scope of the Evaluation

This evaluation builds on the mid-term evaluation which is summarized in Annex B.

Purpose

This evaluation offers an external and independent assessment of the quality, rigour and consistency of delivery of the **Master's Program** across the AIMS pan-African Network, enabling:

- Learning from the program to build the next phases of the AIMS program

- Measuring progress towards the Academic Program DFID/IDRC targets and Career Development Strategy as part of the Industry Initiative.
- Assessing the consistency of the delivery, quality and outcome of education differentiating between AIMS centres, and disaggregating by student characteristics such as gender, Anglophone/Francophone, and age.
- Assessing the recognition and credibility of the program across the continent
- Identifying the strengths and challenges in the delivery and management of AIMS

Scope

The evaluation focuses on the IDRC/DFID-funded components of AIMS between 2010 and June 2017: its Academic Program and the AIMS Industry Initiative. The Academic Program and Industry Initiative have been gradually rolled out across Africa and five new centres, besides South Africa, were established in Senegal (2011), Ghana (2012), Cameroon (2013), Tanzania (2014), and Rwanda (2016). The evaluation only looks at other funded components of AIMS such as the teacher training, research chairs, and outreach activities as context. This is not an evaluation of the entire network of AIMS.

The aspects considered in this evaluation include:

- Processes and outcomes related to: students; lectures and tutors; teaching and learning strategy; curriculum; and graduates
- Impact of AIMS on African development
- Value for Money

Evaluation Questions

The following evaluation questions were formulated in consultation with AIMS, using the OECD-DAC framework⁷ to organize them. Each of these questions have been addressed in this evaluation, noting the strength of the data available and any limitations that exist in addressing the questions. The findings related to each of these questions will consider the AIMS academic program and those aspects of the Industry Initiative funded by IDRC/DFID.

Relevance

1. In what ways is the program consistent with the mission, vision and theory of change of AIMS?
2. In what ways is the program consistent with the five formative areas?
3. In what ways is the program consistent with the African development goals?

Efficiency

4. To what extent have efficiencies been achieved?
5. What factors contribute to or detract from those efficiencies?
6. What opportunities exist for increasing the efficiency of the program?

Effectiveness

7. To what extent has the program achieved the objectives set out in the grant agreements?
8. What factors contribute to or detract from the effectiveness of the program?

⁷ <http://www.oecd.org/dac/evaluation/daccriteriaforevaluatingdevelopmentassistance.htm>

Sustainability

9. To what extent are the elements of AIMS funded by IDRC/DFID sustainable?
10. What factors contribute or detract from sustainability?

Outcome and Impact

11. What is the impact of AIMS on its students?
12. What is the impact of AIMS on Africa achieving its development goals?

Value for Money

13. In what ways do the Academic Program and Industry Initiative provide value for money?
14. What factors contribute to and detract from achieving value for money?

Evaluation Methodology

This methodology is derived from the data collection matrix attached in Annex C.

The Evaluation Methods

This evaluation used multiple lines of inquiry, collecting information from a variety of sources using a variety of methods. This has allowed triangulation of the data, comparing across sources and methods to determine consistencies and differences. Consistency in the findings provides a greater level of confidence that the information is accurate. Where inconsistencies occur, every effort is made to understand why and provide an explanation in the report.

Following are brief descriptions of the data collection methods used to collect the information for this evaluation. All of the data was considered when determining what is happening at AIMS and why it is happening. Only the relevant data is included in this report.

Key Informant Interviews

Twenty-six key informant interviews were conducted through Skype or telephone using a semi-structured interview guide (Annex D):

- 16 representatives from the AIMS secretariat
- 4 Academic Council members
- 4 Donor representatives (DFID, IDRC, MCF)
- 2 International Board of Directors members.

Field Visits

The evaluators visited the six centres. Information was gathered through:

- Interviews with 101 individuals across the six sites, including Academic Directors, National lecturers and Tutors, Management of the centres and the Secretariat, Student Development Officers, Gender focal persons, employers, university partners and relevant government officials. A list of persons interviewed at each centre is attached in Annex E.
- Focus groups with:
 - 55 students across the six centres (47% female, 53% male)

- 26 alumni (26% female, 73% male)

The data collection tools for the site visits are attached in Annex F.

Survey of Current Students

An invitation to complete an online survey was sent to 255 students from the six centres. The response rate was 74% with 189 students replying. Figure 6 indicates the percentage of male and female responding by centre.

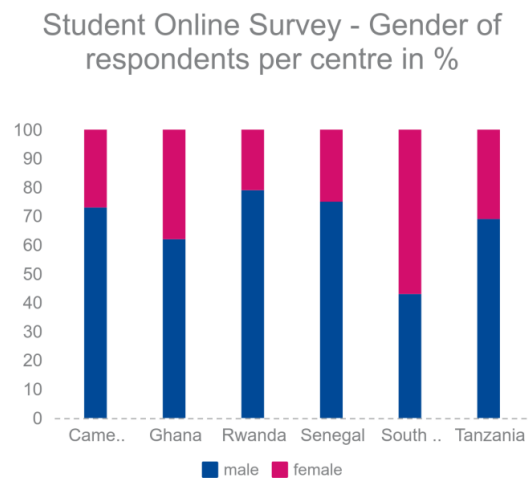


Figure 6: Student online survey - gender of respondents per centre

The purpose of the survey was to obtain information about the students' background, the application process, and students' experience with the program, their views of the courses and modules, the assessment process and their ambitions for the future.

Alumni Survey

An invitation to complete an online survey was sent to 261 alumni from all centres except Rwanda, which was excluded because they have only been operating since 2016. The response rate was 63% with 164 (29% female, 71% male) completing the survey.

The survey focused on the same questions as were included in the student online survey, plus several questions regarding the search for employment and post-graduate situation.

University and Employer Survey

This survey collected information on the employers' satisfaction with AIMS graduate(s) quality of work, comparison with other employees recruited elsewhere and their perception of AIMS. The following were invited to participate

- 31 employers
- 23 universities
- 8 companies who had given permission to be contacted

The response rate was 26% with 16 responses thereby being more anecdotal evidence rather than representative.

The surveys are attached in Annex G

Most Significant Change Stories

A Most Significant Change process was conducted through administration of an online survey of alumni, asking for a story that illustrated how their time at AIMS led to changes in their professional development. The survey was sent to 134 alumni who were selected from the Tracer database, eliminating all unemployed alumni, all those teaching without any or minor research, all those alumni who continued studying and who are not in a PhD program. The response rate was 37% with 50 alumni responding (24% female, 76% male). Forty-five stories were analysed.

Desk Review

A desk review was conducted looking at numerous documents related to:

- Organizational and program information
- Higher education in Africa
- Labour market
- Research into practice
- Science, technology, engineering and mathematics (STEM)

A list of the documents is provided in Annex H.

Data Analysis

Data was extracted from excel databases provided by AIMS including Pre-Assessment 2011-12 to Pre-Assessment 2016-17 and Post-Assessment 2011-12 to Post-Assessment 2015-16 and Tracer Study December 2016. The quality of the data was assessed and cleaned to the extent possible, then analyzed. Because the information was not always complete, limitations are noted in the presentation of the findings.

Expert Panel

A panel of seven experts addressed the following evaluation objectives:

- Assess the quality and rigour of the AIMS Master's Program overall and consistency of delivery at the different centres
- Evaluate the AIMS Master's Program in comparison to other similar programs in Africa and globally with respect to quality, program design and curriculum content, quality of teaching staff, pedagogy, learning and research infrastructure and facilities including learning and support systems.

The panel was provided with a summary of information regarding AIMS and each of the campuses and a template to record their response. Two sessions were facilitated to discuss the responses to each of the areas covered. Participants also forwarded their completed written responses. A summary of the findings emerging from this line of inquiry is attached in Annex I.

Review of Students' Research Papers

AIMS provided a list with titles of research papers produced at each centre. Three research papers were randomly selected from each site for review by a mathematics expert who supervises graduate students at York University (Canada), using the rubric in Annex J. Identifiers were removed from the papers so the reviewer had no way of knowing who wrote the paper, the centre attended by the student or the gender of the student. It should be noted that this data collection method was requested after the final report was drafted and is incorporated into the final iteration of the report.

Comparison with other Universities

Eight universities were selected together with AIMS in order to get information on accreditation, admission requirements, length of program, assessing student achievement, graduation requirements and qualifications of lecturers. Comparisons were made with more traditional Universities⁸ such as the University of British Columbia (Canada), Oxford University (UK), University of Toronto (Canada), University of Pretoria (South-Africa). Comparisons are also made with multi-site and multi-disciplinary programs such as the Institut de Mathématiques et de Sciences Physiques (IMSP-Benin), International Centre for Theoretical Physics (ICTP-Italy), and the Indian Institute of Technology. Information regarding the eight universities was gathered primarily through websites. Information on pedagogy was not readily available. A summary of the review is attached in Annex K.

Independent Review

In addition to the expert panel two independent reviewers, based in the mathematics departments of UK universities, were contracted to give an opinion on the course program. Compared to the expert panel these are individual independent reviewers, one in pure mathematics and one in applied mathematics, particularly focusing on the academic content and rigour, while the expert panel took a broader view also looking at admission, teaching and learning, examination and other educational aspects.

Video Observations

Although classes were not in session at the time of the evaluation, the team was able to observe videos of four randomly selected classes recorded at the South Africa centre between 2012 and 2014. The observations looked at who was talking and what the lecturer was doing. It was not possible to observe what the students were doing. A summary of the observations is attached in Annex L.

Framework for Analysis and Interpretation

The evaluation questions provided a framework for organizing the findings. Content analysis was used to analyse qualitative data, looking for emerging themes related to each of the questions. Descriptive statistics and regressions were used to analyse the quantitative data, looking at numbers, rates and cross-tabulations, providing not only figures annually, differentiated by gender, but also to examine consistency of delivery, quality and outcomes between Anglophone and Francophone student and between those studying at particular centres. The findings from different lines of inquiry were triangulated, looking at consistency and divergence of findings. Interpretation of the findings involved a team effort with various members of the team as well as the AIMS project authority contributing to gaining an understanding of what the data meant. The qualitative data was used to help give meaning to the quantitative data. The approach used by the team was appreciative and constructive, with a focus on learning while at the same time providing information that could be used for accountability purposes.

Evaluation Strengths and Limitations

Key strengths of this evaluation include:

- Using the OECD-DAC framework to guide the development of the evaluation questions. This focused the evaluation while at the same time incorporating most of the key issues that AIMS wanted addressed.
- Using multiple lines of inquiry with information gathered from many different sources using a number of different methods, allowing for comparison of findings across sources.
- Having massive amounts of data available for this evaluation. AIMS was able to provide extensive existing data and the evaluators collected a wide range of data from a number of sources.

⁸ It should be noted that many of the higher ranked universities in the United States do not offer a terminal master's degree in mathematics or mathematical sciences.

Key limitations include:

- Having very broad unfocused terms of reference with too many evaluation questions. Insufficient time was spent and available focusing the evaluation during the inception phase resulting in addressing minutia which was not always relevant to understanding what was happening and why it was happening. During the report writing process questions were combined and ordered according to the OECD-DAC criteria based on mutual consultation between the evaluators and AIMS (see Annex A).
- Reviewing research papers was added after data collection was completed. It would have been best to include it in the review carried out by the expert panel.
- Collecting data from June – July meant that it occurred when the centres were not fully functioning so some data collection, such as observation of lectures could not occur. It also affected the availability of evaluation participants including senior centre management and access to experts.
- Having a short period for conducting the evaluation created pressure to begin the data gathering process quickly, leaving little time for planning the evaluation based on a completed desk review and testing data gathering tools.
- Having a number of gaps in information such as a documented strategic plan for industry initiative (with timelines and monitoring of progress), information on student income constraints, and a rubric related to student selection
- Finding that the data in excel spreadsheets was incomplete
- Assessing efficiency was hampered by lack of counterfactuals that could be used for the purpose of comparisons for example on alternative uses of resources, surveys of local rental prices, etc.
- Limited comparison data to determine cost efficiency. Because AIMS is unique in its model, it was a real challenge finding valid comparisons.
- Because AIMS is a complex initiative with multiple sites, multiple revenue sources, and multiple partners in a complex environment, determining attribution regarding impact is challenging. This evaluation looks at the contribution AIMS is making.
- Although having multiple lines of inquiry helps offset some of these limitations, caution is used in interpreting the findings, based on these limitations.

Follow-up on Recommendations of MTE

The evaluator's review of the extent to which the recommendations of the MTE have been implemented is appended to the summary in Annex B.

II FINDINGS

The findings are organized by the OECD-DAC framework issues and the evaluation questions. Because of the overlap and inter-relationships of the academic program and the industry initiative, both are addressed together, noting information that is relevant only to one specific aspect. While every effort has been made to address all of the evaluations in depth, it will be noted where there is limited information, indicating where caution is needed in interpreting the findings.

2. Relevance

The findings related to relevance emerged from the desk review, interviews, field visits, expert panel and review of the student research papers' topics.

Overall it is evident that AIMS is highly relevant. Its intent is consistent with AIMS mission, vision, and theory of change, AIMS five formative areas and African Development Goals. The challenge is translating these intentions into action.

2.1 Consistency with AIMS Mission, Vision and Theory of Change

The academic program is congruent with the AIMS vision which is *“leading the transformation of Africa through innovative scientific training . . .”* The innovation aspect is largely related to the set-up and design of the Academic Program that can be described as a ‘greenhouse’ whereby AIMS students learn in a 24/7 environment and get exposed to a broad variety of subject matter in the broader mathematical sciences areas by renowned lecturers and the continuous support of tutors (see effectiveness section of this chapter for an elaborated description).

The courses show ingenuity on the part of the lecturers and require dedication on the part of the students who described the program as ‘intense’, ‘challenging’, and ‘hard-work’ across all centres visited.

AIMS contributes, via its academic program, to the transformation of STEM education in Africa. While AIMS contributes to this vision, it is difficult to establish if AIMS is also *leading* the transformation partly because it is unclear what this exactly entails. The academic program is furthermore aligned to the mission of AIMS which

“enables Africa’s brightest students to flourish . . .” Based on the interviews and comments from the expert panel, all of whom rated AIMS high for innovation, adaptability and being unique, it is clear that AIMS graduates are exposed to a broad area of subject matter that can serve to guide their further careers.

It is less clear that the program set-up (i.e. greenhouse) is relevant to the needs of all students as some of whom when interviewed said they hadn’t realised the difference in structure and content between the AIMS Program and a typical Africa university’s Master’s program before they started the course. Once started, majority of students feel it is relevant although a small minority feel that it should be more focussed and specialised like a typical research Master⁹. Student applicant’s motivations are also not fully clear when they get accepted (as is often the case with other Universities). What is clear is that motivations of AIMS applicants are diverse and have changed over the years especially with the entrance of MCF scholars who are more motivated towards employment instead of an Academic

The program is highly innovative, the inclusion of the entrepreneurship making it unique.

The fact that selection of lecturers and courses is done every year makes it possible to adapt the overall structure of the academic year to meet the actual demands.

Expert’s panel comment

⁹ As the pre- and post-assessment of AIMS does not ask the question on relevance the evaluation team could not quantify the argument. The findings are based on interviews with current students in the 2016-2017 academic year across the 6 centres and based on the alumni survey qualitative question 16: “In general, did your study at AIMS meet your expectations?” which generated several explanations about why some of the alumni were not completely satisfied; some mentioning they were disappointed that the degree was not similar to a MSc.

career. The aspirations of students to carry through to a PhD are therefore only partially met; and those who say they would like to be in employment to use their skills in mathematical sciences to benefit Africa have difficulty in finding employment. Managing the different demands and motivations of all students remains therefore a challenge.

Another assumption of the AIMS model is that there is a substantial demand for highly skilled mathematicians' in the labour market of Africa, so that AIMS graduates can use their skills and flourish by contributing to innovative practices and Africa's development challenges. Relevance of AIMS towards specific labour market demands is not explored explicitly. At the same time alignment to specific labour market needs was also not the intention of AIMS. Its intention instead is to build broad capacity in mathematical sciences to support the transformation of Africa in line with its vision and mission. In this sense, a supply driven approach has been adopted. It is however important to understand for AIMS that in its Theory of Change, there is a mismatch between the supply and demand of HEI and the world of work; and in general there is little effort by most institutions (including AIMS) to identify the potential labour market demand for graduates in mathematical sciences. University programs should therefore include appropriate courses and linkages towards increasing employability. AIMS academic program and industry initiative have taken this step and the effects and quality of them are reported later on in the report.

The theory of change envisages AIMS contributing to *advancing Africa into the 21st century by revolutionizing mathematical sciences, training and research* including:

- *Contributing to the resources necessary for practical research in mathematical sciences and development priority areas.*
- *Providing high quality postgraduate mathematical sciences training that will equip the next generation of technological innovators and entrepreneurs*

The document review and review of student research papers indicate that AIMS is contributing to the resources necessary for practical research in mathematical sciences. Table 1 indicates the range of topics covered by the research papers available from 2010 – 2017.

	Tanzania	South Africa	Senegal	Rwanda	Ghana	Cameroon
Agriculture			3		2	
Applied Maths	20	1	58	4	18	23
Climate	14	2	1	1	5	1
Computer Science	1	35				
Energy		4				5
Engineering		14	33	1		
Environment			7			1
Finance	13	34	20		9	12
Health	25	55	26	8	17	25
Physics	8	73	28	4	9	52
Pure Math	17	106	48	15	25	25
Statistics	10	22	9	10	8	7
Total	108	346	233	43	93	151

Table 1: Summary of Student Research Papers by Topic

Figure 7 indicates the total number of research paper by topic for all centres.

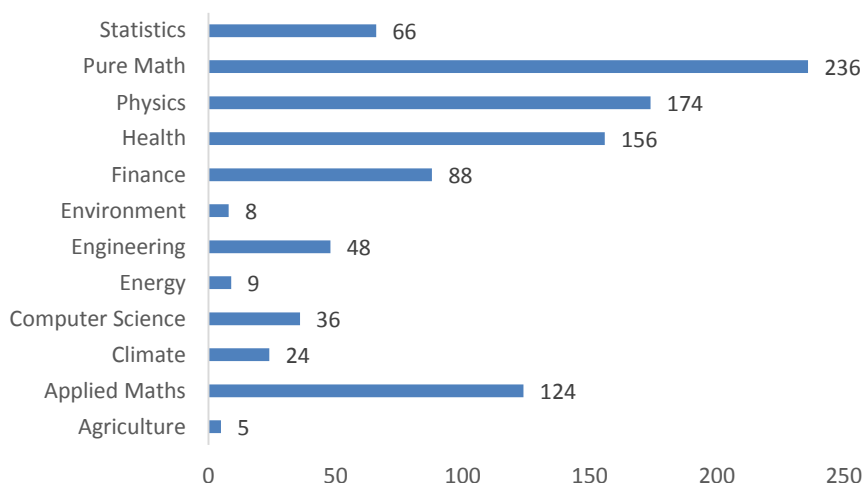


Figure 7: Total number of research paper by topic for all centres

Research topics include a broad range of practical applications with pure math, physics, health and applied maths being the most frequently selected topics. Due to lack of information regarding how topics are selected and whether any are carried out in affiliation with other institutions such as health care facilities, it is not possible to determine the extent to which these papers are used and useful in advancing Africa into the 21st century. This problem of translating research into practice is worldwide¹⁰ (Annex R); and, whilst there has been extensive research in Europe and North America, the answers are similar and difficult to implement: collaboration, mutual understanding between academia and industry. In Africa, the few studies confirm those findings but also show that the difficulties of implementation are even greater. It is particularly difficult when talking about research informing a one-off policy decision rather than the introduction of an important innovation to improve 'routine' practice.

It is clear that there is every intent to deliver high quality postgraduate mathematical sciences training and to equip graduates for pursuing further education or gaining employment. This evaluation explores the extent to which this occurs and looks at areas which could benefit from changes. A good start appears to be happening with the quality of teaching staff. The expert panel felt that the qualifications of teaching staff were excellent and generally that the modes of delivery of teaching/learning were appropriate.

2.2 Connection of the Academic Program and Industry initiative to the Five Formative Areas

AIMS has a curriculum model that can be described as a 'greenhouse' whereby students, while focusing on the mathematical sciences, are introduced to a broad variety of subject matter across the five formative areas and thereby grow and develop in their own pace according to their preferred direction. The combination of the academic and industry program are intended to address all five of the formative areas

The course work in the Academic program particularly addresses mathematical, computing and scientific knowledge and skills as well as research and analytical skills.

The Industry Initiative is intended to contribute to these five formative areas through:

- Creation of linkages with industry in order to set-up partnerships.
- Internships and job placement creation.

¹⁰ AIMS Institutional Model And Programs: A Value for Money Assessment (2016), p.xii

- Skill development of students towards innovation and entrepreneurship so to contribute to African solutions.
- Applied research with industries.

The “Enhanced Curriculum in Employability, Entrepreneurship, Business, and Work Search Skills for AIMS centres”, developed in 2012 by Dr. Michael Kennedy (curriculum consultant) is reported to have been taken up by the centres in Senegal, Ghana and Cameroon and to have provided input into the Co-Op program in Senegal, although the evaluation could not confirm this with reported documentation. It includes 3 week courses/modules on communication, entrepreneurship and skills for employability which are intended to address innovation and entrepreneurship, effective communication and pan-African attitudes and values.

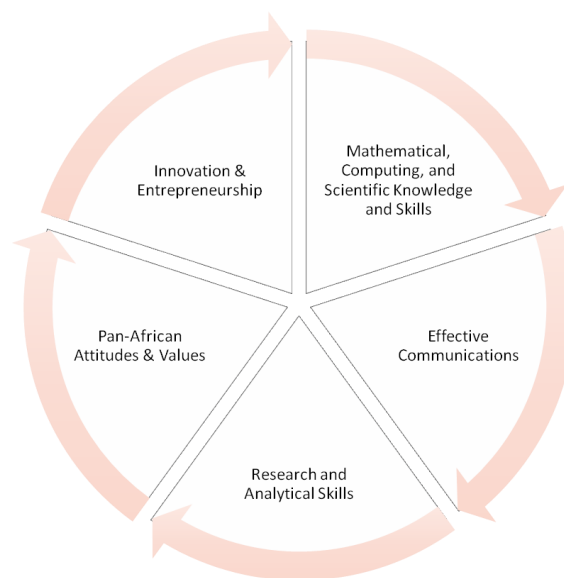


Figure 8: Five formative areas of AIMS

2.3 Consistency with African Development Goals

Africa is experiencing unprecedented economic growth and a massive population boom¹¹. The African Development Bank estimates that more than 20% of the population on the African continent are young people between the ages of 15 and 24 and that this number is likely to double by 2045¹². Nearly one million students graduate from African universities each year, of which 25% of African students graduate in STEM¹³ which equals the percentage in OECD countries¹⁴.

The African Union Commission has set out a framework for *inclusive growth and sustainable development and a global strategy to optimize the use of Africa's resources for the benefit of all Africans* in its Agenda 2063 Framework Document. This agenda, which is also consistent with the United Nations Sustainable Development Goals (SDGs) points to key areas where capacity development is required:

*Agenda 2063 requires capacity in the new frontiers of science, such as biotechnology, genetic engineering, space exploration and deep sea mining. A critical mass of trained engineers, doctors, technicians in a wide range of skill areas is required to build Africa's infrastructure, man her factories, health centres and hospitals and power the continent's development in all fields*¹⁵.

The AIMS theory of change sets out the problem: *Africa significantly lags behind other global economies in advanced mathematical sciences training and scientific research*. Africa has 177.1 researchers in research and development compared to 4,673.2 in the United States, 1,198.9 in China and 695.7 in Brazil. AIMS believes that the mathematical sciences will contribute to transforming Africa's future and ensuring participation in the global knowledge economy.¹⁶ AIMS curriculum is designed to develop graduates who are:

- well-rounded scientists
- can use their mathematical knowledge and skills in continued academic pursuit

¹¹ Canning, D. Raja, S.; Yazbeck, A.S.. 2015. Africa's Demographic Transition : Dividend or Disaster?. Africa Development Forum;. Washington, DC: World Bank; and Agence Française de Développement. <https://openknowledge.worldbank.org/handle/10986/22036> License: CC BY 3.0 IGO."

¹² African Economic Outlook 2014; see also Baklina, A.M. (2019) 7 facts about population in Sub-Saharan Africa, World Bank blog 10/29/2015

¹³ PASET, 2016. The PASET Regional Benchmarking Initiative to Strengthen African Universities, p.1

¹⁴ OECD, 2014, Education in Focus, p.2

¹⁵ African Union Commission (2013) Framework Document for the Africa we Want, p. 120

¹⁶ AIMS Advancing Africa into the 21st Century

- can formulate and address problems of relevance to African development

New technologies and innovation are seen as key supports for the Agenda 2063. The goal of AIMS addresses one of the three critical capacity development areas, that of building individual human capacity in science, technology and mathematics. The goals of the Industry initiative are to develop and implement a research-informed Pan-African Skills Demand-Supply Strategy, based on partnerships and collaborations with industry, academia, research institutions and governments to facilitate transition and integration of AIMS graduates into the workforce through meaningful career opportunities.

Gender equality and inclusivity is a theme that cuts across the African development goals and the SDGs. AIMS' theory of change includes *gender equity with women having equal opportunities* as one means of achieving rapid economic growth in order to improve Africans' quality of life. AIMS' goal is to achieve inclusivity and gender balance among its students and staff. The AIMS Women in STEM Initiative (AIMSWIS) is a flagship program intended to accelerate progress for African women in STEM through evidence-based reporting and advocacy, leveraging increased investments, adoption of best practices, engaging men, and collaboration across African women in the STEM pipeline. AIMS is moving towards achieving that goal with approximately a third of their students being women and hopes to achieve 50% in the next five to ten years.

Overall, AIMS supports the achievement of the African development goals and the various strategic directions such as the SDGs, the Agenda 2063 and the Education 2030 agenda¹⁷ reinforce the importance of AIMS to African development.

¹⁷ UNESCO,(2015) Education 2030 Incheon Declaration and Framework for Action. Towards inclusive and equitable quality education and lifelong learning for all

3. Efficiency

Efficiency is defined as accomplishing something with the least amount of time and effort without undermining effectiveness. Performance indicators related to efficiency are not included in the IDRC/DFID logframe. The findings related to efficiency are drawn from the desk review, interviews, administrative data pull, field visits and the student survey.

This evaluation found that while AIMS is striving towards and has achieved some efficiencies such as with their application and selection process, there are factors that work against efficiency including the existence of six different centres, the efforts directed to development of new centres, and the need to engage lecturers anew each year.

This evaluation looks at efficiencies in the following areas: administration and governance, application and selection of students, teaching and learning and assessment processes.

3.1 Administration and Governance

The administration of AIMS has worked towards gaining efficiencies through a centralized administrative system. The Secretariat located in South-Africa from 2010-2015 and in Rwanda from 2015 onwards, sets out general policies, and shared services such as financial management, communications, gender and inclusion, monitoring and evaluation, and organizational learning. It provides the link to the foundation and AIMS International Board. Each centre has a board that oversees the strategic direction of the centre and a national academic council that manages the academic and research programs. This decentralization leads to inefficiencies. However, since each of the centres is located in a different country, with a different legislative and policy framework, having a local board for each centre appears to be necessary. The centralized Secretariat is intended to offset some of the inefficiencies of the governance model. At the same time certain director positions (i.e. gender equality & inclusion, human resources, and academic development) are physically located in Canada and thereby create inefficiencies in the management and implementation of decisions.

3.2 Financial Management

This section addresses the financial management at AIMS centres, including financial processes, systems, and budgets vs. expenditure. This evaluation is not an audit and therefore does not go into checks and balances of accounts. Income and expenditures for the academic program is presented in Chapter **Error! Reference source not found.** Five out of six centres use Sage ACCPAC as their financial management system. AIMS South Africa follows the Stellenbosch University system for financial reporting and that is what is forwarded to the Secretariat to ensure accountability. Reasoning is that this is a requirement from the South African Government. This alignment of AIMS South Africa to its partner university creates the proper checks and balances and effective distribution of signatory powers. In the other five centres, the Sage ACCPAC system has been setup in the cloud and has eight concurrent users (five centres and three chapters) who can access the system at any point in time. All users have user accounts setup with their necessary rights. Upon completion of data capturing, all transactions are verified by the centres' user(s) themselves through their own procedures. Following this, an ACCPAC data dump (backup) generated by the system is sent by email to the Secretariat for compilation.

There is a uniform template for budgets across the network although the extracts received by the centres in Excel differed, thus making it difficult for the evaluators to easily compare budgets and budget lines. The reason why all five centres provide forecasts in Excel and not ACCPAC is unclear.

In assessing financial management, the evaluators noted that the functions of management and oversight were in most cases clearly separated. The oversight function is critical in the sustainability of any network handling large volumes of resources and has to be clearly defined. In most centres, good governance practices were in place and strong working relationships with stakeholders were observed.

There were notable areas of improvement with regards to financial oversight and uniform application of standards for accountability across the centres, as indicated by centre staff and host country representatives. While most centres remained accountable to their host country governments, AIMS Senegal struggled to meet this requirement in the early years of its establishment. While it is unclear where the gaps lie, based on key informant interviews, it was noted that the AIMS International Board of Directors promotes and enforces financial accountability in all centres.

Key informant interviews with centre management staff raised concerns that procurement rules are not always systematically applied and followed. Examples where the local Boards could have shown more leadership in enforcing accountability include the oversight of centre facility development at AIMS Ghana and the assessment of the proposed long-term lease agreements for AIMS Senegal and Rwanda. The centre facility development at AIMS Ghana led to a litigation case that could have been avoided through stronger governance practices and higher standards of accountability. In the case of AIMS Senegal, the then President signed a MoU without authorisation from the Board.

Given these examples, there is room for AIMS to further align expenditure lines across centres to mitigate variances in similar budget lines to the best extent possible. For instance, rent can vary considerably between centres (from USD 11,000 in Senegal to USD 35,000 in Rwanda, a month). The evaluators noted that the financial context in each host country does not allow for 100% alignment. However, a policy to ensure that these gaps are minimised will help in the standardisation of financial management practices across centres. This will subsequently bolster financial management practices for the AIMS network as a whole.

Furthermore, it was observed that the finance managers at centres did not always have a clear picture of the overall financial status of their centre. This was noted through statements that suggested a gap in two-way communication between the centres and the Secretariat. Incomplete up-to-date financial information affected the ability for decision-making at the centre level. For instance, complaints were voiced by students at many centres on the delay in financing for expenses such as student medical insurance and stipends, as well as other utility expenses such as catering services.

Financial delays at higher education institutions in Africa dependent on government funding are not uncommon and AIMS management is taking all possible measures to minimize such disruptions by prioritizing payments by urgency and need. However, clear and timely communication can avert speculation and allow for smooth operations at centres. This would also allow centre management to provide accurate information to students and to make decisions prudently during these delays. These are soft skills gaps that the evaluators noted as areas for improvement.

In interviews with centre management staff, concerns were raised regarding the lack of a systematic salary structure at centres (excluding AIMS South Africa)¹⁸. In particular, it was noted that the difference between secretariat and centre management salary levels as well as between centre leadership and lower level staff were key areas that require attention¹⁹. Salary levels depend heavily on the recruiting staff member and the negotiation capacity of the applicant. This has resulted in a large discrepancy in salary levels between centre leadership and other operation staff. Staff members stated that this is discouraging as they take on numerous tasks but are not rewarded financially. Furthermore, it is unclear to centre staff what their roles and responsibilities are with respect to recruitment and performance management, versus those of the Secretariat.

18 It is important to note that since 2014 AIMS has set-up several policies, profiles, and structures in relation to HR management. For example an organisational structure and job profiles are developed, a recruitment & selection toolkit is available for hiring, an employee handbook is developed, a performance management program is established and a market study was conducted to help define a network pay philosophy and pay grades. Challenges lie in using and monitoring the implementation of these developed tools, policies, plans, and handbooks at all the centres systematically.

19 It needs to be noted that the evaluation teams did not have/get access to an overview of current or historic salary/allowances structure per position per centre or of the Secretariat, and can therefore not verify the apparent differences. The fact is that multiple staff at majority of centres including secretariat staff brought up this concern.

3.3 Application and Selection

The application and selection process works towards identifying the applicants with the greatest potential. There are three basic pre-requisites for application: a) being a national from an African country; b) being 30 years of age or below; and c) having a university degree in mathematics, physics, computer science, engineering, business or other scientific fields. Being from Africa and having an appropriate university degree are consistently applied, while there is some flexibility in applying the age criteria.

The online application process is standardised and centralised²⁰. The process of application follows the following generic steps:

1. 1st December to 31st March: Student applies online submitting application form, transcripts, certificates, and two (2) recommendation letters.
2. A semi-automated pre-selection (status check) takes place continuously until March 1st.
3. During April applications that pass the pre-selection are made available to the centres. Applicants who specify a preferred centre are only visible to that centre. Applications are consequently assessed by the Academic Director and a team of 4-5 national academics from national universities.
4. In May, letters are sent to successful applicants
5. In June, letters are sent to unsuccessful applicants.

The number of applications has steadily grown over the years from about 607 in 2013 to 3109 in 2016 showing that the visibility of AIMS is increasing. The overall increase in applications does require more time from AIMS academic and staff and its national academics selection committee to make the selection. On average about 8% of students that apply are admitted.

AIMS indicate in its student recruitment guidelines that *“The selection of students is not straightforward. The diversity of skills and of levels of study and the non- trivial interpretation of grades across African universities makes the process a very complex one.”*²¹ Some of the challenges faced in the selection process include:

- Differences in pure mathematics background, especially with francophone students having a stronger grounding in pure mathematics. This can result in students finding the courses too challenging. It does appear that the selection process does result in students who can handle the courses. The online student survey found that about 2/3 of students do not consider courses in the first three months to be too difficult. This is especially the situation in Ghana and South Africa where 80-90% of students mentions that the courses in the first 3 months are not too difficult.
- Ensuring that AIMS is moving towards its goal of gender balance. Given that there are fewer applications from women than from men (16% in 2013 and just below 19% in 2016), it can be difficult to move towards a goal of having the student population include 50% women. The selection process has resulted in having women make up approximately a third of the student population, even though they are only 19% of applicants.

The information provided through the application process is consistent with expectation at other universities. Because the evaluators were not able to observe the selection process, the level of efficiency is difficult to determine. Several respondents (review team, lecturers, partner universities, tutors) suggest that AIMS should go beyond the paper application to conduct an oral interview and an official TOEFL or IELTS language test towards the end of the application route in order to strengthen the chances of selecting the brightest students. While this might contribute to the effectiveness of the process, it would make it less efficient and more time-consuming. It would be particularly

²⁰ AIMS student selection process general guidelines June 2017.pdf

²¹ Student recruitment guidelines 20111028.docx (p. 8)

challenging given that approximately 300 students are admitted each year; even with short-listing it would mean substantial time would be spent in interviews. This will be explored further in the section on effectiveness.

3.4 Learning, teaching and assessment

A comparison of the length of the AIMS course with other masters' programs indicates that programs vary from nine months to two years. All of the programs being compared focus solely on increasing mathematical competency. The AIMS program focuses on increasing mathematical competency and preparing students to transition in the work force. This is a lot to accomplish in a 10-month program. The 18-month cooperative program is probably a more realistic timeframe.

Other universities generally have a core of permanent lecturers that provide the core curriculum. This means that the curriculum is established and only needs to be updated in order to remain current. AIMS does not have a permanent core of lecturers which means the design of the program and the content of courses varies, based on the lecturers selected. This can lead to inefficiencies such as not having all of the courses available at all centres each year. It could conceivably require some students to do make-up courses if the course were to be critical to their learning goals. AIMS does offset this by sharing a pool of lecturers that centres can draw upon.

This approach does not necessarily create inefficiencies in the development of the curriculum as many visiting lecturers bring and teach their own course. However, it can create inconsistencies among centres in the coverage of the curriculum and therefore the content that students gain.

The course descriptions vary from centre to centre. Centres sometimes provide a very short (in some cases, 3-line description) whilst others give much more detailed descriptions, broken down into syllabus, objectives, method of delivery and assessment, prerequisites and references. No quality standard or effort of consistency via a common format or level of detail of descriptions is therefore observed across the centres pre-2017²². This situation results in a challenge for external lecturers who are new to the scheme, who would be prompted to think through the delivery of their course in detail at an early stage. The curriculum document provided by AIMS Tanzania is a good (benchmark) example of structured course information (description, objectives, syllabus, delivery, outcomes, assessment and references) which could be adapted.

The core courses common across all AIMS sites are identified and offered early in the program. The order of the courses is not currently mapped in a logical progression of course material. This needs to be done, while also allowing for some flexibility based on instructor availability. This could be carried out by a central curriculum office, and better documentation of the courses and the corresponding learning expectations.

Assessment

The academic assessment²³ is carried out in three ways:

- i. Continuous assessment through written assignments, tutorial sessions, quizzes, short tests and presentations requested by the lecturers;
- ii. A 10,000 word written report of a research project that the student is required to present orally to a panel of examiners, including the local AIMS centre director, academic director, the project supervisor, a teaching assistant and external examiners.
- iii. A portfolio is compiled for each student, containing the grades achieved for each of the courses attended (although many of these 'grades' are simply pass/fail) as well as observations on their presentations, assignments, completed exercises and final research project.

²² New efforts are underway to develop a guide on academic quality and standards post academic year 2016-2017.

²³ AIMS structured Masters model.docx (p. 5)

A weighted combination of the course work and research is used to compute a final grade. Students can either earn a distinction (85-100), good pass (70-84), pass (60-69) or fail (<60). A graduate earns a distinction if he/she has a pass for all skills courses, at least 6 distinctions for the review courses and a distinction for the research phase. In order to graduate all courses and the research project need to be passed.

The expert panel indicated that pass or fail marking in some courses and of the research paper could make it more difficult for students to be considered seriously when applying to other universities, who tend to assess applicants on the basis of their Grade Point Average or similar record. This could result in universities or potential employers contacting AIMS to try to obtain a better understanding of a student's actual performance, taking time and energy on both sides that might be better used. Movement towards a more traditional marking system across all courses and the research paper would likely eliminate the possibility of this minor inefficiency.

Contributing and Detracting Factors

The following factors contribute to efficiencies within AIMS:

- The Secretariat addresses centralized functions and issues, eliminating the need for individual centres to carry out some administrative functions.
- The Secretariat is a vehicle that can share information across centres through its monitoring and evaluation and learning functions
- The centres draw on a combined pool of international lecturers so that each centre does not need to do its own search and recruitment.

There are some factors that are inherent in the AIMS model that might detract from efficiency:

- AIMS operates on a relatively small scale with, currently approximately 300 students dispersed across six centres, providing little possibility to create efficiencies through economies of scale.
- Each of the centres operates within a different country with different legislative and policy frameworks. As a result, each centre must create strategies and policies that are consistent with the government of the country within which they operate. This requires a separate board for each centre. It is not as clear that an academic council is needed for each centre.
- The lack of a core staff of lecturers at each centre means a larger annual recruitment and selection process needs to occur. This is offset somewhat by the numbers of distinguished lecturers that make themselves available to AIMS.
- The emphasis on innovation and uniqueness in the curriculum means trying new methods and ways of doing things, some of which may not work. However taking a learning approach would help to ensure that what is found not to work is discarded and what does work is shared across centres.

3.5 Opportunities for Increasing Efficiencies

As with any organisation there are areas where efficiency could be improved. Following are some areas that AIMS may wish to explore in order to create greater efficiencies:

- Shift the marking system so that all marks are a percentage grade
- Establish a curriculum office responsible for coordinating a consistent core curriculum across all centres and ensuring consistent standard of curriculum development across all courses
- Create a standardised approach to providing course information that includes the course title, prerequisites, learning objectives, and assessment methods.

- When trying new and innovative ways of doing things, ensure that monitoring of effectiveness is integral to the effort and that the learning is shared systematically across centres.

4. Effectiveness

This section is organized according to IDRC/DFID Log Frame, presented below (elements which are covered in this section are in **bold**, while the other elements are covered in other sections):

Outputs →	Outcome →	Impact
1. Increased access to quality mathematical science education		
2. Enhanced quality and relevance of the AIMS education	Increased number of well-qualified AIMS graduates engaged in private and public sectors, academia, business and civil society	Enhanced mathematical science capacity of Africa's academic community and workforce to develop innovative solutions for development and economic growth
3. Increased demand for and interest in mathematical sciences		
4. Increased efficiency and sustainability of the AIMS network		
5. Comprehensive M&E alumni survey		

The findings derive from all of the data sources. Contributing and detracting factors for effectiveness have been incorporated throughout this section.

For an overview of the targets and achieved results of the DFID/IDRC logframe see Annex S.

4.1 Accessibility to quality education by AIMS

Increased access to quality mathematical science education

AIMS is intended to increase access to mathematical science education, not only by creating educational opportunities but also by working to ensure that those opportunities are open to individuals of varying genders, language backgrounds, national origins, ethnic identities, abilities, and financial means.

A Gender Audit was conducted in October 2013 and concluded that there was a need for capacity development among staff, as well as a formalized policy and strategy, to ensure that women can access the centres and benefit from AIMS equally. This led to a gender and inclusivity framework²⁴ in September 2015 that points out several strategic objectives on academic, research, industry, public engagement/ outreach, communication and organisational/training level²⁵. Besides this an AIMS Gender Working Group (GWG) was established in October 2015, and Gender Focal Persons at four of the six centres were appointed.

Although not fully formalized as policy, inclusivity is viewed as important by centre management, tutors, students, and the AIMS network as a whole. AIMS NEI's resources manual states, *"The organisation [AIMS] shall...treat each other*

²⁴ AIMS GEI Strategic Framework Sept 2015.pdf

²⁵ Please note that from this strategic framework the evaluation focus on the academic program.

*with respect and dignity, valuing diversity...[and]...provide a work environment that is free from discrimination based on race, colour, religion, nationality, gender, disability, marital status or any other unlawful factor (p. 6)."*²⁶

Evidence indicates that accessibility along various dimensions has been achieved, though there remain areas for improvement.

Access by geography, ethnicity, and national origin: AIMS expanded rapidly from 2014-2016, growing from three centres to six centres. By 2016, there were operational centres accepting students in Senegal, Ghana, Cameroon, Tanzania, Rwanda, and South Africa, meaning that AIMS is now present in West Africa, Central Africa, East Africa, and Southern Africa – all of the major regions of sub-Saharan Africa. This greatly enhances coverage. Students from any African country are eligible to apply to any centre, and the effort to include students from across the continent was noted by the expert panel as a strength. So far, students from 43 of 54 African countries have studied at AIMS.

However, students do not necessarily have similar experiences in, and outcomes from, the AIMS program. There are reports of favouritism by AIMS staff and tutors towards home country students in some of the centres. About 16%-20% of respondents in the student FGD and online surveys of students and alumni report having experienced discrimination (8%-13%) or know of other students who have experienced discrimination (8%). In four out of five of these cases, the discrimination is based on nationality, race, language, or background, rather than gender, religion, or some other factor. Favouritism by national origin can appear in the facilitation of internships, search for employment, marking of coursework by tutors, and dispensation of transport reimbursements (particularly in the Co-Op program). Based on the survey and focus group discussions, this kind of discrimination is especially prevalent in the two Francophone centres (Cameroon and Senegal), and to a lesser extent in Ghana. It does not appear to occur in the other three centres.

Access by financial and socio-economic status: Admission to AIMS is based on merit rather than financial means. Students do not pay to attend AIMS; all costs of attendance, including room and board, are covered by bursaries funded by the four main donors of IDRC, DFID, MCF and the Government of South-Africa. This is a great strength of the Institute, and means that attendance is, at least in theory, open to any qualified individual in Africa regardless of their economic status. According to the pre-assessment survey, three quarters of students were from households earning less than US\$501 per month prior to beginning their studies, representing the lowest income bracket included in the survey, although, the current average GNI monthly per capita for the centre countries (apart from South Africa) is US\$360. Each bursary (a total of 936 from 2014 to 2017) represents a student who can pursue graduate-level studies without any financial burden to themselves or their families, other than lost wages during the year of studying.

There needs to be sufficient funding in order to maintain this situation. The number of bursaries given lagged a bit behind the number planned in 2014, 2015, and 2016, representing some lost opportunities for potential students. In addition, though most students may have low incomes when they enrol in AIMS, they are not from disadvantaged backgrounds. Students' parents/guardians own land, own rather than rent their house, and have completed post-secondary education or higher, making them middle or upper middle class by local standards (see annex N). This is not surprising, given that admission to AIMS is on the basis of merit and requires the student to have completed a four-year Bachelor's degree.

Gender equality: gender inclusion is an area of great accomplishment by the centres. A 30% target for female students was set, and this was exceeded, with an average of 32% female students across the centres. Although 32% does not represent gender parity, it is an impressive achievement, according to the expert panel, given the many barriers that women face to pursuing STEM education and careers. The expert panel speculated that it is probably higher than typical postgraduate programs in the sciences in Africa, although the GPI index in Sub-Saharan African at

26 AIMS-NEI Resources_Manual_June2013.

tertiary level was 0.6 in 2009 (i.e. 37.5% of all students) and on a rising trend.²⁷ Female applicants are preferentially admitted to the centres: the percentage of admitted female students (32%) is substantially higher than the percentage of female applicants (16-19%), and female students report that they experienced positive discrimination in the application process.²⁸

Furthermore, there are almost no reports of gender-based discrimination against students at AIMS. The centres have separate residential facilities for male and female students, which makes women feel safer and more comfortable.

This is the tale of a female student who hid her pregnancy from the panel of admissions. The story is that the centre in Cameroon, upon finding out, did not turn her away but welcomed her and actually went ahead to provide her support (allowing her to leave class and feed her baby while classes were on); the centre proposed supporting her financially but she refused saying she only wanted free times in between class to feed her baby. The centre also created an enabling environment in the form of sensitizing other students about her condition so she could fit in without problems (isolation and discrimination). She graduated and is now serving as a math/physics teacher at the secondary school level in Cameroon.

Staff appear to go out of their way to make women welcome and to ensure that barriers to their participation are removed. For instance, the following story comes from Cameroon:

Gender equality and full accessibility for women could be further enhanced. There are still substantially more male students than female students, and the proportion of female students remains lower than it is at universities in some high-income countries such as the UK. Moreover, fully 50% of

female students (compared to just 29% of male students) feel they have not gained mathematical skills.

Another area for improvement is the gender mix among staff, tutors, and international lecturers. No targets have been set for the percentage of international lecturers. Women students point out that a woman lecturer motivates them by acting as a role model; woman lecturers report that woman students approach them frequently and feel comfortable in their presence. According to information from men students in the focus groups, women lecturers are also valuable for men students with the experience of being taught by a woman broadens their perspectives on gender and STEM.

The percentage of women in decision-making roles at AIMS dropped from 36% in 2014 to 24% in 2016, falling short of the target of 33%. The AIMS Secretariat, Cameroon centre, and Senegal centre did reach their desired targets (the Secretariat had 63% female decision makers in 2016 potentially affecting gender balance), but the other centres fell short. In terms of non-decision-making staff, there were overall gains from 2015 to 2016, but only the Secretariat reached the 30% target in either year. It will be important to continue work to recruit female staff and decision-makers to AIMS.

Access by language: at all of the AIMS centres, even those in francophone or bilingual countries, educational activities are conducted in English. It is important that the centres be accessible to students from linguistic backgrounds other than English, as those students represent 47-60% of the student body each year. Most of the non-Anglophone students speak French, but there are also speakers of Portuguese, Arabic, and other languages.

It is indicative that verbal proficiency in English of AIMS students has improved: whilst 20% of females (5/25) and 21% of male (9/43) students expressed difficulty at the start of the 2012-13 AIMS year, this has declined to 16% for both female (3/19) and male (25/153) students at the start of 2016-17 school year. Meanwhile, verbal proficiency of students in French has deteriorated from 60% (15/25) of female students in 2012-13 expressing difficulty with French

²⁷ This is stated equivocally because there is only limited data: namely, a gender breakdown of tertiary students across all fields of science or some specific fields of science (agricultural science, engineering, health and welfare) for selected countries. UNESCO, 2015. UNESCO Science Report towards 2030, p. 96-97.

²⁸ AIMS also set a target to generate 50 female graduates with PhDs by 2015. According to the Tracer Study, by December 2016, 73 female AIMS graduates women have been or are enrolled in a PhD program (compared to 184 men). The number that have completed a PhD program is unfortunately too unreliable to present because more than half of the end dates are less than 3 years after the start date.

to 79% (15/19) in 2016-17.; for males the percentage finding French challenging went up from 47% (20/43) in 2012-13 to 77% (82/106) in 2016-17.

The fact that classes are conducted in the non-native or non-preferred language of around half of the students may create barriers and inequities. Centres offer pre-course language training to bridge this gap, but it will be important to continue monitoring any potential barriers for non-Anglophone students or discrimination on a linguistic basis.

Access by ability: ensuring access for students and staff with disabilities has not yet been a focus of the AIMS centres. Site visits revealed that AIMS centre facilities are largely inaccessible for staff and students using wheelchairs, beyond the ground floor. Facilities are often converted hotels (South Africa, Rwanda) or personal residences (Tanzania) which were not built with accessibility in mind. The majority of centres do not have a lift, and if present it is not operational. Ground floor level accessibility was observed in the South Africa and Rwanda centres but substantial upgrades are needed to make the centres fully or partially wheelchair accessible for the core learning facilities such as lecture rooms, computer, and learning areas.

Accessibility for students/staff with other sorts of disabilities (e.g. learning disabilities, mental illness, blindness, deafness, etc.) was not assessed in this evaluation. It will be important to investigate these areas in the future to ensure that students of diverse abilities can benefit from the centres.

Access by religion: there are no reports of discrimination by religion.

Access by age: only individuals younger than 30 years are eligible to apply to AIMS, though some students (6% in 2016-17) were admitted above this age cut-off.²⁹ There are no reports of discrimination by age, once students are admitted. It will be important to consider whether the benefit of favouring younger students (for whom the life benefits of the program may be greater) outweigh the age discrimination inherent in making older students ineligible.

Formalization of inclusivity efforts: the evidence reviewed above shows that AIMS has made efforts at gender equality. At the same time, there is room for greater accessibility and equity for all. Earlier recommendations for capacity development and formalization of inclusivity efforts (including a systematically organised inclusivity program) have not yet been implemented.

Gender Focal Persons report that they have no formal qualification or training in their role and are not currently able and/or willing to full-fill it, nor are accessibility duties specified in their job descriptions. Bi-annual Gender Working Group activity reports show that inclusivity is mainly understood as relating to gender, with much less focus on the many other dimensions of diversity. Neither tutors nor centre staff have received any formal training on inclusion and diversity.

It will be important to build on existing accomplishments by formalizing the six centres' commitment to inclusivity, raising staff capacity in this area, and ensuring that inclusion is understood in a broad way, comprising not only gender but also national origin, linguistic background, ethnicity and tribal affiliation, (dis)ability, religion, age, class, sexual orientation, gender expression, marital status, and other elements. It will be beneficial to continue offering workshops on diversity; tutors indicated that they wanted training on how to work effectively in cross-cultural and inter-faith contexts. A staff person at each centre must fill the role of diversity officer, with appropriate training and supports.

²⁹ Not possible to estimate in 2012-13 and 2013-14, because age groupings in the Pre-Assessment questionnaires spanned 30; in 2015-16, 13/212 is 6%; but in 2016-17, students asked to give date for birth without a predefined format, so they can only be coded manually).

4.2 Enhanced quality and relevance of the AIMS education

Overall quality

As shown in Figure 9, AIMS education appears to be of high quality overall.

On the online survey, 88% of students and alumni described the overall quality of AIMS as excellent (36%) or good (52%); 11% called it average. 65% said that the academic program has fully (20%) or largely (45%) met their expectations; 32% said somewhat and 8% said not at all. 84% were very satisfied (36%) or satisfied (48%) with the teaching and learning at AIMS; 11% were unsatisfied and 5% were very unsatisfied. 81% would fully or largely recommend AIMS to someone else. These are fairly high levels of satisfaction, though there is significant room for improvement as well.

Quality of Academic Program

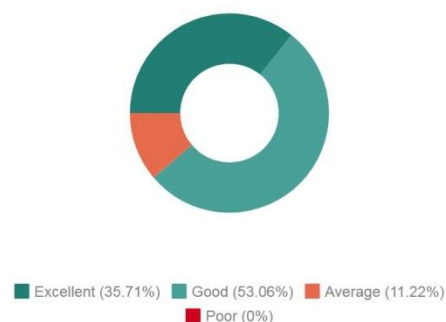


Figure 9: Quality of Academic Program

The expert panel agreed that the curriculum and its credits reach the equivalent of a MMATH, while the independent UK reviewer commented that the quality and rigour of the AIMS review courses overall is comparable with undergraduate Masters level courses or a taught MSc degree in a reputable UK university (albeit that the AIMS review courses are delivered over a significantly shorter period of time). The courses show ingenuity by the international lecturers and require strong dedication from the students who often describe the program as ‘hard work.’

There is, however, one area of concern. Review courses are intensive three-week affairs, out of logistical necessity (given the need to recruit international lecturers) rather than pedagogical appropriateness. Although the number of contact hours is comparable to that of a traditional semester-long course, the expert panel was concerned that the short duration may make it difficult for students to fully absorb the complex concepts that are introduced.

Application process: almost all students and alumni (98%) are satisfied or very satisfied with the online application process.

Admissions and student readiness: it is important to balance a) the accessibility of the centres for students from varying backgrounds with b) the need to recruit qualified students who will be able to keep up with the rigours of the program and proceed successfully to careers or further education. AIMS centres do seem to be achieving this balance, though some challenges have inevitably arisen.

The admission process is highly selective. About 8% of applicants were admitted in 2015 and 2016. In the 2016-17 cohort, about a third of students had already completed a Master’s degree, making them highly qualified for admission.

At the same time, the admission process lets in students of varying levels of preparedness. The current selection process is less rigorous than that of other universities, as there is no written or oral entrance examination or language test (telephone interviews are done when possible). It also admits students without an undergraduate mathematics degree, as long as they have completed a STEM degree with some mathematical content.

The result is that the student body varies widely in their academic level. International lecturers report that the top 20% of AIMS students are equal to the best 20% of MSc students in their home universities, but the bottom 20% are less qualified than the bottom 20% in their home universities. Arabic- and Portuguese-speaking students often enter less prepared due to their lower language capacity in English or French. Most students seem to arrive with sufficient preparedness for the “skills phase” courses (about two thirds indicated that these courses were not too difficult), but the review phase courses can be more challenging.

The varied level of students poses a challenge for lecturers, who must design and deliver courses to span undergraduate and graduate levels, and to cater to students with and without mathematics degrees and of varying

language abilities. According to experts, the existing level of students from these courses is not always equivalent to an MSc course.

Despite these challenges, the selection process is working overall, with centres effectively walking the line between selectivity and accessibility. The majority of the expert panel indicated that because AIMS is unique in terms of its approach and goals, concern over whether the admission requirements met international standard was mostly irrelevant, although some raised concerns about the lack of an interview. Most indicated that the admission requirements were appropriate given the goals and context of AIMS.

If AIMS does wish to become more selective and ensure that students enter with a more uniform level of preparedness, there are several ways to achieve this as suggested by stakeholders. A paper application, mandatory oral interview, and standardized language test (TOEFL or IELTS) could be added to the application process (the costs should be covered by AIMS so as not to pose a financial barrier for students.) Community service and leadership qualifications could also be assessed as part of the process. With regard to language requirements, it will be important not to discriminate against non-English-speakers, as students at lower levels can access language courses and translators at the centres.

The skills topics that are common across all AIMS sites are consistent and excellent – computing, problem solving, physical reasoning, and entrepreneurship.

Expert Panel Member

Appropriateness of curriculum content: the expert panel was positive overall about the appropriateness of the curriculum content. Combining traditional STEM education with training in life skills and entrepreneurship is considered a valuable model.

The expert panel did have concerns about the curriculum. Given the short duration of the review courses, students typically choose 11 of them, which is quite a large number. Moreover, the exact topics of these courses depend on the expertise and interests of the available international lecturers. As a result, the students are exposed to a wide and somewhat unpredictable assortment of courses. This is not necessarily a problem, as it introduces students to a wide variety of topics and thus helps students to choose potential careers, but it does mean that the program is less specialized and focused than a typical Master's degree, and thus does impact the reputation of the degree and the potential career or academic prospects of alumni. The expert panel also pointed out to a need for more coordination in course offerings so that courses relate to each other and are ordered appropriately (with prerequisites coming before more advanced courses); the panel also felt that more consistency of courses from year to year and from centre to centre would be helpful. Reviewers identified a need for curriculum coordinators, a central curriculum office, and better documentation of the courses and the corresponding learning expectations.

Another area for improvement is the fit between the curriculum content and students' professional needs. The number of alumni who report that the curriculum did not fit their career aspirations is quite high. In Cameroon, South Africa and Senegal, around half of alumni were of the opinion that the curriculum does not fit their future career aspirations. This mismatch is especially prevalent among female students: 52% of the female alumni say that the program was not much in line with the work they envision themselves doing later, compared to only 35% of male alumni. Also 50% of the female, compared to 29% of the male students feel they have not gained mathematical skills; both differences are statistically significant.

Quality of teaching staff: the quality of teaching is high. Students and lecturers are generally positive about the performance of tutors. The majority of tutors (62%) are previous AIMS graduates themselves, making them excellent role models. Tutors always hold Master's degrees, and if they are not alumni of AIMS they are meant to have a PhD as well. From the 55 (of the 155 who provided the information) tutors that are not AIMS graduates 46% (25) do in fact not have a PhD, a considerable number. This number is highest in South Africa (64%).

Between 2011 and 2017, AIMS has recruited 224 tutors³⁰ from 42 countries of which 86% are African and 14% non-African, with large majority non-Africans from Europe. This results in a pupil-tutor ratio of about 1:5, which is less than the targeted 1:7. Tutors work in a team of 8-10 tutors with one head tutor. The team should be *“balanced with respect to sex, scientific background, cultural background, and language.”*³¹ Given this intention the evaluation team notes that 33.6% of the tutors are women. There is an under representation of women tutors in Cameroon (23%) and Senegal (22%³²), compared to the other centres which have 33% (South-Africa), 38% (Tanzania) or 44% (Ghana and Rwanda) women tutors. Zooming in per centre there are considerable differences observed as at the centres in Cameroon and Senegal respectively 72% and 61% of all tutors are from the host country. Ghana and Rwanda have 41% and 38% tutors from their own country respectively. In South Africa and Tanzania there are only 8% and 4% of tutors from the home country.

Tutors could benefit from more training and support. Formal training in mathematics education to the tutors could be of great benefit to the students. Tutors also wish to be trained on intercultural communication and interpersonal skills to better support students. A more rigorous tutor application process, including an oral interview, might increase the quality of the tutor pool, and the tutors feel they would benefit from more feedback on their performance from the academic director. Tutors should also (be able to) describe their role more clearly to the students.

Both tutors and international lecturers are seen as approachable, helpful, and open to providing in-depth follow-up and additional support when needed. The expert panel was unanimous in reporting that the teaching staff is well qualified: international lecturers are motivated, committed, credible, and come from renowned universities (mainly in Europe, South Africa and the USA). All lecturers have PhDs and are selected based on both teaching and research qualifications. Some are even Fields Medallists (Vaughan Jones, Cedric Villani), considered the highest honour in mathematics.

Pedagogy: AIMS has a learner-centred philosophy and it is important for the instructional format to follow suit. The evidence indicates that it does indeed take a student-led, participatory, flexible approach. International lecturers consistently apply, across the centres, a more student-led and participatory approach than they do at their home universities, which is in line with AIMS’ teaching philosophy and highly appreciated by students. 89% of students and alumni are satisfied with the quality of teaching during lectures, and analysis of video recordings of lectures indicates that the lecturers are using pedagogical methods that promote creative and critical thinking (Annex L). This finding supports the current model of AIMS, in which a large pool of quality international lecturers is tapped without the costs of formally contracting them.

Continuous improvement: In 2016, internal curriculum reviews were conducted by each of the six centres, meeting the target in each case. In 2015, two progress reports and one mid-term evaluation were completed. In 2016 two of the recommendations from the internal progress reports were implemented (allocating the correct personnel and documentation for communication, information and induction of new students; and engaging staff from other centres for ICT and facilities management – for example, during the opening of AIMS Rwanda in 2016). The response rate on the AIMS alumni tracer study survey has been high, exceeding the target of 75%. An external curriculum review was undertaken at the South Africa centre.

To enhance AIMS’ commitment to continuous improvement, it would be helpful for external curriculum reviews to be conducted at the other five centres as well. There are also challenges with the current databases, making it difficult for AIMS staff to take full advantage of the data that is collected to make evidence-based decisions, learn and consequently improve programs. AIMS has also not yet implemented the recommendations of the organizational balanced scorecard.

Innovation: the AIMS model can be described as a greenhouse: a 24/7 residential environment where students study, socialize, gain interpersonal skills, and receive wraparound support from tutors. By combining technical education

³⁰ Data is from all 6 centres for all years except Senegal that only provided data for the year 2015-2017.

³¹ AIMS tutor profile draft_27JUL2014.pdf (p. 1)

³² Note: 2015-2017 only

with training in life skills and entrepreneurship, students are given the opportunity to develop the full range of skills that they need in order to succeed. All of the experts consulted viewed this model to be exciting, innovative, and unique. Students were highly satisfied with the social life that this residential setup allowed for.

Consistency across sites: the challenge inherent in AIMS' flexible, student-centred approach—and its reliance on the availability of international lecturers—is that it is difficult to standardize the delivery of the program across the centres and across years. Course offerings and content vary widely from centre to centre and year to year. This makes the perceived value of an AIMS degree variable by site; making it difficult to clearly describe the program to the public and funders; and creates hurdles in the international accreditation and certification process. Four of the centres (South Africa, Ghana, Cameroon, and Rwanda) are currently accredited, while the other two are in their final stages of accreditation. At the same time all centres are authorised to deliver their programs. This situation has created variability in the credibility of the degree that students receive. Another area of variation is the level of partnership with local universities and research sites; South Africa, which is the oldest centre, appears to have achieved the greatest degree of integration.

Continuous assessment: in line with its student-centred philosophy, AIMS eschews the traditional final formal summative examination (backward-looking judgment of students' achievements) in favour of continuous assessment (a formative, forward-looking tool that is meant to help students build on strengths and fill gaps). This approach is intended to be learning-focused and to foster a collegial and non-competitive environment. It is appreciated by international lecturers and tutors (despite the substantial work that it creates for tutors, on whose shoulders the marking falls).

However, students are not always fully satisfied with this system. About one third of respondents to the student and alumni surveys indicated dissatisfaction with the assessment approach, and fully 50% of students/alumni in South Africa. The concerns were that: group work allows lower-achieving or less motivated students to piggyback on the accomplishments of higher-achieving, more motivated students, reducing the distinction in grades between the two; the pass/fail system does not allow fine distinctions to be made in performance; copying and other forms of cheating reduce the credibility of grades; frequent, short assessments disadvantage students who need more time to think; marking is subjective since it is done by tutors alone (rather than by international lecturers), lacks criteria, and can be compromised by favouritism towards certain nationalities; there is no minimum standard or threshold in place, allowing nearly all students to pass the course and the degree irrespective of how much effort they put into it, as long as they complete a supplementary assignment during the research phase.

The expert panel echoed the concern about the pass/fail system, but was more positive about the assessment system than were students. They pointed out that graduation requires writing a 10,000-word dissertation which is externally examined, in line with international practices for an MSc degree. The expert panel also commented that summative examinations can be useful for comparing performance across centres, and that a more comprehensive assessment might help students in their careers.

Facilities: the facilities in which learning takes place are generally rated positively: a large majority of students and alumni are satisfied or very satisfied with infrastructure, accommodation, cleanliness, the helpfulness of staff, and facilities in general. The residential model of the centres means that students have space to interact with peers, tutors and instructors, have computing facilities and reading rooms/libraries, and have access to many of these supports in most centres 24/7. Computing facilities are considered adequate.

The Cameroon centre received some complaints about accommodation, cleanliness, catering, and the helpfulness of staff. Tanzania received some complaints about accommodation, and Senegal about its ICT room (which was too small and had out-of-date machines not suitable for analysing big data). Library resources could be improved: book collections are currently inadequate and often depend on what is donated rather than what is needed. Dedicated funding for library resources and negotiated access to electronic resources would improve this situation.

4.3 Increased demand and interest in mathematical sciences

AIMS intends not only to fill the existing demand for mathematical sciences training, but also to create new demand and enthusiasm among young Africans. The evidence suggests that this is indeed occurring, although it is difficult to attribute it to AIMS itself.

The number of applications submitted to AIMS has grown hugely along with the opening of new centres. There were 607 applications in 2013, climbing to 3,109 in 2016. This could indicate that demand and interest in mathematical sciences has increased, or it could simply mean that AIMS has become more visible or that the opening of centres in different parts of the continent makes AIMS accessible to a larger number of prospective students. Targets were met and surpassed in 2015 and 2016. With the development of new centres, the number of applications will likely continue to increase. Applications from women have shown a small but steady growth, starting at 16% in 2013 and rising to 19% in 2016. The *number* of female applicants surpassed the target, but because of the large number of male applicants, the *proportion* of females was below the target of 30%. More work will be needed to increase young female Africans' interest in mathematical sciences and confidence to pursue education and careers in this area.

Another sign of increasing demand and interest is the rising number of attendees at AIMS-organized public lectures on the mathematical sciences. In 2015 there were 2,675 attendees, rising to 5,024 in 2016. These are impressive numbers, and well above the planned-for figures of 1,600 in 2015 and 1,800 in 2016.

However, public lecture attendees are disproportionately distributed across the centres. In 2016, Ghana had almost seven times as many attendees as planned for, South Africa had over three times as many as planned for, and Senegal had over twice as many as planned for. These are very impressive achievements. On the other hand, Cameroon fell a bit short of its plan (127 attendees versus 200 planned for), and Tanzania had no attendees at all. There is work to be done to make sure members of the public are exposed to mathematical sciences in each of the countries in which AIMS operates.

AIMS centres also organize teacher training courses on the mathematical sciences, and participation in these courses has been increasing, indicating rising interest in mathematical sciences: there were 237 participants in 2015, rising to 495 in 2016. Targets were met and surpassed in both years; in 2016, there were more than twice as many participants as planned for, an impressive achievement.

Similar to the public lectures, however, participation in teacher training courses is unevenly distributed across the centres. All of the participants in 2016 were at just two of the centres (275 in South Africa and 220 in Ghana), both of which vastly surpassed their targets. However, Senegal, Cameroon, and Tanzania had no participants at all. It will be important for teacher training in mathematical sciences to be accessible in all of the countries.

4.4 Increased number of well-qualified AIMS graduates engaged in private and public sectors, academia, business and civil society

This section assesses the extent to which AIMS students graduate with the necessary qualifications to succeed in business, government, academia, and civil society. This includes the actual skills/knowledge that students have gained, as well as the perception of those skills/knowledge by potential employers and academic programs. This section does not assess the impact that entering these fields has on graduates' lives or on the lives of their fellow Africans; those topics are covered in the Impacts section.

Between 2012 and 2017 (including those who graduated in July 2017) 1207 AIMS students graduated. Of these 67.7% are Male and 32.3% are Female. During the 2011-2016 period only 9 students dropped-out, mainly due to personal reasons and therefore a very large majority of AIMS students graduate. Figure 10 shows the total number of graduates per AIMS centre.

Acquisition of necessary skills: most students and alumni indicate that they indeed gained each of the three kinds of skills that AIMS is intended to foster: mathematics, technology, and social/life skills. The centres are doing especially well on social skills. There is room for improvement on mathematics and technology, where around a quarter of students feel that they did not gain many skills, or none at all.

The extent also varies across centres. Ghana and Rwanda are doing especially well on technology, while there is significant room for improvement in Cameroon, Senegal, and South Africa, where around six in ten students feel they did not gain many technical skills, or none at all.

Another way to assess whether students gained the necessary skills is to conduct a blind expert review of the final research papers that students submitted. This was done for a small sample of papers (three papers randomly selected from each of the six centres) by a York University (Canada) mathematician. One paper was judged to be of excellent quality, three of good quality, ten of average quality, four of poor quality, and none of very poor quality. This suggests that most students graduate with the ability to produce a research paper of at least average-Master's-level quality. At the same time, it suggests that a significant minority of graduates are not able to produce a paper that would pass master internationally. There should be an effort to raise the bar in this area.

Another area for improvement is the fit between the curriculum content and students' professional needs. The number of alumni who report that the curriculum did not fit their career aspirations is quite high. In Cameroon, South Africa, and Senegal, around half of alumni were of the opinion that the curriculum does not fit their future career aspirations. This mismatch is especially prevalent among female students: 52% of the female alumni say that the program was not much in line with the work they envision themselves doing later, compared to only 35% of male alumni.

Alumni career trajectories. According to the AIMS tracer study (averaged across years), the majority of graduates (63%) continue as students after they graduate from AIMS, while a smaller proportion (29%) enter employment. The percentage of unemployed graduates has, however, been increasing exponentially, from 2% in 2010 (with one AIMS centre) to 29% in 2016 (with five AIMS centres).

The material below details the extent to which AIMS graduates are able to find success in their post-AIMS endeavours, whether these be graduate studies, internships, or permanent employment.

Ability to be successful in further graduate studies: the target for the number of AIMS alumni who were in post-AIMS study programs six months after graduation was met and surpassed each year. A total number of 480 graduates have continued into a post-AIMS study program six months after graduation since 2003 (output 2.4). For the evaluation period 2010-2017 this is 386 or 31.9% of the total number of graduates for this period. In 2015, 21% of these alumni were women (falling short of the target of 30%), and in 2016 31% were women (meeting the target).

These graduates appear to be well qualified for success once they enter these further academic programs. Most university supervisors of AIMS graduates were very satisfied (39%) or satisfied (46%) with the overall performance of AIMS graduates. 54% mention that AIMS graduates perform on a similar level as graduates from other universities while 31% mention that they perform better than others. University lecturers overseeing Master's students in Tanzania said the candidates were stronger technically (computer skills), better at articulating their viewpoints, and

Total number of graduates per AIMS center 2012-2017

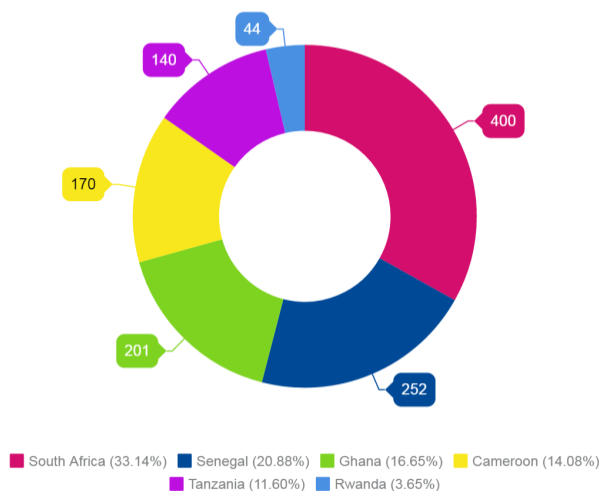


Figure 10: Total number of graduates per centre 2012-2017

faster to adapt to the rigours of the program, despite starting at lower level of mathematical theory. This indicates that AIMS is equipping students with both the technical and the life skills necessary for success.

Graduates do, however, face challenges in seeking further graduate studies. The AIMS Master's degree is broader, less specialized, and harder to describe to outsiders than other Master's degrees, meaning that majority of students are only accepted into PhD programs if they begin again at the Master's level. The lack of summative examination makes it more difficult for admissions boards to assess graduates' skills. Degrees from the centres that are not yet fully accredited are less credible to admissions boards than degrees from the other centres; there are many hurdles to accreditation at the unaccredited centres, including the lack of a set curriculum and the lack of an exit examination. Achieving accreditation at these centres should be a priority going forward, as it will boost the educational and professional opportunities of graduates, and will also open the door to greater home country funding.

Ability to be successful in internships: based on the AIMS monitoring reports (output 2.5), the target of 5% of AIMS alumni offered internships facilitated by AIMS was achieved, although the rate, excluding the Co-Op program in Senegal, where all students have an internship as part of the program, has stayed roughly constant at around 7% compared to the period (2010-2013) before the industry initiative. Although there is no systematically collected data on employer satisfaction with AIMS interns, anecdotal evidence suggests that AIMS alumni do tend to enter these internships with the skills required to succeed. Interviews with AIMS employers (in several countries and fields including finance, healthcare, and technology) were on the whole positive. In a few cases, the intern had to seek additional training before being able to effectively take up the internship; in one case, the company pre-trained a Co-Op student in Big Data; in another case, the company sent the student to a training course at the employer's expense.

Support towards attaining an internship is facilitated by Student Development Officers (SDOs) at the centres. The coordination and recruitment of SDO's across the network has been and still is an ongoing effort and challenge. Currently four of the six centres have SDO's. As the July –December 2016 report mentions: *"it has proved very difficult to appoint suitably qualified SDO's"*. About a quarter of the 2016 alumni reported that they had received assistance from SDOs in preparing resumes and interview skills. 17% had received help from someone else in the centre, such as the Academic Director or international lecturers; in some cases, these individuals gave students jobs. There were varying levels of satisfaction with SDOs' services, ranging from 75% good/satisfactory in Ghana to 52% good/satisfactory in South Africa and Tanzania. Going forward, it will be important to ensure that SDOs are qualified and effective in their roles.

Ability to be successful in permanent employment that uses AIMS training. There have been challenges meeting targets for the number of graduates employed in positions using AIMS training six months after graduation. The numbers have lagged significantly behind targets for both men and women each year for which data was available (2014, 2015, and 2016). The situation is no worse for female graduates than male graduates, however, with about 30% of employed graduates being female (similar to their representation among AIMS alumni as a whole). As noted above, about twice as many AIMS graduates go on to further studies rather than employment; this indicates that AIMS graduates are not able to find work in their preferred fields, or that they wish to continue with further studies (often another MSc).

According to brief telephone interviews with potential employers in the AIMS targeted sectors (finance, insurance, health, and telecom) in all but one of the centre countries, there is a significant market demand for the skills of AIMS graduates. In most cases the Human Resource managers of the companies were prepared – some eager – to have initial discussions about internships and possible collaborations. This is a huge opportunity for AIMS, especially given the substantial and growing number of unemployed AIMS graduates since 2014. Centres have not yet taken full advantage of this opportunity. Centres have yet to build strong partnerships with employers, with the result that internships tend to be supply- rather than demand-driven. Centres need the additional capacity of new staff with a private sector background and network, as well as capacity development of current staff, to be able to: assess the labour market, match course content to career needs, and build bridges with employers. This should be a priority given the large and increasing percentage of unemployed graduates.

Other barriers to employment are similar to those for further graduate studies: the broad, difficult-to-describe nature of the coursework; the lack of an exit exam or grades beyond pass/fail; and the lack of accreditation of two of the centres.

See the chapter 6.1 Outcomes for Students for more information.

Ability to contribute to government policies or wider socio-economic impact on Africa: four graduates were identified by AIMS as having achieved this during the period 2010-2017, coming close to (but not quite reaching) the outcome 1 target.

5. Sustainability

Findings for this section are taken from the desk review, administrative and financial data pull, and interviews. There are four sustainability concerns for any academic institution: recruiting students of sufficient quality; availability of teachers; recognition of the degree and regular and consistent funding. This section looks at all three of these areas. The primary concern is AIMS' financial sustainability

Ability to Recruit Students of Sufficient Quality

As indicated in Figure 11, the total number of applicants has increased from 607 in 2013 to 3109 in 2016, indicating that more students are considering AIMS for their post-graduate academic career³³. Although the number of women applicants has increased by approximately 6%, the increase has been primarily with men, indicating that more outreach to women is needed. With a smaller pool for selection, it is more difficult to select high quality students. Women participating in the focus groups reported that they felt they had experienced positive discrimination as they know higher performing men who were not selected.

Figure 12 indicates that the number of francophone applicants has been declining by about 12%, whilst the Anglophone applicants are increasing by the same percentage. Assuming the potential applicant pool has remained the same; AIMS might want to consider more outreach to the francophone population.

Output 3.2 Number of students applicants per gender



Figure 11: Number of applicants per gender

Anglophone and Francophone share of entrants (%)

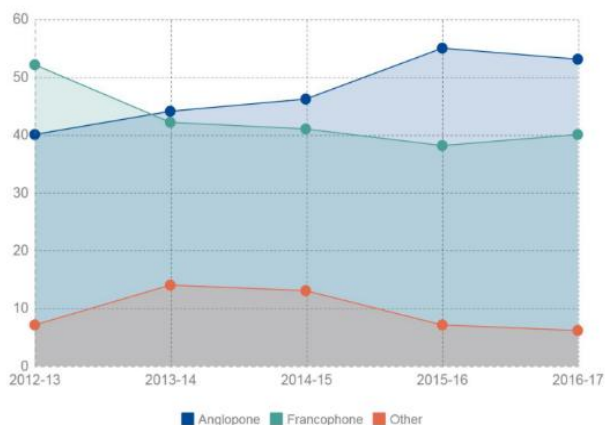


Figure 12: Anglophone and francophone share of applicants

AIMS seeks to identify the applicants with the greatest potential. The feedback from international lecturers indicates that the top 20% of AIMS students are equal to the top 20% of M.Sc. students in their home country. At the same time, several said that the bottom 20% are not as good as the bottom 20% in their home university, indicating that while the pool of applicants is sufficiently large, improvement is needed in the quality of applicants, an area over which AIMS has little control. As the quality of primary, secondary and post-secondary education improves across Africa, the quality of AIMS applicants is likely to improve. The online survey with students and alumni (2015-2017 cohorts), indicated 28% had already obtained a Master degree level program prior to applying and this had increased from 23% in 2015-2016 to 33% in 2016-2017 cohort.

Availability of Quality Lecturers

The panel of experts indicated that qualifications of lecturers are high. Almost all have a Ph.D. degree, which is consistent with other universities. Quality is not an issue. AIMS administration reports having a large pool of

³³ A fair comment is whether this would be the case if the model is not fully funded.

international lecturers. At the same time they report that some courses cannot be taught due to the lack of availability of qualified lecturers. This is of greater concern in a ten-month program, where there is less opportunity for flexibility. Although AIMS does not have the facilities for providing online courses, an online lecturer with support from tutors may be one way to address the issue of availability.

International Recognition

Contact with university lecturers in order to develop the expert panel indicated that AIMS has fairly broad global recognition. Everyone who responded had at least heard of AIMS. More important than recognition is credibility. National, regional and international accreditation is one means of achieving credibility. The accreditation of the AIMS Centres and their academic programs as well as certification of the degree is of critical importance towards the value of the degree within the home country of the graduate as well as if the graduate is applying to a doctoral program.

All AIMS Centres have got an official authorization to deliver the degree. As of August 2017, four of the centres are accredited (South Africa³⁴, Rwanda, Cameroon and Ghana³⁵). The remaining two have applied for it and are in the final process of becoming accredited³⁶.

The accreditation of the centre is imperative towards acquiring funding from the relevant national educational authorities in-country, thus relates directly to the financial sustainability of AIMS. National, regional and international accreditation and certification are important steps towards gaining international recognition.

Financial Sustainability

Overall, the program spent 3.4 Million USD more than was budgeted for from the inception period to end of December 2016³⁷.

	Budget	Actual
Training and Research Programme	46%	44%
Organisational Effectiveness	13%	14%
Centre Development	6%	5%
Advancement	18%	18%
Corporate and Admin	18%	18%
Total (\$)	\$31,592,725.00	\$35,030,437.00
Total Variance (\$)	(\$3,437,712)	

Table 2: Budget vs. actual expenditures in USD - from DFID/IDRC funds

³⁴ Via its three partner Universities.

³⁵ AIMS Ghana fulfilled all its accreditation requirements by the National Accreditation Board and is awaiting certification (Jan-July 2017 IDRC bi-annual report page 42)

³⁶ In the case of Senegal the National Accreditation Body has only been newly created, meaning that even the Senegalese universities are now in the same process as AIMS. Furthermore, the diploma of AIMS-Senegal is nationally recognized. When AIMS-SN opened, the DGES agreement was enough to apply for CAMES accreditation. Senegal had entrusted the recognition of its diplomas to CAMES in 1972.

³⁷ Note that this is in part due to fluctuations in currency exchange rates.

For a total overview per budget line see Annex M. In summary 2% less money was spent on training and research than budgeted. 1% more funds were spent on organizational effectiveness and centre development. As of December 31st 2016, the status of the DFID/ GAC grant is outlined in the table below:

Income	Total Cash received	Total Expenditure	Cash In hand 31/12/16
IDRC 106490-001 (GAC MAJOR GRANT)	17,284,179.	17,074,198	209,981
IDRC 107185-001 (RESEARCH)	1,416,233	801,566	614,667
IDRC 106998-001 (ALUMNI)	110,000	110,000	-
DFID SEED FUNDING 107185-001	771,610	771,610	-
DFID GRANT 107185-001	20,705,725	19,356,681	1,349,044
Total	40,287,747m	38,114,055	2,173,692

Table 3 Summary of grant management from inception to 31-12-2016 in USD

Because the IDRC/DFID funding is coming to an end, revenue from government and other donors is critical to the sustainability of AIMS generic academic program. As shown in Figure 13, one of the six countries in which centres are located met their financial commitments to AIMS during the period from 2013 to 2017. None of the newly established centres met its commitments. 33% of total funding pledged (\$10,696,489 of \$32,362,483) from 2012-2017 is transferred to AIMS. From the total contribution \$6,903,349 (65%) is from South Africa; and \$1,699,776 (16%) from Cameroon.

In most cases this deficit has not been offset by other revenue. Between 2013 and 2017 four of the six centres were heavily (>75%) dependent on IDRC/DFID funds. The Senegalese centre depends for about 55% on IDRC/DFID funds while South-Africa for about 30%. This has serious implications for the sustainability of AIMS.

Based on the cash flow status from the last financial statement for 2017, AIMS cannot afford to recruit a new batch of students for whom the average annual spend is USD 7-9 million.³⁸ As of 31/12/2016 AIMS has about USD 2.2 Million in hand. This amount is substantially below what the fund has been supporting for the last five years; with 300 students, AIMS estimates the economic cost to be about USD 7.5 million. The primary new donor was MasterCard Foundation with a total budget of \$24,859,088 from 2013-2020, providing about USD 3.5 million a year.

% of Host Country Contribution against pledged 2012-2017

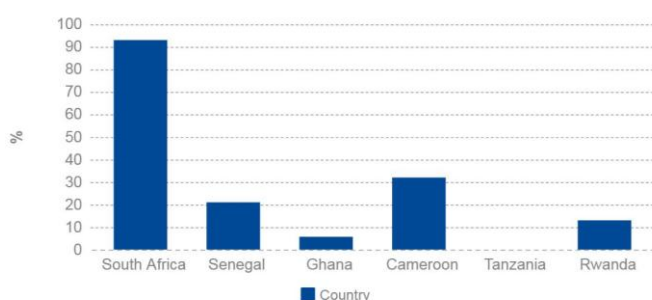


Figure 13: % of host country contribution against pledged

³⁸ Figures are manually calculated yearly from the comprehensive and cumulative financials. There might be small discrepancies in the annual figures but this does not affect the overall picture. The evaluation team believes that these figures are strongly indicative of how much they spend per year from this grant.

One of the challenges is the lack of permanent funding. The commitment and carry-through of contribution by the hosting governments is very important. At this point, donors also need to make long-term commitments and help AIMS to work with governments to keep to their commitments.

There is insufficient information to determine why some countries are not keeping their commitments. This needs to be explored further along with follow up with countries to encourage them to keep their commitments.

Figure 14 depicts the allocation of funds overall spending that peaked in 2014, a point at which five centres were fully operating, then declined in all categories between 2015 and 2016. Administrative staff explained this decline: during 2015 AIMS focused on consolidation of systems, policies and procedures as well as training on the new accounting system, Information management and monitoring. AIMS was also moving towards opening its sixth centre. In 2016, the consolidation continued, but was not as intense. The training and research category had the highest spending over the assessed four year period.

At this point, the expenditures exceed the revenue. This will become an even greater concern once the IDRC/DFID funding ends. Financial sustainability is of the utmost concern. Without sufficient funds AIMS can no longer operate and the rest becomes irrelevant.

Overall Financial Spending of IDRC/DFID funds in \$ (2011 – 2016)

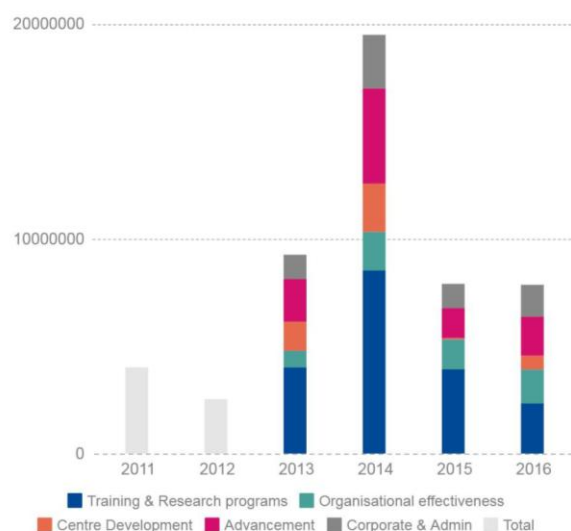


Figure 14: Overall financial spending of IDRC/DFID funds in USD - between 2011 and 2016

5.1 Contributing and Detracting Factors

The factors contributing most to the lack of financial sustainability are:

- The lack of long-term permanent funding from government and donors
- The lack of considerable revenue from any other sources (student fees) allocated towards the academic program.

Two other earmarked grants have been acquired from IDRC/GAC. One in relation to skills for employability (\$ 5,240,850³⁹; 2016-2021) specifically targeting 200 AIMS cooperative program students and 2250 other students in Francophone African countries only. The other grant (± \$ 20,070,000; 2017-2022) is earmarked towards finding mathematical solutions of climate change related challenges in Africa. This grant intends to scale-up research and gender equality via climate change training, research grants and chairs, and fellowships. These grants are not specifically geared towards the current academic programme. They do include elements of the industry initiative while at the same time they target education as well as research within (Francophone) AIMS centres and other graduate students.

Therefore, AIMS needs to develop a long-term business plan for its current academic program that projects the expenditures annually for at least a ten-year period and develop a realistic plan for sourcing the revenue needed to support the expenditures.

³⁹ A total of \$ 1,718,670 is to be added by AIMS itself.

6. Outcomes and Impact

Information for this section is taken primarily from the Tracer study database, the alumni survey and the alumni focus groups. The analysis presented in the text is based on cross-tabulations, but regression analysis has been carried out to confirm the most significant variables (see Annex N and O).

Increasing competition from other African Universities for a relatively stagnant number of STEM jobs makes it a challenge for graduates to move into employment. Majority of AIMS students, however, have wanted to obtain a further advanced degree although the percentage has dropped from 2012-13 to 2016-17 (Figure 16).

Considering a results chain in order to determine if AIMS is contributing to achievement of Africa's development goals, it is evident that AIMS has created access to a STEM post-graduate degree for 1207 graduates in total since 2011 and approximately 45 students per centre each year and that those students are perceived by employers to have the necessary skills. We take the view that it is too soon to determine the long-term contribution of AIMS to achieving Africa's development goals.

6.1 Outcomes for Students

This section is concerned with only the first occupation/ position 6 months after completing the AIMS program. Analysis has been carried out for subsequent occupations and is included in Annex N. As indicated in Figure 15, most AIMS students want to continue with in academia. Only 9/67 (14%) in 2012-2013 saw themselves somewhere else

than in a PhD program or a researcher position. This percentage has however doubled to 29% in 2016-2017.

What do AIMS students (%) want one year after graduation (motivation)

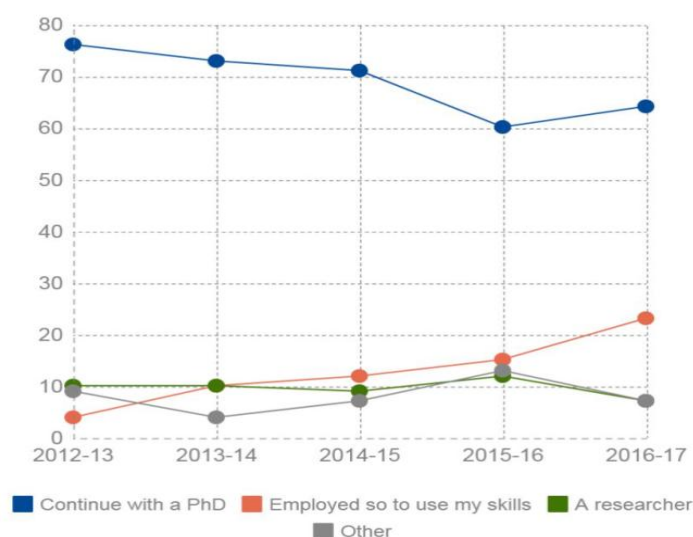


Figure 15: What AIMS students want one year after graduation

The percentage hoping to be specifically in a PhD program has dropped from 74% in 2012-13 to 40% in 2016-17, partly, given the increasing competition for such places and partly the reduction in post-AIMS bursaries provided by the AIMS network itself from about 50% in 2012-13 to about 10% from 2014 onwards. Meanwhile, those wanting employment that uses the skills developed at AIMS has doubled; and it is noticeable that the students who are recipients of the MasterCard Foundation scholarships are more likely to want to be employed and less likely to want to be on a PhD program (and the differences with those not on such scholarships is statistically significant).

Not too surprising, given the aspirations of students, many remain students. Nearly 30% of the 2016 graduates remained unemployed a year following graduation, a considerable increase from 5% in 2012. This percentage is higher than either the percentage in an academic position or in employment outside academia (Figure 16).

% distribution of first engagement by year of graduation

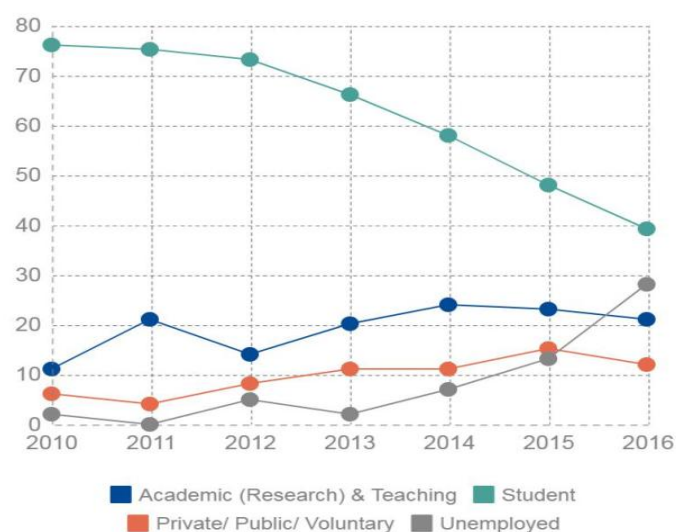


Figure 16: Engagement of AIMS graduates

There are also significant differences between graduates who graduated from the first established centre in South Africa and the other centres established during the grant period. Eighty-four percent (84%) of students from South Africa centre either continued studying (65%) or are engaged in academic lecturing or research (19%), compared to 48% of students from other centres having continued studying (23% in academic lecturing or research), being a statistically significant difference.

Of those working in the public sector (first engagement of graduates from 2011-2016), 3 were in senior positions and 21 in junior positions. Of those in the private sector, 14 were in senior positions and 35 in junior positions. Of the graduates that are (self) employed, 31% work in the ICT sector followed by 10% each in education and research. Financial services (8.2%), energy (5.5%), government (5.5%), transport and construction (5.5%), health (4.1%) and non-profit (4.1%) are the biggest other sectors AIMS graduates work in. Computer science is the skills domain most often used (32%) followed by 13% using Engineering Science. This finding suggests that the requested competencies from the labour market are geared towards competencies in relation to computing, applied maths and statistics, programming and engineering.

Anglophones are more likely than francophone's to be in University positions (37% compared to 19%), while Francophone graduates are more likely to be teaching at secondary education levels. Across all years, in their first job, 51 Anglophones (44% of those employed either in academia or outside) were teaching compared to 19 (16%) in research; whilst 29 Francophone's (48% of those employed either in academia or outside) were teaching compared to 9 (15%) in research. It is also noticeable that the occupational sector destination of teachers is different for Anglophones and Francophone's. In their first job, of 51 Anglophones teaching, 14 were in Secondary and 36 in University; of 29 Francophone's teaching, 11 were in secondary, 16 in University.

AIMS recently published *Faces of Transformation: Celebrating the AIMS Model*, profiling 53 AIMS successful graduates from 2003 onwards, who have used their education to pursue careers through work and/or continued education. This does indicate the importance of AIMS for preparation for an academic career. Below are a couple of success stories:

AIMS actually helped to get an internationally recognised degree, to encounter renowned researchers, and to access a PhD position in Operations Research, one of my favourite fields of research, besides data sciences and actuarial sciences. I use optimisation tools to propose sustainable water allocation policies for irrigation purpose, in the African water scarce regions, like Lake Chad basin, where people suffer from hunger and malnutrition.

AIMS Cameroon 2015 graduate (Female)

*Immediately after completing my Master's at AIMS Ghana, I had the opportunity to work on a joint project between AIMS Ghana and the **Swiss Federal Institute for Technology (ETH)**. In this project, we team developed, implemented, and evaluated a prenatal care system based on mobile phone and **portable ultrasound scan machines**. The project aim was to improve **prenatal care** in rural communities in Ghana where pregnant women had not been able to access quality antenatal care for several reasons.*

*Upon completing this work, I got a PhD opportunity in the Lancaster University Medical School, where I am currently focused on developing and applying statistical methods relevant to the geospatial analysis of studies aimed at improving our understanding of social and **climatic factors affecting spatial and temporal variation of some diseases in Africa, particularly malaria and under nutrition.***

Ghana Alumni (Male)

Through the Industry Initiative AIMS is making an effort to prepare students for employment and to help create internships which will connect AIMS students with employers and potential jobs in their fields. The number of internships as facilitated by AIMS has been under 10% each year since 2010 and has only increased slightly from an average of 7% between 2011-12 (before the industry initiative) to 10.2% in 2016-17 (during the industry initiative). This increase is largely because of the specific Co-Op program in Senegal. Without the Co-Op students, there are only minor differences of below 1%. Unfortunately, there is insufficient information to comment on how successful the efforts to improve students' entrepreneurial skills and prepare them for employment have been.

6.2 Impact on Africa Achieving its Development Goals

There is limited information regarding the extent to which AIMS has contributed to Africa achieving its development goals. Building on AIMS theory of change, a logical results-chain emerges:



Following the results chain, AIMS has exceeded expectations with six centres operational and accepting students, one more than the planned five. Over the period of the IDRC/DFID grant 1207 students have graduated from AIMS (67.7% men, 32.3% women). During this period nine students dropped out.

Although no data was regularly collected to monitor employer satisfaction with the technical and entrepreneurial skills, a total of seven employers were interviewed as part of the evaluation process, three in Tanzania and four in Senegal. All employers were positive about the performance of AIMS graduates compared to other employees. In

addition, University lecturers in Tanzania who are AIMS graduates were reported to be stronger in technical computer skills, to have adapted faster to tough demands and to be stronger at articulating their views. Based on this admittedly small sample, it seems that those who were employed were seen to have the necessary technical and entrepreneurial skills.

Figure 17 shows the rising percentage of AIMS graduates who are unemployed and Figure 18 shows the number of AIMS graduates who are in jobs using their AIMS education. Figure 19 presents the cumulative number who have gone on to study further after AIMS graduation.

Although not as many AIMS graduates as expected have entered the work force, more graduates have gone on to other studies than anticipated. The total number in post-AIMS study programs exceeds the total planned amounts for all years. Relatively more women graduates proceed to employment than men as the student percentage is about 30% percent while employment percentage is between 40% and 50% for 2014-2016. It is difficult to obtain accurate, recent unemployment information for all of the countries where centres are located. Information from IMF and the World Bank indicates relatively high unemployment rates in South Africa (27%), Senegal (22.7%) and Rwanda (13.2%) while there is no recent data for Tanzania, Cameroon, and Ghana⁴⁰. High unemployment rates could account for difficulties in finding employment, and particularly lack of STEM-related employment opportunities

Output 2.4 Cumulative number of graduates in post-AIMS study programs 6 months after graduation

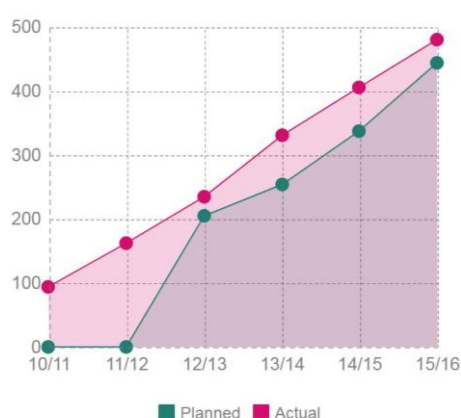


Figure 19: Cumulative number of AIMS graduates in post-AIMS study programs

Output 2.3 - Number of graduates employed per year per gender

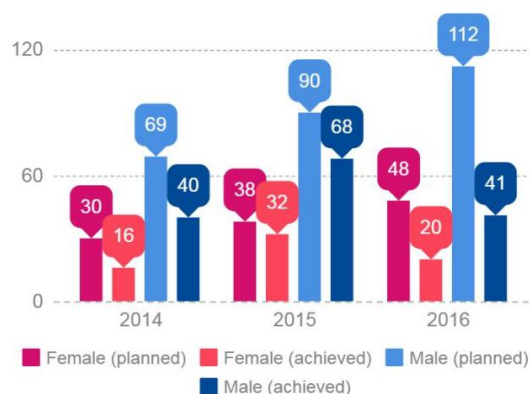


Figure 18: Number of graduates employed by gender

Output 2.3 - % of AIMS graduates (un)employed

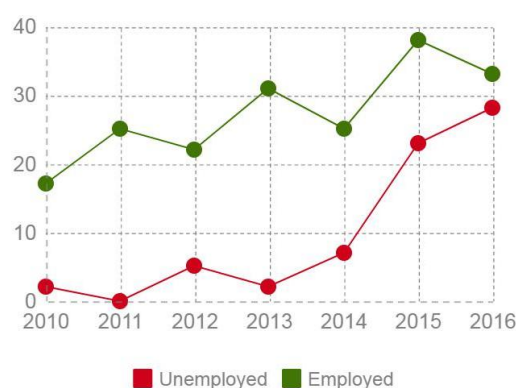


Figure 17: % of AIMS graduates (un)employed per year

As is typical for developing countries, employment opportunities in more technical or managerial positions are likely limited because of limited foreign investment and jobs being given to foreign staff associated with the investing company. Despite the challenges facing graduates, and recognising the difficulties of interpreting self-report data, 53% of graduates indicated that their first job was directly STEM-related and an additional 18% indicated that their first job was indirectly STEM-related.

Preparation for STEM positions and the availability of STEM positions are often not synchronized, which can be discouraging for graduates. The emphasis placed by AIMS on entrepreneurship is appropriate for developing countries. Entrepreneurs can create their own jobs and occasionally start businesses that can grow into larger companies,

⁴⁰ Trading Economics website <https://tradingeconomics.com/south-africa/unemployment-rate>

hence creating jobs, although only a very limited number of graduates (3) have reported setting up their own business.

While logically, AIMS graduates may appear to be in a better position to contribute to African development goals, it seems that at this point the opportunities to do so are not always available. Indeed, over a third of AIMS graduates since 2012 are now in Europe, America, or other parts of the 'Western world'. This is a loss of resources; although at the same time it is difficult to see what AIMS can do about it within the framework of the current funding model and continuous globalisation. Whilst the brain drain is much larger than the UIS (2008) estimate of 7.5% of tertiary students, the UIS estimate obviously includes undergraduates; and the figures of 34% is not out-of-line (indeed lower) than another – probably more relevant - estimate of 40% of African scientists living in OECD countries⁴¹.

6.3 Value for Money

Value for money can be determined in a number of different ways. This evaluation will look at cost efficiency as measured by the cost of the program per student compared to other institutions and discuss the value and cost effectiveness as determined by outcomes gained compared to cost.

AIMS is relatively cost efficient, gaining those efficiencies through some centralized functions and the use of volunteer international lecturers, reducing the salary load on AIMS. From the perspective of the students, AIMS provides them with an opportunity to obtain an advanced degree at no cost to themselves.

Cost Efficiency

Since AIMS' costs include both tuition and living expenses Figure 20 presents only those institutions where both information was available. For consistency, the costs are presented in US dollars.

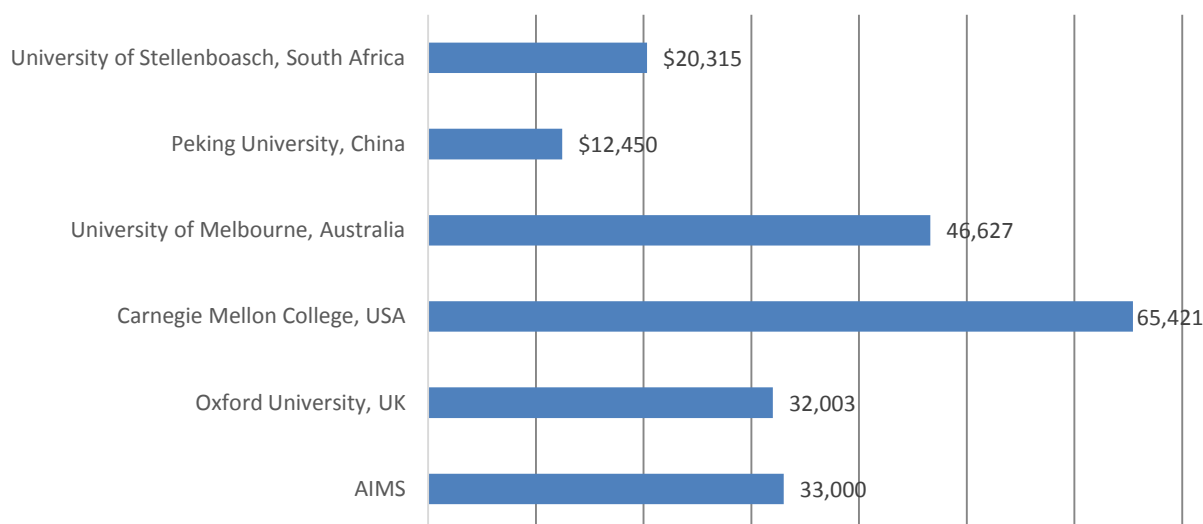


Figure 20: Comparison of Cost per Student with Other Universities⁴².

Based on these figures, the cost per student of AIMS is approximately the same as Oxford University and is substantially less than cost per student at University of Melbourne or Carnegie Mellon College. Efforts are being made to increase efficiencies by supporting centres through a number of centralized functions carried out by the secretariat although results are too early to tell.

⁴¹ Cited in Gabara, Nthambeleni (12 November 2009). ["Developed nations should invest in African universities"](http://www.buanews.gov.za). buanews.gov.za. BuaNews Online.

⁴² Source: AIMS (2016) Value for Money Assessment

Areas Where Value could be enhanced

AIMS provides the opportunity for students to obtain an advanced degree at no cost to them. This is a substantial value for money from the students' perspective. In Cameroon, South Africa and Senegal between 50% and 54% indicated that the curriculum does not fit their future career aspirations. In all centres combined, 52% of the women Alumni say that the program was not in line with what work they envision themselves doing later, compared to 35% of men, a statistically significant difference. Given that most students aspire to go on for another advanced degree, a greater emphasis on preparation for an academic career could create a program of greater value to those students.

The provision of lectures only in English likely inhibits the francophone students from getting full value out of the program. This is a dilemma as many of the lecturers available are English speaking. A closer connection to francophone institutions in countries such as France, Canada and Morocco could lead to greater availability of francophone lecturers.

Having all centres accredited would also contribute to students getting value from AIMS. The global recognition of a degree can contribute to or detract from a student's ability to be accepted into a Ph.D. program as well as enhance the employability of students.

III CONCLUSIONS & RECOMMENDATIONS

8 Conclusions & Recommendations

The conclusions and recommendations are linked to the findings of this evaluation, focusing on AIMS' strengths and limitations and therefore looking at areas where changes are needed.

8.1 Conclusions

The AIMS academic programme is relevant towards its mission and the need for mathematical science capacity development in Africa. The following gains have been made from 2010 – 2017:

- Five new centres have been opened
- Administrative functions are now more centralized
- The number of applicants and graduates has been steadily growing
- All but nine students have completed the program and obtained a degree
- Over 1000 student research papers have been written on a variety of topics

Financial sustainability is AIMS' most pressing issue. Without financial sustainability, AIMS will cease to exist and will not have the opportunity of achieving its goals of contributing to practical STEM research, providing high quality post-graduate mathematics education, encouraging young people, particularly women to go into mathematical sciences, and contributing to an improved quality of life in Africa.

AIMS has achieved a good number of its results and in some cases exceeded the expectations set out in the IDRC/DFID logframe. AIMS is strong in the following areas:

- Being relevant for most students and to the African development agenda
- Creating increased 'free' access for Africa's young people to post-graduate mathematics education
- The academic program reaches the desired level equivalent to that of an international qualification of MMath and is innovative whereby students, whilst focusing on the mathematical sciences, are introduced to a broad variety of subject matter across five formative areas.
- Recognizing the importance of combining practical work skills and attitudes with technical mathematics ability, in particular, including entrepreneurial training which is of high importance so long as there are limited STEM positions and in the context of increasing competition from graduates of other African Universities.
- Providing a high quality learning environment that supports students in focusing on their academic achievements. This includes: highly regarded volunteer international lecturers, dedicated tutors, good computing facilities and a 24/7 learning environment
- The current centralised on-line application and selection process is efficient and effective in selecting the desired quality of students across the continent.

The ambitions of AIMS are high. Because it is a developing organization, there are still some questions over aspects of the model and not all of its results and aspirations have been achieved. There are some goals that were not achieved based on the IDRC/DFID logframe. Some areas that should be reviewed include:

Academic Program

- Matching programming to the actual wishes of the students, which previously were for most to continue on to further advanced degree studies, but which are now reorienting towards the world of work. This trend will need to be monitored and adjusted based on students' aspirations.
- Better induction programs and continuous mentoring for tutors so to become more effective.

- Variations across centres with distinct differences between South Africa and the rest and between those in Anglophone and those in Francophone countries, and over years.
- Developing a common rubric across the Centres for marking and eventually grading course assessments and assessing student research paper in order to achieve consistency in the quality of the papers
- While gender and inclusivity are perceived to be important by the centres, a more systematic and continuous approach is required targeting the students, tutors and staff of the academic program.
- More proactive effort to connect students with other institutions such as hospitals, banks, or insurance companies in order to support the development of their research papers and eventually their results being used

Besides the contextual differences in each country, the evaluation concludes that the following centre characteristics are critical towards a centre's success:

- A. Presence of a full-time in-country academic director that sets-up the curriculum; recruits and supports international lecturers and tutors; and monitors academic quality and innovation.
- B. A clear partnership with a national public and/or private university that is able to absorb AIMS graduates into further studies and assists towards certification of degree's and accreditation of the institute within the NQF of the country.
- C. Full-time in-country leadership of the centre via a centre president/director, academic director, chief operating officer, admin/HR manager, and facilities manager is to be in place.

In countries where these characteristics are fully met the centres flourish. Where none of the above criteria are met centres underperform. Others are in between.

Industry Initiative

- The current approach to potential employers is AIMS-supply-based mostly focussed on setting up internships for the students. It needs a more systematic approach encompassing both demand and supply to setting up partnerships in identified skill sectors with both public and private employers. This involves understanding the needs of potential employers both in terms of their desired profile of potential employees and of the extent that their future plans for development would profit from the skills of AIMS graduates.
- Informed choice of countries for the Co-Op initiative; not all African countries have a sufficient sector basis for providing internships or employment to several mathematical scientists

Organisation, Management and Funding

- The length of the academic program could be extended to ensure there is sufficient time for students to absorb the extensive learning opportunities provided by AIMS. This could also involve extending the length of courses, as students describe the programme as 'intense', 'challenging', and 'hard-work' across all centres visited. The efficiency of the national Academic Councils and the efficiency and responsiveness of a Secretariat that is meant to provide supportive functions such as financial resource and grant management, gender, human resources and monitoring and evaluation
- The consistency of the response to both gender and inclusivity issues, with specific reporting systems being set up for any instances of discrimination across a pan-African organisation is needed.
- Greater recognition of the newer centres by ensuring all centres are accredited and that the websites for each centre fully present the potential of AIMS
- Reviewing the monitoring and evaluation framework to ensure that the indicators focus on outcomes and impact as well as outputs and that there is an efficient system for collecting the necessary data
- Developing an electronic administrative and monitoring database that is open-sources, is regularly updated by the provider, has a large community of developers, provides for easy data input and can be

configured to meet AIMS' needs without a software developer. The database should have the capacity to generate reports relevant to multiple users.

- Approach to obtaining permanent long-term funding whether from pan-African institutions, African governments or other donors.

8.2 Recommendations

Recommendations emerging from this evaluation are:

Funding

- A. That financial sustainability should be AIMS highest priority. Steps that could work toward achieving financial sustainability include:
 - Obtaining national, regional, and international accreditation for all centres so they can receive government funding
 - Working with the governments where centres are located to secure substantial core funding
 - Work with bilateral and multilateral donors to establish long-term funding from them; soliciting specific donations from organisations for targeted programs
 - Develop an Africa-based foundation that focuses on global donations in order to create a consistent amount for the student entry bursaries
 - Establish a capital fund to support continued improvements to all centres.

Academic Program

- B. Given the broad diversity of student competencies in a class, and the request from the academic and labour markets for increased specialisation of AIMS graduates, that the Academic program split into two streams after the skills phase: one stream oriented towards a career in academia and research and a second stream preparing students for obtaining employment upon graduation. This latter stream could be accommodated by expanding the Co-Op program to centres located in countries where there is a sufficient pool of employers in the appropriate sectors of the economy. The split is to be made after the skills phase as this allows students to make an informed decision which they often do not have once applying. Specific skill courses entirely focusing on one stream might need to be moved to the review phase (i.e. entrepreneurship) and review courses that are introductory and applicable to both streams might need to be moved to the skills phase. Review courses that are applicable to both streams should be joined by students together. It is recommended that the research phase for the labour market oriented stream is completed with an action oriented type of research linked to an industry player in order to solve or contribute to solving a real-life problem in the Industry. As the labour market stream is supply-demand driven, market demand needs to be present. Therefore this stream does not necessarily need to be offered in each country but only at those Centre countries that show a clear demand i.e. South Africa, Ghana among others. The streams do also not need to be equally divided into 50/50 although a minimum number of students are necessary to run a stream.
- C. Shortening the review phase by one month and extending the whole program by one month to allow sufficient time for the students to write 20,000 word research papers which could then allow the program to be considered as a Research Masters
- D. Prioritise consistency in quality and financial sustainability of each centre, over expansion to other countries. Especially, the flagrant differences in experiences and outcomes between the South Africa Centre and the rest and between Anglophone and Francophone students are important to act on and remedy.

Industry Initiative

- E. Develop an Industry Initiative strategy that is based on a review of the current demand for mathematical scientists in general and AIMS graduates in particular, and includes strategies for increasing that demand.
- F. Locate a full-time student development officer at each centre with knowledge of and connections to businesses and institutions. The officer's role would be to develop possibilities for internships and collaborative research projects as well as advise students on the types of positions that are in demand. The focus should be on developing new opportunities as well as maintaining the existing partnerships.

Organisation and Management

- G. Ensure the presence of a full-time in-country academic director that sets-up the curriculum; recruits and supports international lecturers and tutors; and monitors academic quality and innovation.
- H. Ensure full-time in-country leadership of the centre via a centre president/director, academic director, chief operating officer, admin/HR manager, and facilities manager.
- I. Develop a clear partnership with a national public and/or private university that is able to absorb AIMS graduates into further studies and assists towards certification of degree's and accreditation of the institute within the NQF of the country.
- J. It is advised that the entire leadership and management of the secretariat is centralised in Kigali, Rwanda.
- K. Develop a monitoring and evaluation system with indicators directly linked to AIMS goals and objectives. The indicators should be clearly defined with realistic targets, the data readily available and stored in an electronic database that easily generates reports, is regularly updated by the provider, has a large community of developers, provides for easy data input and can be configured to meet AIMS' needs without a software developer. The Sustainable Development Goals' indicators provide a good starting point for indicator development.
- L. Consider options for improving the perceived quality of the degree including:
 - Extending the length of the three-week course blocks
 - Establish standards for the marking and grading of assessments
 - Developing a rubric for assessing students' research papers
 - Providing an opportunity for revision of the research papers following the oral presentation

The first suggestion has implications for the volunteer international lecturers and for program design and would need to be carefully reviewed in terms of feasibility and balanced against the real benefits that would be gained.

Annex A: ToR as part of contract April 2017



AIMS IDRC-DFID End-of-Program External Evaluation Terms of Reference

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1. Introduction

1.1. Background

The African Institute for Mathematical Sciences, established in 2003 in Cape Town is a Pan African Network of Centres of Excellence that offer high quality post graduate education, research innovation and public engagement/outreach programs for the advancement of STEM in Africa's transformation journey. AIMS brings together Africa's most brilliant young talent in a highly interactive, culturally diverse learning environment where discovery, creativity and testing of mathematical solutions to development are the norm. AIMS harnesses expertise and experience from the World's top lecturers and Research fellows to further improve the learning experience for students.

Building on the success of its first centre in Cape Town, AIMS launched the Next Einstein Initiative (NEI) in 2008 to build a critical mass of scientific and technical talent in Africa, capable of driving economical, scientific and social advancement across the continent. The AIMS model was rolled out throughout Africa and five new centres were established in Senegal (2011), Ghana (2012), Cameroon (2013) Tanzania (2014), and Rwanda (2016).

1.2. Donor Support

In 2010, the Government of Canada contributed CAD 20 million to AIMS NEI, to be administered by the International Development Research Centre (IDRC).

In 2012, the UK Department for International Development committed £18.2 million to complement and build on Canada's contribution to AIMS NEI, also to be administered by IDRC. In addition, IDRC provided a further contribution of CAD 2 million as match funding to build the research capacity of AIMS and enhance the post graduate opportunities for AIMS-NEI graduates. The funding from the Government of Canada, DFID and IDRC will end in June 2017. The MasterCard Foundation committed USD 25 million in 2014, which includes two pilots: a Co-op Master's and a teacher training program.

1.3. Context for External Evaluation

AIMS is commissioning the IDRC-DFID End-of-Program external evaluation to be focused on the following critical components:

- a) The AIMS Academic program
- b) The AIMS Industry Initiative
- c) The contribution of AIMS Alumni to Africa's development challenges

The rationale for selection of these program components is described below.

- a) **The AIMS Academic Program** is a World Class Post Graduate training which is at the Centre of AIMS-NEI's core business and is crucial as a strategic pillar in contributing to the AIMS-NEI mission. It is therefore important that AIMS-NEI seeks an external, independent judgement on the quality, rigour and consistency of the Master's program across the AIMS Pan-African Network. AIMS seeks to provide the same quality of education in all of its centres which are located in varying political, socio-economic and academic environments. The evaluation of the AIMS Academic Program will enable continuous improvement, learning and measurement of progress towards the AIMS-NEI mission. Furthermore, the results of assessing this component will enable AIMS to pursue the accreditation of the program across the continent. The evaluation of the academic program is an opportunity for AIMS to benchmark its Master's program against other comparable programs in Africa. The end-of-program evaluation will also provide an opportunity to identify and address any discrepancies in the delivery and management of the

Master's program at centres. It will also ensure a high level of quality and consistency across the network and ascertain that recommendations are built in the next phases of the AIMS program.

- b) **The AIMS Industry Initiative** focuses on building students' soft skills for employability and on facilitating their transition to meaningful employment in Industry (Private, public, civil society, academia and entrepreneurship). This initiative is a critical component of the DFID-IDRC program funding that is ending in June 2017 and aims at enhancing post graduate opportunities for AIMS-NEI graduates through activities such as the establishment of partnerships between AIMS and businesses, industry research linkages and practical field research projects. The extent to which AIMS Graduates have been positioned in industry for research and gainful employment giving them the opportunity to test, apply and discover practical solutions will inform AIMS, DFID and IDRC on the adequacy and plausibility of the program. Findings of the evaluation will enable AIMS-NEI to identify how to improve or scale up the design, structure, implementation and overall effectiveness of the AIMS Industry Initiative in enabling AIMS graduates to contribute to Africa's socio-economic development.
- c) **AIMS' alumni unique contribution to Africa's development challenges** aims at obtaining an independent judgement on how AIMS Alumni are contributing towards solutions for Africa's development challenges and as future leaders to further the economic, political and educational advancement of the African continent in line with AIMS-NEI overall objective and the main objective of the programs funded by the Government of Canada, DFID and IDRC.

1.4. Use of evaluation findings

The primary user of the evaluation findings is AIMS-NEI. AIMS-NEI will use the results of the evaluation in order to:

- I. Have evidence based information on the relevance, efficiency, effectiveness, sustainability and impact of the Academic program and the AIMS Industry Initiative.
- II. Identify areas of improvement for the Academic program and the AIMS industry initiative.
- III. Determine best practices the AIMS Centres of Excellence are applying in the roll out of the Academic program and that should be replicated in the new Centres, reinforced in existent Centres and shared with Academic partners for their application.
- IV. Analyse findings to determine the extent to which AIMS Alumni have made unique contributions to specific challenges or are currently positioned to make these unique contributions.
- V. Determine if there are additional factors that need to be taken into account during the post graduate training and the Industry Initiative to enable AIMS Alumni make unique contributions to solving Africa's challenges.
- VI. Disseminate the results of the evaluation to AIMS-NEI stakeholders to further promote learning and accountability.

DFID, IDRC, the Government of Canada, host governments and other donors are secondary users of the evaluation. They are expected to use the results of the evaluation for accountability and learning purposes.

Specifically, the academic component of this evaluation will validate the accreditation of the AIMS Master's Program by host countries and determine what measures must be undertaken in order for AIMS to offer a unified Master's degree across the network that is recognised both locally and internationally.

The evaluation will be mainly informed by the following:

- I. The 2015 AIMS Mid-term Evaluation, which reviewed AIMS-NEI at large including academics, research, public engagement and organisational development.

- II. The 2013 IDRC/DFID project baseline
- III. The 2010 external evaluation of AIMS South Africa
- IV. The 2009 External Evaluation of the AIMS South Africa Academic Program.
- V. The Alumni update web application, which is an annual survey aimed at updating alumni career information and inquiring on the role of AIMS in fostering their career development.

2. Evaluation Scope

The AIMS IDRC-DFID End-of-Program Evaluation aims at assessing the Academic Program and the AIMS Industry Initiative using the five OECD DAC criteria - relevance, effectiveness, efficiency, sustainability and impact – and value for money (VFM) approach through DFID’s “3 E’s” framework, which includes measuring the degree to which economy, efficiency, effectiveness have been maximized, considering the level of equity and analysing cost-effectiveness.

More specifically, the evaluation will focus on the period of the funding provided by the Government of Canada, DFID and IDRC. It will build on findings from the Alumni update, Mid-term evaluation and Academic Program Evaluation. Also, the evaluation will determine the extent to which the recommendation from the Mid Term Evaluation have been applied to improve the AIMS-NEI programs, especially the three program components to be evaluated - the Academic program, the AIMS Industry Initiative and the AIMS Alumni contribution to Africa’s development challenges. The end-of-program evaluation will include review of programs at the 6 AIMS Centres of Excellence.

3. Evaluation Objectives and Guiding Questions

The objectives and key guiding questions of the AIMS IDRC-DFID End-of-Program evaluation are described in the below tables under the following three evaluation components:

- a. AIMS Academic Program
- b. AIMS Industry Initiative
- c. AIMS Alumni contribution to Africa’s development challenges

AIMS ACADEMIC PROGRAM component	
Objectives	
1.	Determine the relevance, efficiency and the effectiveness, sustainability, impact and value for money of the academic program
2.	Assess the quality and rigour of the AIMS Master’s Program overall and consistency of delivery at the different Centres

<p>3. Evaluate the AIMS Master’s Program in comparison to other similar programs in Africa and globally with respect to, among others:</p> <p>3.1. Quality</p> <p>3.2. Program design and curriculum content</p> <p>3.3. Quality of teaching staff</p> <p>3.4. Pedagogy (teaching methods), learning and research infrastructure and facilities (teaching and learning support systems)</p> <p>3.5. Continuous improvements and innovations in program design, curriculum content and program delivery</p> <p>3.6. Gender sensitivity or responsiveness of the Masters’ program</p> <p>3.7. Relevance of program content to development needs and challenges</p> <p>3.8. Verify progress towards achieving AIMS’ strategic objective of providing world-class post-graduate training by reviewing the evaluation results against the program indicators for this Strategic Objective as identified in the AIMS results-based Monitoring and Evaluation framework</p>
Guiding questions
<p>Program design</p> <ol style="list-style-type: none"> 1. Is the AIMS Academic Program consistent with the mission and vision of AIMS NEI? 2. Are the five formative areas of an AIMS graduate¹ clear, appropriate and in alignment with the requirements and expectations of the AIMS Academic Program?
<p>Admission Requirements across all centres</p> <ol style="list-style-type: none"> 1. Are admission requirements consistent across all centres and in line with international standards? 2. Are admission requirements appropriately aligned with the formative areas of an AIMS graduate and with the objectives of the Master’s Program? 3. Are admission requirements responsive to gender equality and inclusion as well as ethnic diversity?
<p>Curriculum across all centres</p> <ol style="list-style-type: none"> 1. Does the curriculum reflect current and leading topics from the mathematical sciences that are relevant to the mission of AIMS? 2. What evidence is there of any significant innovation, uniqueness, or adaptability in the content and/or delivery of the program relative to other programs? 3. How sustainable are the above innovations in the long-term? 4. Are the modes of delivery appropriate and effective for achieving the five formative areas of an AIMS graduate and the objectives of the Master’s Program? 5. Are the AIMS outreach objectives integrated in the academic programme curriculum?
<p>Teaching and Assessment across all centres</p> <ol style="list-style-type: none"> 1. Are teaching and learning methods (pedagogy) in line with modern practices and standards? 2. Are the methods used to assess student achievement of the five formative areas, the program’s objectives, and degree level expectations appropriate and effective?

¹ Mathematical, Computing, and Scientific Knowledge and Skills; Communications; Research and Analytical Skills; Attitudes and Values; and Innovation and Entrepreneurship.

Resources at all centres <ol style="list-style-type: none"> 1. Assess each centre use of existing human, physical and financial resources in delivering its master's program according to OECD five DAC criteria and value for money approach. 2. Is each centre use of human, physical and financial resources relevant, efficient, effective, sustainable and impactful? 3. Are human, physical and financial resources acquired at the appropriate quality and at the right price? 4. Can the same or equivalent human, physical and financial resources be obtained for less money? 5. Would using cheaper different human, physical and financial resources risk the effectiveness and sustainability of the program? 6. How much impact is achieved in proportion to the human, physical and financial resources invested? 7. What is the level of adequacy and effectiveness of the available academic services to support the program (e.g. library, tutoring, information technology, etc.)? 8. Provide an assessment of the quality of lecturer, tutor and scientific visitor recruitment process across all centres.
Quality Indicators <ol style="list-style-type: none"> 1. Assess student performance and achievement - at the network and single centre level. 2. Assess lecturer and tutor qualifications, research scholarly record, and class size - at the network and single centre level. 3. Assess student recruitment, application and selection process, time-to-completion, final academic achievement, graduation rates, academic awards (including bursaries and scholarships), and student reports on teaching - at the network and single centre level. 4. Assess rates of graduation, employment within six months after graduation, and employment five years after graduation, and further post-graduate study - at the network and single centre level.
Additional Criteria <ol style="list-style-type: none"> 1. Is student progress both monitored and managed in relation to the program's identified length and requirements? 2. What is the quality and availability of student supervision?

AIMS INDUSTRY INITIATIVE component	
Objectives	
1.	Determine the relevance, efficiency, effectiveness, sustainability, impact and value for money of the AIMS Industry Initiative.
2.	Provide information on the performance of AIMS Alumni in the workplace from the employer's perspective.
3.	Provide evidence on the specific contribution and effectiveness of the Student Development Officers to the AIMS Industry Initiative performance. This will look at different perspectives including how SDOs engage the students, engage with industry, follow up on students and Alumni in industry, time allocated to this process given the number of students, the duration and intensity of the Academic program, tools used to monitor progress.
4.	Determine the extent to which the AIMS Industry Initiative is responsive to the needs, interests, passion and ambitions of the AIMS Alumni.
5.	Review the design and implementation approach of the AIMS Industry Initiative to determine the extent to which these favour post AIMS employment prospects and industry research linkages for AIMS Alumni.
6.	Establish the extent to which the AIMS Industry Initiative is aligned to and contributes to the host governments' economic development objectives, including academia and private sector.
Guiding questions	
1.	Has the AIMS Industry Initiative met its objectives as outlined in the DFID-IDRC grant agreement?

2. Is the AIMS Industry Initiative facilitating transition to industry?
3. Does the concept and method contribute to students' smooth transition and permanent integration in the workplace?
4. Does the initiative contribute to close the labour market's skills versus demand gap?
5. Is the initiative centred on Alumni and Students' talents, skills, passions and ambitions?
6. Has the initiative enhanced opportunities for AIMS graduates within the private sector?
7. Assess initiatives taken to enhance the quality of the program and the associated learning and teaching environment, including the AIMS Industry Initiative (network wide) and the Pilot Co-Op Master's Program at AIMS Senegal.
8. Assess the initiative use of existing human, physical and financial resources in delivering its master's program according to OECD five DAC criteria and value for money approach. 8.1. Is the initiative use of human, physical and financial resources relevant, efficient, effective, sustainable and impactful? 8.2. Are human, physical and financial resources acquired at the appropriate quality and at the right price? 8.3. Can the same or equivalent human, physical and financial resources be obtained for less money? 8.4. Would using cheaper different human, physical and financial resources risk the effectiveness and sustainability of the initiative? 8.5. Can the same results be achieved while saving on how activities are managed? 8.6. Would savings to how the program is managed risk reducing effectiveness, sustainability and incurring other costs? 8.7. How much impact is achieved in proportion to the human, physical and financial resources invested?

AIMS ALUMNI CONTRIBUTION TO AFRICA'S DEVELOPMENT CHALLENGES	
Objectives	
1.	Assess whether there is early evidence that the programs in support of AIMS funded by the Government of Canada, DFID, and IDRC for advance training in applied mathematics to top African students has enabled them to pursue high quality post graduate studies to eventually contribute as future leaders to the further economic, political and educational advancement of the African continent.
2.	Identify how many AIMS Alumni are currently positioned (in gainful employment, as entrepreneurs or in further academia) in areas / sectors that make a contribution in addressing Africa's development challenges.
Guiding questions	
1.	Are AIMS alumni contributing to Africa's development challenges widely recognized in the international arena?
2.	Is AIMS determinant in building alumni professional and research skills that allow them to contribute in solving Africa's development challenges?
3.	What distinguishes AIMS alumni from alumni with comparable degrees from other institutions in the shaping of Africa's development?

4. Evaluation Methodology

AIMS invites interested applicants who can demonstrate innovation and creativity in their proposed approach and methodology to undertake the AIMS IDRC-DFID end-of-program evaluation with a strong academic component, as described above. The Consultant(s) is expected to use a mixed method approach (e.g. quantitative, qualitative, and participatory), tools, and adequate desk

research to allow the triangulation of information and to ensure impartiality. There should be an extensive review of all relevant documents, existing literature and a representative sample of key stakeholders should be consulted.

In consultation with AIMS, the Consultant(s) is expected to prioritize and propose specific questions to guide the evaluation referring to those in Section two above as a guide.

It is expected that the AIMS IDRC-DFID end-of-program evaluation focuses on the key strategic objectives and outcomes of the AIMS academic program and AIMS Industry Initiative using the five OECD DAC criteria of relevance, efficiency, effectiveness, sustainability and impact. It should also focus on AIMS alumni contribution to Africa's development challenges to determine the extent to which the three components drive AIMS-NEI progress towards the higher-level mission and vision of AIMS.

5. Evaluation Phases

Below is an outline on the phases of the assignment and key actions to be included in each phase. However, the Consultant(s) is expected to provide a detailed methodology and implementation-plan with timelines to be agreed up on with the AIMS – NEI team for their final approval.²

Evaluation Phase	Task/Output	Timeframe
A. Inception	Desk review of existing documents, including relevant policies, plans, strategies, previous evaluations, M&E data and information, progress and donor reports, lecturer and tutor databases, curriculum, admission criteria etc.	3 weeks
	Consultation with key internal stakeholders	
	Drafting of Inception Report, including the evaluation matrix. Sign off will be done by AIMS-NEI	
	Finalisation of logistics and schedules for field missions	
B. Data collection	Visits to AIMS South Africa, AIMS Senegal, AIMS Cameroon, AIMS Ghana, AIMS Tanzania, AIMS Rwanda and the Secretariat	3 -5 weeks
	Each field visit to last 3 – 5 days maximum and include:	
	1. Introductory meeting with AIMS Centre Management and selected staff members	
	2. Interviews or focus groups with key stakeholders, including students, tutors, lecturers, Student Development Officers, academic partners, government partners, and employers	
C. Reporting	3. Review of relevant documents	2 weeks
	4. Consultation with key external stakeholders	
	Submission of AIMS Centre and Secretariat Visit Reports (Aide memoire) (seven)	

² Prior to the inception phase all relevant documentation will be provided to the successful candidate.

	Submission of first draft evaluation report and review by AIMS NEI	
	Incorporation of feedback and revision of the report	
	Submission of the final evaluation report	
	Presentation to AIMS Management Team on evaluation findings, recommendations and utilization	
	Production of evaluation summary reports	
D. <i>Evaluation Learning Workshop</i>	Interactive workshop with AIMS academic and program team to share evaluation findings and recommendations	3 days
	Facilitated group discussions to consider the implications of AIMS IDRC-DFID end-of-program evaluation	
	Development of a plan of action based on findings and recommendations	

6. Evaluation Deliverables

- a. **Inception Report** - Expands on the proposed objective, scope, approach, methodology, and key questions for the evaluation.
- b. **AIMS Centre & Secretariat Visit Reports** - Brief report outlining key findings from field missions to the six AIMS centres and the Secretariat (Aide-Memoire).
- c. **Final Evaluation Report** - Pulls together the findings and recommendations emerging from the desk review, stakeholder consultation and field missions. Maximum of 30 pages including a two-page Executive Summary.
- d. **Most significant change stories** - Provide at least 10 Most Significant Change stories of AIMS Alumni that will be used by AIMS to demonstrate the impact of its model.
- e. **Interactive Workshop** - Share the evaluation findings and recommendations with the AIMS academic and program team.

7. Evaluation Period

The evaluation will be conducted over a two month period, with the Inception Phase to begin on April 3rd, 2017, data collection to be completed by June 5th, 2017, and the Reporting Phase to be concluded by July 5th, 2017. The Evaluation Learning Workshop will be scheduled before the end of July, 2017.

8. Application Process and Selection Criteria

A team of external consultants identified through a transparent selection process will conduct the evaluation to ensure independence and credibility of the findings. It is recommended that the team be comprised of at least three members with an appropriate balance of expertise and experience. The team leader must have extensive experience in conducting evaluations of complex programs as well as excellent analytical, team management, and communication skills (oral and written). She/he should be fluent in English and French. Team members must have sound skills and relevant experience in: undertaking evaluations of academic programs, post-graduate education, mathematical sciences, and international development, as well as on-the-ground experience living and working in Africa. Ideally, the evaluation team will have a good understanding of both

Anglophone and Francophone higher education systems in Africa. A member of the team should be a specialist in mathematical sciences (a subject-matter specialist).

Additionally, applicants should submit the following and consider the indicated weight (percentages) as selection criteria:

1. Expression of interest, curricula vitae of the consultant or key team members and three recent professional references : 30 %
2. Technical proposal with proposed methodology, reflecting evaluation phases and deliverables : 30 %
3. Financial proposal including a detailed breakdown of the costs : 15 %
4. Two samples of relevant evaluations done : 25 %

9. Application Procedure

All interested and qualified applicants are invited to forward a letter of interest, CVs of all team members, proposal, and two samples of relevant evaluations to mel@nexteinstein.org with the subject line “AIMS IDRC-DFID End-of-Program External Evaluation.”

Application Deadline: 5 PM EST on March 15th, 2017.

Annex A: Addendum to evaluation questions as of September 2017

3. Evaluation Objectives and Guiding Questions

The objectives and key guiding questions of the AIMS IDRC-DFID End-of-Program evaluation are described in the below tables under the following three evaluation components:

- a. AIMS Academic Program
- b. AIMS Industry Initiative
- c. AIMS Alumni contribution to Africa's development challenges

Following are the key evaluation questions that guided this evaluation. They represent a consolidation and reorganization of the original evaluation questions, using the OECD-DAC framework.

Relevance

1. In what ways is the program consistent with the mission, vision and theory of change of AIMS?
2. In what ways is the program consistent with the five formative areas?
3. In what ways is the program consistent with the African development goals?

Efficiency

4. To what extent have efficiencies been achieved?
5. What factors contribute to or detract from those efficiencies?
6. What opportunities exist for increasing the efficiency of the program?

Effectiveness

7. To what extent has the program achieved the objectives set out in the grant agreements?
8. What factors contribute to or detract from the effectiveness of the program?

Sustainability

9. To what extent are the elements of AIMS funded by IDRC/DFID sustainable?
10. What factors contribute to or detract from sustainability?

Outcome and Impact

11. What is the impact of AIMS on its students?
12. What is the impact of AIMS on Africa achieving its development goals?

Value for Money

13. In what ways do the Academic Program and Industry Initiative provide value for money?
14. What factors contribute to and detract from achieving value for money?

Annex B: Mid-term evaluation summary

The AIMS training pillar offers *a unique opportunity for African students to follow a fully-funded Master's*, making it an extremely attractive option for students in mathematics and computer sciences.

The awareness of AIMS in Africa is growing, with exponentially increasing numbers of applicants from across the continent. AIMS offers a learning environment which is completely different from any university in Africa through a model that is innovative compared to the range of available postgraduate programs.

It excels in *successfully challenging students* to develop analytical rigour, critical thinking and communication skills, alongside the core domain skills in mathematical sciences.

There remain some *challenges regarding the position of the AIMS Master's in relation to a Master's obtained in the classic university setting*. Specifically, AIMS Masters is not recognised consistently as a Master's II or Research Master, which can lead to some difficulties for graduates during their career paths. There are several reasons for this; some have to do with a lack of understanding of the skills acquired by the students at AIMS during the 10-month program; others to do with the general traditional approach to entry requirements at African universities which expect a more intensive research exercise to have been undertaken as part of the Master's, if students are to be accepted directly into a PhD Program.

Another key finding relates to the competence levels of students when they enter the program. Students are accepted from a variety of related disciplines, and there is therefore a *high variation in entry levels*. This can sometimes cause challenges for the students, but also for lecturers and tutors, especially given the high-pressure environment where there is little time for additional catch-up work.

Overall, the impact of AIMS on higher education policy and practice in host countries has already been significant. There is good evidence from interviews with national stakeholders (including government officials) that political backing is high and AIMS is an important flagship for countries which host a centre, in many cases with the commitment of additional funds.

Whilst 80 per cent of AIMS alumni focussed on an academic career, with 26 per cent of them pursuing a PhD, interesting opportunities in African Universities or research centres are still limited and 30 per cent of alumni are still outside Africa 10 years into their post-AIMS career. This is an important challenge.

Alongside the main Master's Program AIMS has introduced additional soft skills training through the Industry Initiative, which provides the opportunity for student internship, and eventual careers in industry. The Industry Initiative was set up in 2013 as part of the funding from DFID and is therefore (as of 2015) still in the early stages of development across the network. This means few internships have so far been undertaken. AIMS Senegal is currently piloting Co-Op education in mathematical sciences, funded by the MasterCard Foundation, which is part of the AIMS Industry Initiative. This component provides a whole new set of opportunities for AIMS and holds an important position within the AIMS offer in the future. In particular, it complements the training pillar going forward, as an expansion in the number of places for students will also mean that not all will be able to follow a long-term academic career path. Therefore, routes into industry will become a vital part of the progression of AIMS graduates and hence an important measurable outcome of the program.

Under the AIMS research pillar which is mentioned for completeness, although it is not part of our MDF ToR, AIMS has succeeded in establishing two operational research centres, one in South Africa which dates back to 2008, and more recently one in Senegal, which is fast winning recognition at the national and regional/sub-regional level. AIMS offers valuable opportunities in the form of bursaries post-AIMS to alumni continuing their studies with Master's in Research and PhDs, and exposure to research topics through a

number of workshops, short courses, and weekly seminars. AIMS has not yet linked its research pillar extensively to industry but has recently launched the Maths in Industry Program with the goal of ensuring that part of the research conducted answers questions relating to the needs of industry in Africa.

Also, there are no links evident between the Industry Initiative (under the training pillar) and the efforts to link research to industry. Our findings show that AIMS research currently (up to 2015) contributes to research excellence in Africa. *The scientific output of AIMS' Research Centres in terms of academic publications is rising* (since 2010 the number of publications per year has multiplied by eight). AIMS ranks 10th in Africa according to the article account index, following nine South African Universities and Institutes, *although most publications are from visiting researchers* (with only three out of the top 10 AIMS researchers being of an African nationality).

At the moment, *there are few publications of relevance to solving African development challenges* (disease modelling in public health is an exception), one of the objectives of the donors to AIMS. *There is also little current evidence to suggest that AIMS research activities contribute to policy and innovation in Africa.* Nevertheless, the evaluation notes some advancement in the policy fields of big data and bio-maths, while future plans for research are already moving towards ensuring there is a greater critical mass of research and an emphasis on the 'grand challenges' of Africa.

The AIMS public engagement pillar is one of the less coherent parts of AIMS, although there are some very important activities being undertaken. *The evaluation found no clear overarching strategy, nor understanding, of what the public engagement and communication pillar intends to achieve.* The clearest part of the public engagement pillar is the teacher training aspect. AIMS is offering an award-winning mathematics Teachers' Training Program in South Africa through AIMSSEC — which is very much in demand by teachers and recognised by the South African government. The availability of teacher training in other AIMS centres is less well defined in its approach and vision. The evaluation takes note of the new teacher training initiative that is currently being implemented in Cameroon, and the successful pilot of teacher training activities in Ghana.

These examples show strong evidence of having taken on board lessons learnt from the implementation in South Africa in shaping their offers. The Cameroon approach goes upstream through targeting the trainers of teachers and the inspectorate, with the valid assumption this will lead to additional spill over effects in the wider community of teachers. The other parts of public engagement are workshops, summer schools and work with the community at large. Many activities are organised at the centre level and are more *ad-hoc* and opportunistic in terms of the approach to implementation and delivery of the key objectives of AIMS. However, the AIMS brand, and the growing awareness of stakeholders (and the media coverage) has increased public knowledge and interest in STEM (Science, Technology, Engineering and Mathematics) in Africa.

As indicated, more could be achieved, by coherence and coordination of activities and an overarching strategy for this pillar. The evaluation nevertheless found that policy influence work at the Secretariat level resulted in high-level recognition of the initiative by the African Union (AU), and UNESCO partnerships. The presence and recognition of AIMS at a continental and global level has been the result of a concerted strategic effort to position the network within this space in Africa, and globally.

The final pillar is organisational development. AIMS has successfully opened four centres since 2010, some at great speed. There is clear evidence from the interviews with those involved in the setup of the new centres that this was made possible through the support of the Secretariat and the existing centres, which provided advice, personnel, and lessons learnt.

A key finding is the importance of [national] political backing for setting up a new AIMS centre. At the same time as the centre expansion, there has been significant consolidation within the Secretariat, and this continues. The issues of running an organisational model across continents are evident, but AIMS is dealing with them.

There are a number of new roles within the Secretariat, but there are also many people who work across areas, increasing communication and the coherence of approach. In recent times there has been a significant volume of work in updating existing procedures and streamlining them, as well as introducing some new policies. This work has been impressive and alongside these endeavours, there is a much stronger emphasis on monitoring and evaluation.

The creation of an international Board brings a global scope to network governance, as does the recently created international Academic Council. AIMS is planning to open two more centres in 2016 and 2017 in Rwanda and Morocco respectively, which is likely to require a significant share of attention and energy of AIMS-NEI staff.

Main recommendations

Training and career development pillar:

1. Review the student selection process in light of increasing application numbers.
2. Improve mechanisms to decrease the impact of heterogeneity of the entrance level of students.
3. Increase the length of the program to 18-24 months; consider introducing a summer crash course.
4. Improve the quality of tutoring. Tutors play an important role and bring continuity in the academic program, but their overall quality should be improved through better support, recruitment and selection.
5. Improve the diversity of direct post-AIMS career opportunities through better career counselling, internships etc.
6. Develop a brochure that explains the AIMS-curriculum for education experts in partner universities in Africa and abroad to improve understanding of the AIMS degree. Also, better align the values of AIMS with those of partner universities to ease the post-AIMS transition; and consider the establishment of a PhD program
7. Create more synergies between teacher training and the AIMS training pillar. Should Master's extensions be considered, adding teaching and didactics could also be considered as an option (since many graduates go into teaching), alongside the growing number of internships (industry) and research.

Follow-up to the Mid-Term Evaluation

The application process has been reviewed (Rec1) although it has not curbed application numbers (1,212 in 2014, 2,684 in 2015, 3,109 in 2016; target for 2017 is 2,500). Total applications (dominated by males) were well above target. Regarding the heterogeneity of students at entrance (Rec2), the relative proportions of Anglophone and Francophone students (the main source of heterogeneity in entrance level) has shifted markedly towards the Anglophones (40% of entrants in 2012-13, 46% in 2014-15 and 53% in 2016-17).

Rec3 to increase the length of the program to 18-24 months (this was in reference to the Main program and did not specifically mention the 18 month Co-Op program in Senegal which was being developed at the time), and/or introducing a summer crash course is postponed till the end of this evaluation.

Tutors play an important role and bring continuity in the academic program. Their overall quality is advised to be improved via better support, induction, recruitment, and performance monitoring. No major improvements towards systematically monitoring the quality and performance of the tutoring are observed (Rec. 4); however, tutors are, with only a few exceptions, praised by lecturers and students.

There has been an increase in the diversity of post-AIMS career paths with a small decline in those wanting to go straight to a PhD program from 75% of males and 57% of females in 2012-14 to 63% of males and 51% of females in 2015-17. Although in absolute numerical terms, the increase has been small, a sharp relative percentage increase wanting to go into employment; and these changes are mirrored in terms of the first job after occupation. Vis-à-vis Rec. 5, there is no evidence that there has been an increase in counselling activities and, whilst the number of internships has increased this is almost entirely due to the Co-Op program in Senegal, rather than any AIMS Centres-wide effort.

To create more synergies between teacher training and the main program in terms of adding teaching and didactic into the program (Rec. 7) is specific to South Africa and is based on the premise that ‘many graduates go into teaching.’ Data shows that 13% of Anglophones and 9% of Francophones end up in teaching; and 7% having attended the South African Centre compared to 10% having attended other centres¹.

¹ Analysis of Tracer Study

Annex C: Data Collection Framework

Data Collection Framework for AIMS End-of–Project Evaluation

Evaluation Questions	Elements of Interest	Sources of Information	Data Collection Methods
Relevance			
In what ways is the program consistent with the mission and theory of change of AIMS?	<p>Africa will lead with a new generation driven by science and purpose</p> <p>World class with high calibre research, promoting the interest and ability of youth to excel in mathematical sciences</p> <p>Making an investment in mathematical sciences</p> <p>Advancing Africa into the 21st century</p> <p>Revolutionizing mathematical sciences training and research</p>	<p>AIMS Theory of Change</p> <p>AIMS planning documents</p> <p>AIMS staff</p> <p>AIMS lecturers/tutors</p> <p>AIMS students</p> <p>AIMS alumni</p>	<p>Desk review</p> <p>Interviews</p> <p>Interviews/Focus Groups</p> <p>Focus groups/Survey</p>
In what ways is the program consistent with the five formative areas? <ul style="list-style-type: none"> • Mathematical, Computing, and Scientific Knowledge and Skills • Communications • Research and Analytical Skills • Attitudes and Values Innovation and Entrepreneurship	<p>Clarity of five formative areas</p> <p>Links of content to formative areas</p> <p>Links of supports to formative areas</p>	<p>AIMS planning documents</p> <p>AIMS staff</p> <p>AIMS lecturers/tutors</p> <p>AIMS students</p> <p>AIMS alumni</p>	<p>Desk review</p> <p>Interviews</p> <p>Interviews/Focus Groups</p> <p>Focus groups/Survey</p>
In what ways is the program consistent with the African	<p>Consistency African Continental Education Strategy</p>	<p>AIMS Theory of Change</p> <p>African development agenda planning documents</p>	<p>Desk review</p>

Development Goals?	Consistency with Agenda 2063	AIMS staff AIMS lecturers/tutors AIMS students AIMS alumni	Interviews Interviews/Focus Groups Focus groups/Survey
Efficiency			
To what extent have efficiencies been achieved?	Comparison of costs to other institutions Areas where efficiencies are achieved looking at processes related to selection, admission, curricula, teaching and learning, inclusivity, gender, and assessment	AIMS staff AIMS lecturers/tutors AIMS students AIMS alumni	Interviews Interviews/Focus Groups Focus groups/Survey
What factors contribute to or detract from those efficiencies?	Central supports Consistency across sites	AIMS staff AIMS lecturers/tutors AIMS students AIMS alumni	Interviews Interviews/Focus Groups Focus groups/Survey
What opportunities exist for increasing the efficiency of the program?	Shared services Shared human resources Shared financial resources	AIMS staff AIMS lecturers/tutors AIMS students AIMS alumni	Interviews Interviews/Focus Groups Focus groups/Survey
Effectiveness			
To what extent has the program achieved objectives set out in the funding agreements?	Increased access to quality mathematical science Enhanced quality and relevance of the AIMS education Increased demand for and interest in mathematical sciences Increased efficiency and sustainability	Funding agreements IDRC/DFID logframe AIMS staff AIMS lecturers/tutors AIMS students AIMS alumni Experts	Desk review Interviews Interviews/Focus Groups Focus groups/Survey Expert panel

	of the AIMS network Comprehensive alumni survey Increased number of well-qualified AIMS graduates engaged in private and public sectors		
What factors contribute to or detract from the effectiveness of the program?	Overall quality Curriculum content Quality of teaching staff Pedagogy Continuous improvement Innovation Gender/inclusivity responsiveness Admission requirements Consistency across sites Continuous assessment Management of centres	AIMS staff AIMS lecturers/tutors AIMS students AIMS alumni Experts	Interviews Interviews/Focus Groups Focus groups/Survey Expert panel
Sustainability			
To what extent is AIMS sustainable?	Revenue is higher or equal to expenses Un-earmarked commitments from other donors towards the academic programme that supports the broader mathematical sciences. % of funds received compared to what is pledged by partner governments	Financial documents Administrative Data AIMS staff AIMS lecturers/tutors AIMS students AIMS alumni	Desk review Interviews Interviews/Focus Groups Focus groups/Survey Expert panel

What factors contribute or detract from sustainability?	Grants Tuition Other revenue Expenditures Commitment of lecturers # of applicants per year and centre	Financial documents Administrative Data AIMS staff AIMS lecturers/tutors AIMS students AIMS alumni	Desk review Interviews Interviews/Focus Groups Focus groups/Survey Expert panel
Outcomes and Impact			
What is the impact of AIMS on its students?	Disaggregate by gender/centre/language: % completing the program Numbers gaining employment Numbers going on to graduate school Numbers remaining in the field Numbers moving into a new field	Administrative Data AIMS staff AIMS lecturers/tutors AIMS students AIMS alumni	Data pull Interviews Interviews/Focus Groups Focus groups/Survey Expert panel
What impact of AIMS on African achieving its development goals?	Evidence of AIMS graduates moving into jobs or going to graduate school in areas that would support any of the SDGs and African education goals	Students Alumni Lecturers/tutors Administrative staff	Interviews Interviews/Focus Groups Focus groups/Survey Interviews
Value for Money			
In what ways do the Academic Program and Industry Initiative provide value for money?	Cost of the program compared to the objectives set out in the DFID/IDRC agreements	Financial documents Administrative Data AIMS staff AIMS lecturers/tutors AIMS students AIMS alumni	Desk review Data pull Interviews Interviews/Focus Groups Focus groups/Survey Expert panel

What factors contribute to and detract from achieving value for money?	Overall quality Curriculum content Quality of teaching staff Pedagogy Continuous improvement Innovation Gender/inclusivity responsiveness Admission requirements Consistency across sites Continuous assessment Management of centres	AIMS staff AIMS lecturers/tutors AIMS students AIMS alumni	Interviews Interviews/Focus Groups Focus groups/Survey Expert panel
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Annex D: Key Informant Interview Guides

INTERVIEWS WITH STAKEHOLDERS

National Government

- Have you ever visited the AIMS Centre?
- What was your opinion of the organisation and delivery of the academic training programme? How would you compare the quality of AIMS with STEM MA courses in your country?
- How would you rate the Value for Money of this investment compared to other donor monies you receive?

Large Employers in finance, government, health, ict, statistics, who have not employed aims graduate in countries with aims centre

- Have you heard of the African Institute for Mathematical Science (AIMS)
- We understand from the AIMS Centre records that you have not recruited any AIMS graduates; is this correct?
- What is your opinion of AIMS, if you can say confidently?
- Would you be interested in the competencies of AIMS graduates being mathematics, science, physics, IT and technology skills?
- Would you be interested to engage in a broader discussion/meeting with AIMS on how AIMS could educate graduates based on your needs?

Partner Universities / Institutions

- Describe the collaboration you have and what activities you have implemented together?
- What are your views on the AIMS academic model (skills – review – research phase, international lecturers, 3 weeks course model, continuous assessment etc.).
- In your view, how responsive is AIMS to the STEM problems/challenges in Africa (given the model they have)?
- What is your opinion on the value for money?
- Do you have any recommendations to AIMS?

Private sector Employers

- Why and how many AIMS graduates did you employ?
- How do you compare the AIMS graduate performance with other non-AIMS graduates on MA level positions?
- What is particularly strong about AIMS graduates?
- What competencies should AIMS graduates improve on?

INTERVIEW AT THE CENTRES

Secretariat

- How did you get engaged with AIMS, and what is your role?
 - What prompted your involvement?
- What changes have you seen since you started being involved?
 - Have these been always for the better?
- What do you see as the major success stories?
- What do you see as the current main challenges facing the AIMS Network?
 - How can these be solved?
- Any other improvements you would like to see?

Additional / various:

- How do you look at the potential for AIMS graduates being employed in Africa? How do you see this in relation to finding the next Einstein?
- How do you look at the financial sustainability of the AIMS model: in general and for each country?
- Is there consistency between the centres, and how is this assured?
- How do you adapt the academic content to Africa its challenges?
- What could improve in the AIMS academic programme/ recommendations?
- What is your opinion on the value for money?
- Do you have a financial management procedure manual in place and in use?
- How do you organise your procurement? Is this followed?
- What financial management system/software package do you use?
- What should improve in your view?

Gender

- How did you get engaged with AIMS, and what is your role?
- Is there a gender inclusion strategy or understood vision at AIMS?
- How does AIMS assure gender inclusivity/sensitivity in its Academic Programme and industry initiative?
- How is this monitored across the centres?
- Do academic directors or tutors receive any specific gender/inclusivity capacity development trajectory, if they have not done so before?
- Are you satisfied about the inclusivity and gender mainstreaming within AIMS? How did this evolve?
- Did AIMS take the recommendations from the gender audit report in 2013 forward?

SKYPE INTERVIEWS

Academic Council members

- How long have you been involved with the AIMS organisation?
- Have you yourself been involved in teaching at the Centres? If so, with which centres?
- How did you get to the position of AIMS council member?
- What is your perspective on the rate of the expansion of AIMS from the one centre in South Africa to 6 centres now? + the prospect of growing further (strategic direction)
- What kind of issues are discussed in general at the AC meetings. Specifically, what issues were discussed in the last Academic Council meeting (Academic Programme, Industry Initiative, and Developmental Impacts)? / what (type of) recommendations has the council given?
- Are recommendations of the council communicated to all Centres - as well as the Secretariat?
- Are the recommendations followed through by the Secretariat &/or by the Centres?
- Do you know any Major Success stories of AIMS Alumni?
- What do you see as the current main challenges facing the AIMS Network?
 - How can these be solved?
 - Any other improvements you would like to see?
- Do you see any problems with a large proportion of AIMS graduates being employed at AIMS Centres?
- How do you look at the potential for AIMS graduates being employed in Africa? How do you see this in relation to finding the next Einstein?
- How do you look at the financial sustainability of the AIMS model: in general and for each country?

Donors (IDRC/DFID /MasterCard Foundation)

- How do you see the place of funding higher education within the framework of the MDGs/SDGs?
- Within this perspective, what was the initial rationale for funding AIMS? (rather than any other programme)?
- Has this changed since 2010 (IDRC)/ 2012(DFID) / 2015 (SDG) and how?
- What is your perspective on the Academic Model ('greenhouse' effect of exposure to different aspects of Mathematical Sciences, without any specialisation leading to problems of accreditation?)
- What is your perspective on the rate of the expansion of AIMS from the one centre in Senegal to the other centres? + the prospect of growing further (strategic direction)
- Specifically, what do you see as the appropriate balance between searching for the next Einstein in Africa as compared to orienting mathematical scientists towards tackling Africa's Developmental Challenges?
- How do you look at the financial sustainability of the AIMS model: in general and for each country?
- And what do you think of the fully funded model (in the context of the trend in the North to have some cost-sharing by students)?
- What is particularly strong about the AIMS programme?
- What do you see as the current main challenges facing the AIMS Network? And how can these be solved?
- What has been your impression of the AIMS Secretariat / Network or of the Centres? (Either from visits or reports have received)
- To what extent have you been involved in monitoring the AIMS programme either at the Centre or at the Network/ secretariat level? How do you get reports?

- Are these sufficient for you to make a judgement about the quality of the AIMS programme?

MCF specific

- How well do you think the Co-op programme is performing? In terms of numbers / In terms of quality
- What improvements would you like to see?
- How well do you think the Industry Initiative is performing in the other centres?
- What do you think of the Skills for Employability programme?
- Do you see any problems with a large proportion of AIMS graduates being employed at AIMS Centres? (30%)
- There is a limited demand for AIMS alumni?

Board, audit, finance committee

- How long have you been on the Board?
- Are you able to go to each meeting?
- What is particularly strong about AIMS and what could improve?
- What is your perspective on the Governance of the whole enterprise: Board of Directors, International Academic Council, Secretariat, centres?
- What is your view of the sustainability of the academic programme?
- How do you think the programme should develop? Specifically, should every centre continue to provide the wide range of courses or should there be an opportunity for some specialisation?
- Do you think the current balance between AIMS graduates continuing in academia and going into industry is about right? As some of you are working in the private sector, is AIMS responding to their needed competencies?

Annex E: Persons Interviewed

This list comprises the persons with whom interviews were conducted between May and July 2017 face to face or through skype or conference calls.

AIMS Secretariat

	Name	Organisation	Position
I	Karen Craggs	AIMS	Director, Gender and Inclusion
II	Magdalena Erikson	AIMS	Director academic development
III	Thierry Zomahoun	AIMS	CEO and President
IV	David Kribs	AIMS	International Academic Advisor
V	Dorothy Nyambi	AIMS	Executive Vice President
VI	Karen Sutherland	AIMS	Senior Grants Manager
VII	Barry Green	AIMS	Chief Academic and Research Officer
VIII	Veronica Utton	AIMS	Director, People, Talent and Culture
IX	Juliet Oware	AIMS	Regional Finance Manager
X	Kode Niane	AIMS	Program Finance Manager
XI	Moulaye Camara	AIMS	Director of Operations
XII	Irene Tamajong	AIMS	Director, Student and Alumni Affairs
XIII	Mimi Kalinda	AIMS	Director of Communications
XIV	Arun Sharma	AIMS	Former Managing Director, Next Einstein Forum*
XV	Else Utetiwabo	AIMS	Senior Bilingual MERL Manager
XVI	Joseph Ndiritu	AIMS	Monitoring, Evaluation and Learning Manager, MasterCard Foundation

AIMS CENTERS

	Name	Organisation	Position
Rwanda			
1	Blaise TCHAPNDA	AIMS – Rwanda	Academic Director
2	Ariane Moira Rutayisire	AIMS – Rwanda	Finance Officer
3	...	AIMS – Rwanda	ICT Manager and officer
4	...	AIMS – Rwanda	Facilities Manager
5	Boris DEGAN	AIMS – Rwanda	Chief Operating Officer

AIMS CENTERS

Name	Organisation	Position
6	Bank of Africa (Rwanda)	HR manager
7	Prime Life Insurance Company	HR manager
8	Sanlam Insurance Company	HR Manager
9	I&M Bank	
10	Michel Bezy	Carnegie Mellon Africa University Deputy Director
South Africa		
11	Lynne Teixeira	AIMS – South Africa Senior Administrator, Academic Programme
12	Barry Green	AIMS – South Africa Director of AIMS South Africa & AIMS-NEI Chief Academic and Research Officer
13	Jan Groenewald	AIMS – South Africa IT manager and local lecturer
14	Mark Heerden	AIMS – South Africa Student Development Officer
15	Prof. Jeff Sanders	AIMS – South Africa Academic Director
17	Deborah Wilsnagh	AIMS – South Africa Finance and HR manager
18	Igsaan Kamalie	AIMS – South Africa Facilities Manager
19	Dr. Rejoyce Gavhi Molefe	AIMS South Africa Researcher - Gender and mentoring contact
20	Prof. David Holgate	AIMS - partner university Rep UWC National lecturer
23	Dr Paul Taylor	National Institute for Mental Heal International Lecturer
24	Dr Michael Nxumalo	South African Government National Research Foundation (NRF)
25	Prof. David Aschman	University of Cape Town National lecturer
26	Prof. Daya Reddy	University of Cape Town National lecturer
27	Patrick Dorey	Durham University International lecturer
28	Prof. Walter van Asche	University of Leuven, Belgium International lecturer
29	Prof. Juliet Pulliam	SACEMA (South African Center for Epidemiological Modelling and Analysis) International lecturer
30	Dr. Gareth Boxall	Stellenbosch University local lecturer
31	Prof. Ingrid Rewitzky	Stellenbosch University Head of Maths Department
32	Prof. Stephane Ouvry	University Paris Sud Founding university of AIMS and international visiting lecturer

AIMS CENTERS

	Name	Organisation	Position
33	Musa Baloyi	Alumni in Industry	
Tanzania			
34	Mark Roberts	AIMS – Tanzania	Centre Director
35	Dr. Isambi Sailon Mbalatwa	AIMS – Tanzania	Academic Director
36	Anthony Nzuki	AIMS – Tanzania	Director of Operations and Administration
37	Bonaventura Mtoha	AIMS – Tanzania	Finance and HR Manager
38	Samson Peter	AIMS – Tanzania	Logistics Manager
39	Ramadhan	AIMS – Tanzania	ICT Manager
40	Tulamona	AIMS – Tanzania	Logistics
41	Robert Mfugale	AIMS – Tanzania	English/Communications Officer
42	Dr. Roger Stern	University of Reading	International Lecturer
43	Jane Hutton	Warwick University	International Lecturer
44	Kelvin Okeyo	Risk Advisory Deloitte Consulting	Manager
45	Richard Chenga	Mwenge Eco Bank	Branch Manager
46	Alex Mgeni	Credit Risk NMB Bank	Senior Manager
47	Prof. Eunice Mureith	University of Dar Es Salaam	Head of Mathematics
48	Dr. Mkandawile	University of Dar Es Salaam	National Lecturer
49	Prof. Ludger		International Lecturer
50	Mr. Lazarus Malili	Ministry of Education	Education Officer
51	Dr. Raphael	Muhimbili University of Health and Allied Sciences	National Lecturer
Senegal			
52	Prof. Aissa Wade	AIMS Senegal	Centre President
53	Fatou Gueye NDIR	AIMS Senegal	Bilingual Program Officer, Skills For Employability Program
54	Charles kimpolo	AIMS Senegal	Coop Manager
55	Mamadou Woury Diallo	AIMS Senegal	Chief operating officer
56	Mohamed Lamine Diallo	AIMS Senegal	IT officer
57	Jihane lamouri	AIMS Senegal	Gender and inclusiveness
58	Prof. Magdalena Erickson	AIMS Senegal	Interim Academic Director

AIMS CENTERS

	Name	Organisation	Position
59	Laurent Vidal	Institute de Recherche pour le Developpement (IRD)	Country representative / council member
60	Cheikh Loucoubar	Institut Pasteur du Dakar (IPD)	Industry partner (Co Op programme)
61	Seydina M. Ndiaye	Ministry of higher education/ centre of networks and information system	Industry partner/internships
62	Professor Mamadou Sy	Ministry of higher education	Ministry of higher education/government representative
63	Prof. Ngalla Djitte	University of Gaston Berger	National lecturer / academic council member
64	Prof. Pedro Berrizbeitia	University of Colorado Boulder	International lecturer
65	Prof. Des Johnston	Heriot-Watt University	International lecturer
66	Prof. Massamba Fortune	School of mathematics, statistics and computer science, University of Kwazulu-Natal	International lecturer
67	Sanghara		National lecturer
Cameroon			
68	Professor Mama Foupouagnigni	AIMS Cameroon	Centre President
69	Honoré Bernard Youfegnuy	AIMS Cameroon	Student Development Officer
70	Mary Bernadette Fultang Timchia	AIMS Cameroon	Chief operating officer / finance and HR
71	Professor Marco Andrea Garuti	AIMS Cameroon	Academic Director
72	Professor Gisele Mophou	AIMS Cameroon/Humboldt	Research Chair
73	Edgard Mvogo	AIMS Cameroon	IT officer
74	Tima Haddisson	AIMS Cameroon	Facilities and logistics/gender
75	Catherine Martin Nalowe	AIMS Cameroon	Admin and Outreach officer
76	Professor Francois Xavier Etoa	University of Douala	Rector/Local academic partner
77	Wolfram Koepf	University of Kassel	International lecturer
78	Professor Wilfred Gabsa	Government representative	Academic coordinator, Ministry of Higher Education
79	Professor Nancy Neudear	Pacific University, Oregon	International lecturer
80	Dr Nalova Lyonga	University of Buea	Vice-chancellor/teacher training programme coordination

AIMS CENTERS

	Name	Organisation	Position
81	Henry Ikome Becke	Cameroon development cooperation	Human resource director
82	Professor Boniface Nkemzi	University of Buea/head of mathematics	National lecturer/council member
83	Professor Dikande Alain Moise	University of Yaounde I	National lecturer/council member
84	Professor Njifenjou Abdou	University of Douala	National lecturer/council members
85	Professor Nicolas Gabriel Andjiga	University of Younde I	National lecturer
Ghana			
86	Beauty Beatrice Kwawu	AIMS Ghana	English Language & Communication/ Program Officer
87	Professor F.K.A. Allotey	AIMS Ghana	Centre President
88	Benedicta Lumor	AIMS Ghana	Facilities and logistics manager
89	Mr Moulaye Camara	AIMS Ghana	Acting chief operating officer
90	Ms Victoria Asare	AIMS Ghana	Finance officer
91	Professor E.K.Essel	AIMS Ghana	Academic Director
92	Ms Sarah Osei	AIMS Ghana	Student development/external relations
93	Mr Richie-Mike Wellington	Ghana Commission for UNESCO	Secretary-General, government of Ghana representative
94	Dr Joseph Essandoh-Yeddu	Ghana Energy Commission	Industry partner/lecturer
95	Dr Margaret McIntyre	University of Ghana	Head of Mathematics department, local academic partner
96	Dr Rhoda Hawkins	University of Sheffield University, UK	International lecturer
97	Professor Astrid Eichorn	Perimeter Institute for Theoretical Physics, Canada	International lecturer
98	Dr Bismark Nkansah	University of Cape Coast	National lecturer/Local academic partner
99	Professor Ian Plewis	University of Manchester	International lecturer/advisory council member
100	Professor Babette Doebrich	DESY, Germany	International lecturer
101	Dr Edward Prempeh	Kwame Nkrumah University of Science and Technology (KNUST)	National lecturer/Local academic partner

online interviews

	Name	Organisation	Position	Location	Dates
A	Neil Turok		Founder AIMS	Paris	13/06/17
B	Isabel Rios		Academic Council Member	Brazil	12/06/17
C	Prof. F.K.A. Allotey		Academic Council Member	Ghana	12/06/17
D	Julie Makani		Academic Council Member	Tanzania	13/06/17
E	Adam Ourou		Academic Council Member		19/06/17
F	Ivy Mwai	Mastercard Foundation		Canada	12/6/17
G	Jacinthe Marcil	IDRC		Canada	12/6/17
H	Ann Weston	IDRC		Canada	
I	Jenny Carlen	DfID		UK	13/6/17
J					

Annex F: Field Visit Data Collection Tools

Draft checklist on the quality of a program (to be adapted and probably substantially reduced)¹

	1	2	3	4	5	6	7
1. Requirements of stakeholders. The faculty/department has a clear idea							
• about the relevant needs and requirements of the government							
• about the relevant needs and requirements of the labour market							
• about the relevant needs and requirements of the students/parents							
• about the relevant needs and requirements of the academic world							
• about the relevant needs and requirements of the society							
Overall opinion							
2. Expected learning outcomes (objectives)							
• The program has clearly formulated learning outcomes							
• The program promotes learning to learn and life-long learning							
• The expected learning outcomes cover generic skills and knowledge as well as specific skills and knowledge							
• The expected learning outcomes clearly reflect the requirements of the stakeholders							
Overall opinion							
3. Program specification							
• The university uses program specifications/program description							
• The program specification shows the expected learning outcomes							
• The program specification is informative for the stakeholders							
Overall opinion							
4. Program content							
• The program content shows a good balance between general and specific skills and knowledge							
• The program reflects the vision and mission of the university							
• The expected learning outcomes have been adequately translated into the program							
• The contribution made by each course to achieving the learning outcomes is clear							
Overall opinion							
5. The organisation of the program							
• The curriculum is coherent and all subjects and courses have been integrated							
• The curriculum shows breadth and depth							
• The curriculum clearly shows the basic courses, intermediate courses, specialist courses and the final project (thesis, etc.) activities							
• The curriculum is up-to-date							
Overall opinion							
6. Didactic concept/teaching and learning strategy							
• The staff have a clear teaching/ learning strategy							
• The teaching/learning strategy enables students to acquire and manipulate knowledge academically							
• The teaching/learning strategy is student oriented and stimulates quality learning							

¹ The Inter-University Council for East Africa (2010). *Roadmap for Quality. Handbook for quality Assurance in Higher Education*. EAR_pp38-42.


• The curriculum stimulates active learning and facilitates learning to learn							
Overall opinion							
7. Student assessment							
• The assessments reflect the expected learning outcomes and the content of the program							
• Student assessment uses a variety of methods							
• The criteria for assessment are explicit and well-known							
• The standards applied in the assessment are explicit and consistent							
• The assessment schemes, the assessment methods and the assessment itself are always subject to quality assurance and scrutiny							
Overall opinion							
8. Quality of the academic staff							
• The staff is qualified and competent for the task							
• The staff are sufficient to deliver the curriculum adequately							
• Recruitment and promotion are based on academic merits							
• Duties allocated are appropriate to qualifications, experience, and skills							
• Time management and incentive systems are designed to support the quality of teaching and learning							
• Accountability of the staff members is well regulated							
• There are provisions for review, consultation, and redeployment							
• Termination, retirement and social benefits are planned and well implemented.							
• There is an efficient appraisal system							
Overall opinion							

9. <i>Quality of the support staff</i>							
• There are adequate support staff for the libraries							
• There are adequate support staff for the laboratories							
• There are adequate support staff for computer facilities							
• There are adequate support staff for the student services							
Overall opinion							
10. <i>The student</i>							
• The selection of entering students (if there is selection) is adequate							
• There is an adequate intake policy							
• There is an adequate credit points system							
• The actual study load is in line with the calculated load							
Overall opinion							
11. <i>Student advice and support</i>							
• There is an adequate student progress system							
• Students get adequate feedback on their performance							
• Coaching for first-year students is adequate							
• The physical and material environment for the student is satisfactory							
• The social and psychological environment for the student is satisfactory							
Overall opinion							
12. <i>Facilities and infrastructure</i>							
• The lecture facilities (lecture halls, small course rooms) are adequate							
• The library is adequate and up-to-date							
• The laboratories are adequate and up-to-date							
• The computer facilities are adequate and up-to-date							
• Environmental Health and Safety Standards should meet the local requirements in all respects							
Overall opinion							
13. <i>Student evaluation</i>							
• Courses and curriculum are subject to structured student evaluation							
• Student feedback is used for improvement							
• The department provides the students with feedback on what is done with the outcomes							

Overall opinion							
<i>14. Curriculum design & evaluation</i>							
• The curriculum was developed as a joint enterprise by all the staff members							
• Students are involved in the curriculum design							
• The labour market is involved in the curriculum design							
• The curriculum is regularly evaluated							
• Revision of the curriculum takes place at reasonable time periods							
• Quality assurance of the curriculum is adequate							
Overall opinion							
<i>15. Staff development activities</i>							
• There is a clear vision on the needs for staff development							
• The staff development activities are adequate to the needs							
Overall opinion							
<i>16. Benchmarking</i>							
• The faculty/department uses the instrument of benchmarking to get a better view on its performance							
• The faculty/department uses the instrument of benchmarking for curriculum design							
Overall opinion							
<i>17 Achievements/the graduates</i>							
• The level of the graduates is satisfactory							
• The pass rate is satisfactory							
• The drop out rate is acceptable							
• The average time for graduation is in line with the planned time							
• The graduates can find easily a job. The unemployment rate is at acceptable level							
Overall opinion							
<i>18 Feedback stakeholders</i>							
• There is adequate structural feedback from the labour market (employers)							
• There is adequate structural feedback from the alumni							

Overall opinion							
Overall verdict							

Assessment Matrix²

ASSESSMENT MATRIX						
Primary Area	Key Component	Performance Indicator	Organizational Development Continuum  (Status of Organizational Performance)			
			1 Needs improvement	2 Developing	3 Developed	4 Best practices
1. PROGRAM ADMINISTRATION	1.1 Program Management	1.1.a AIMS (CENTRE) uses a Program Management system	AIMS (CENTRE) have limited program management with no clear guidelines and/or systems in place.	AIMS (CENTRE) have a system in place for program management but does not include clear expectations, policies, procedures and staff compliance.	AIMS (CENTRE) uses a system for program management that includes clear expectations, policies and procedures, but the system is not used consistently.	AIMS (CENTRE) uses a system for program management that includes clear expectations, policies and procedures, is tied to measurements and regularly used by all staff.
	1.2 Results Reporting	1.2.a AIMS (CENTRE) uses a standardized system for reporting program results to oversight authorities	AIMS (CENTRE) have no system for reporting program results to oversight authorities.	AIMS (CENTRE) reports program results to oversight authorities, but has no standardized system for design or content of reports.	AIMS (CENTRE) regularly use a standardized system for reporting results to oversight authorities which includes quality assurance and timeliness.	AIMS (CENTRE) uses a well- developed results reporting standardized system with clearly defined processes, quality assurance, timeliness and hierarchy of reports and staffing.

² SDC. Embassy of Switzerland in Tanzania

	1.3 Labor Market Analyses	1.3.a Organization conducts Labor Market Analyses and develops a demand-driven program	Organization does not conduct labor market analyses or develop programs to meet market needs.	Organization has conducted labor market analyses and/or reviewed current studies, but has not developed or modified programs to meet market needs.	Organization regularly conducts labor market analyses and develops programs to meet market needs.	Organization regularly conducts labor market analyses, reviews current studies and consults with industry groups to develop demand-driven programs.
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	1.4 Performance Evaluation	1.4.a AIMS (CENTRE) uses a standardized system of performance evaluation for educational delivery with clear measures	AIMS (CENTRE) have no system for performance evaluation or performance measures for evaluating the quality of the educational delivery.	AIMS (CENTRE) conducts performance evaluations on educational delivery, but evaluations are not tied to performance measures.	AIMS (CENTRE) regularly use a system for performance evaluation of educational delivery that is tied to organizational performance measures.	AIMS (CENTRE) regularly use a standardized or accredited system for performance evaluation of educational delivery that is tied to national or regional performance measures. Performance measures are clear and measurable.
	1.4 Performance Evaluation	1.4.b AIMS (CENTRE) uses customer satisfaction surveys (students) or any other tool to gauge quality of the training and/or skills levels of the students	AIMS (CENTRE) does not request customer satisfaction input from students.	AIMS (CENTRE) receive input from customers (students) on program performance, but not through formal surveys.	AIMS (CENTRE) uses a customer satisfaction survey and uses the results to inform program improvements.	AIMS (CENTRE) uses a well- developed customer satisfaction survey, uses the results to inform program improvements, and provides reports to customers and the community.
2. EXTERNAL RELATIONS (based on AIMS as a whole; not the centre)	3.1 Marketing of institution	3.1.a AIMS (CENTRE) uses a student-focused marketing plan	AIMS (CENTRE) have no marketing materials or activities focused on students.	AIMS (CENTRE) have marketing materials, but not student- focused.	AIMS (CENTRE) uses a marketing plan, but it is not student focused.	AIMS (CENTRE) uses a marketing plan focused and targeted on students.
	3.1 Marketing of institution	3.1.b AIMS (CENTRE) uses an application process that is formal and transparent	AIMS (CENTRE) have no application process.	AIMS (CENTRE) uses an application form to enroll students, but does not have a formalized application process.	AIMS (CENTRE) uses an application process that is formalized, uniform, or transparent.	AIMS (CENTRE) uses an application process that is formalized, uniform and transparent, and is used consistently by all staff.
	3.1 Marketing of institution	3.1.c AIMS (CENTRE) uses a course catalogue available in several modes	AIMS (CENTRE) do not have course descriptions.	AIMS (CENTRE) have brochures with course descriptions but no catalogue.	AIMS (CENTRE) uses a course catalogue in paper form only.	AIMS (CENTRE) use a course catalogue in several versions, paper, online, social networks and other modes of delivery.

	3.1 Marketing of institution	3.1.d AIMS (CENTRE) uses a process to develop job placements, work attachments, and mentorships	AIMS (CENTRE) have no job placements, work attachments, and/or mentorships.	AIMS (CENTRE) develop jobs for graduates, but do not include work attachments or mentorship programs.	AIMS (CENTRE) have a formal process for developing jobs for graduates, including some work attachments and mentorships.	AIMS (CENTRE) use a formal process for developing job placements, work attachments, and mentorships that is demand-driven with MOUs and employer contracts.
	3.1 Marketing of institution	3.1.e AIMS (CENTRE) has an Industry Advisory department/staff	AIMS (CENTRE) do not seek input from industry or employers.	AIMS (CENTRE) receive periodic input from individual industries and/or employers, but have no formal department/staff.	AIMS (CENTRE) receive input from industry associations and employers, but do not have a formal Industry Advisory department/staff for the organization.	AIMS (CENTRE) receives regular input from a standing Industry Advisory department/staff comprised of members that represent the trade courses offered by AIMS (CENTRE), as well as key employers.
	3.2 Community Stakeholder Relationship	3.2.a AIMS (CENTRE) has a formal relationship with Professional Development Associations and/or Networks	AIMS (CENTRE) have no interaction with Professional Development Associations and/or Networks.	AIMS (CENTRE) receives some periodic input from Professional Development Associations and/or Networks, but has not developed a formal partnership.	AIMS (CENTRE) have relationships with at least one Professional Development Association or Network that are formalized through an MOU.	AIMS (CENTRE) have formal relationships with Professional Development Associations and/or Networks which are formalized through an MOU and collaborates on training certifications.
	3.2 Community Stakeholder Relationship	3.2.b AIMS (CENTRE) has a formal relationship with TVET institutions or school networks and/or national and international associations	AIMS (CENTRE) have no interaction with TVET institutions /school networks, or national and international associations.	AIMS (CENTRE) meets occasionally with TVET institutions or other training providers, but is not part of a formal network.	AIMS (CENTRE) meets regularly through a formal relationship with TVET institution or other training providers	AIMS (CENTRE) meets regularly through a formal relationship with TVET institutions or other training providers through an MOU or membership.

4. ACCREDITATION & CERTIFICATION	4.1 Certification	4.1.a AIMS (CENTRE) uses a certification process	AIMS (CENTRE) do not certify or validate trainer efficacy or skills.	AIMS (CENTRE) evaluates trainer efficacy and skills, but does not have a formal process. Teacher	AIMS (CENTRE) regularly uses a formal process for evaluating trainers, and trainer	AIMS (CENTRE) uses a formal process for evaluating and certifying trainers
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	System			awarded.	awarded.	and validation by an outside or governing body.
5. COURSE OFFERINGS	5.1 Curricula	5.1.a Curricula match desired program based on market gap considerations	Curricula are limited and do not addresses market needs.	Curricula are available for each program area, but no curricula are developed using market considerations or analyses.	Curricula are developed with marketplace considerations and analyses that are older than 2 - 3 years.	Curricula are developed with marketplace considerations and analyses that are as recent as 1 year or less.
	5.1 Curricula	5.1.b Curricula include relevant technology or equipment usage components	Curricula do not have any reference technology & equipment.	Curricula include limited technology & equipment usage, but no instruction on safety, maintenance, or operation.	Curricula include limited technology & equipment usage, and instruction on operation, safety and maintenance.	Curricula include use of latest technology & updated equipment with instruction on safety, maintenance, and operation.
	5.1 Curricula	5.1.c Curricula are designed with a standing tutor and industry committee to ensure uniformity	Curricula are non-uniformly applied and do not include input from tutors or industry.	Curricula have been updated in the last 5 years but either without input from a standing tutor/industry committee, or with varying degrees of uniformity.	Curricula have been updated in the last 5 years with input from a standing tutor/industry committee, and are applied uniformly across all the institution.	Curricula have been developed recently (within 1 year) with input from tutors and industry; are applied uniformly across the institutions.
	5.1 Curricula	5.1.d Curricula are tied to validated skill sets	Curricula are not tied to any skill sets and skills are not validated at course completion.	A checklist is used to validate that skills were addressed in the training and curricula, but no assessment is completed to validate proficiency of skills.	Most curricula are tied to skill sets and validated through some assessment at course completion.	All curricula are tied to industry skill sets and validated through assessments by trainer, employers and self-assessment by student.
	5.1 Curricula	5.1.e Curricula & training materials are standardized	Curricula and training materials are not standardized at any level.	Curricula and training materials are standardized across the organization, but not to an international standard.	All organizational curricula and training materials are standardized to an international standard.	All curricula and training materials are standardized at an international level and each institution is evaluated for compliance.

	5.1 Curricula	51.1.f Business and Entrepreneurship (B&E) form part of the curricula	Curricula do not have deal with B&E at all	Curricula contains elements of B&E but no specific modules	Curricula has specific modules on B&E but the content is not updated and/or the tutors are not well aware/trained	Curricula has specific modules on B&E, the content is up-to-date and tutors are fully trained
6. Teaching and Learning	6.1 Teaching and Learning, Didactic concept/ teaching strategy	6.1.1 The teaching/learning strategy enables students to acquire and manipulate knowledge academically	Teaching learning strategy impedes learning	Teaching / learning strategy is under development and does not impede	Teaching / learning strategy has certain elements established and has certain didactical background	Teaching / learning strategy is fully developed and elements established and has certain didactical background
		6.1.2 The teaching/learning strategy is student oriented and stimulates quality learning	Teaching learning strategy is almost totally dominated by teacher	Teaching / learning strategy	Teaching / learning strategy	Teaching /learning strategy is student oriented and stimulates quality learning
		6.1.3 The curriculum stimulates active learning and facilitates learning to learn	The curriculum does not spark	Curriculum	Curriculum	Curriculum stimulates active learning and facilities learning to learn
7. Student workforce Readiness	7.1a Student Support Services	7.1.a AIMS includes soft and/or life skills courses and related activities in student training	AIMS does not provide soft and/or life skills courses and/or related activities in student training	AIMS does have limited soft and/or life skills curricula which is used sporadically and not infused into curricula.	AIMS includes soft and/or life skills training and activities in the approved standardized curricula.	AIMS consistently includes soft and/or life skills courses and activities in student training and curricula,
	7.1b Student Support Services	7.1.b AIMS includes social/emotional programs and activities in student training	AIMS does not provide any social/emotional programs and/or related activities for students	AIMS provides an informal assessment of student cohort needs, but not for individuals; a general discussion of social/emotional issues in training	AIMS provides some individual assessment and support for each student to address their social/emotional issues	AIMS includes social/emotional programs and activities in student training at the individual level

	6.2 Student Support Services	6.1.c AIMS (CENTRE) includes a career counseling component in the TVET program	AIMS (CENTRE) does not provide career counseling.	Instructors and others provide career information informally, but not through a career counseling component.	AIMS (CENTRE) consistently offers a formalized career counseling component, but it is not mandatory for students.	AIMS (CENTRE) includes a mandatory career counseling component in the program for all students.
8. HUMAN PERFORMANCE DEVELOPMENT	8.1 Instructor Assessment and Monitoring	7.1.a AIMS (CENTRE) uses a process for evaluating tutors' pedagogical skills and instructional methodologies	AIMS (CENTRE) does not evaluate tutors' pedagogical skills or instructional methodologies.	AIMS (CENTRE) has instructional and pedagogical standards for tutors, but no formal evaluation system or methodologies.	AIMS (CENTRE) regularly uses standards and a checklist for evaluating instructional and pedagogical skills, but standards are not tied to international standards.	AIMS (CENTRE) consistently uses a process for evaluating tutors' pedagogical skills and instructional methodologies that is tied to international standards.
	8.2a Staff Development and training	7.2.a AIMS (CENTRE) uses a plan and system for the development and training of tutors	AIMS (CENTRE) does not conduct any activities for the development and training of tutors.	AIMS (CENTRE) does offer periodic opportunities for tutors to attend training and seminars, but does not have a plan and/ or system for tutors' development or training	AIMS (CENTRE) regularly uses a plan and system for tutors development and training, but no formalized system.	AIMS (CENTRE) regularly uses a plan and formalized system for the development and training of tutors with different levels for classroom and lead tutors.
	8.2b Staff Development and Training	7.2.b AIMS (CENTRE) uses a plan and system for the development and training of heads of department	AIMS (CENTRE) does not conduct any activities for the development and training of department leads.	AIMS (CENTRE) does offer periodic opportunities for department leads to attend training and seminars, but does not have a plan and/ or system for the development and training of department leads.	AIMS (CENTRE) regularly uses a plan and system for the development of department leads.	AIMS (CENTRE) regularly uses a plan and formalized system for the development and training of department leads. Conducts regular reviews to determine course work training improvements and upgrades.
	8.3a Employee Performance	7.3.a AIMS (CENTRE) uses a system for annual performance reviews	AIMS (CENTRE) does not conduct annual performance reviews.	Supervisors periodically discuss performance with staff, but not on a scheduled basis and not through a system for Performance Reviews.	AIMS (CENTRE) regularly conducts annual performance reviews, but not through a formalized system and schedule.	AIMS (CENTRE) regularly uses a formalized system for annual and mid-year performance reviews for all staff.

	8.3b Employee Performance	7.3.b AIMS (CENTRE) uses a plan for organizational development, team building and training	AIMS (CENTRE) does not conduct activities for the purpose of organizational development, team building and/or training.	AIMS (CENTRE) periodically provides team building and training for staff, but not as part of an organizational development plan.	AIMS (CENTRE) provides team building and training for staff through an organizational development plan.	AIMS (CENTRE) uses a plan for organizational development, team building and training on a regular basis. Program improvements are made based on the results of training or activities
9. INFRASTRUCTURE & EQUIPMENT	9.1 Instructional Facilities	8.1.a AIMS (CENTRE) has instructional facilities that create a positive, comfortable, and safe learning environment	AIMS (CENTRE) does not have adequate instructional facilities.	AIMS (CENTRE) has instructional facilities that have been upgraded in the last five years, but they do not create a positive, comfortable, and safe learning environment relative to the country context.	AIMS (CENTRE) has instructional facilities that have been upgraded in the last year and they are safe and create a positive and comfortable learning environment relative to the country context.	AIMS (CENTRE) has instructional facilities that are safe, modern and create a positive and comfortable learning environment relative to the country context, and include modern technology.
	9.2 Training Equipment	8.2.a AIMS (CENTRE) has training equipment that is up-to-date and applicable to training in demand-driven sectors	AIMS (CENTRE) does not have training equipment.	AIMS (CENTRE) has a limited level of training equipment that is applicable to training in course offerings, but the equipment is not up-to-date.	AIMS (CENTRE) uses training equipment that is up-to- date, and is applicable to training in demand-driven sectors.	AIMS (CENTRE) has an adequate level of training equipment that is up-to- date and applicable to training in demand- driven sectors.

Management at Centres (academic director, centre director, chief operating officer etc.). <i>NOTE: QUESTIONS FOR OPERATIONAL STAFF ARE HIGHLIGHTED IN GREEN</i>		Name:
Basic information		Position:
Age (approximately)		
Gender	Male Female	
How long have you been in this position?	0-1 years 1-2 years 3-4 years More than 4 years	
How did you get to this position?		
What was your previous job prior to coming to Centre?		
Have you had any Managerial Training before you took up your position at AIMS?	Yes No	Comments:
If YES, to 6a briefly describe location, length, content of training	(i) Length (ii) Content (iii) Location/institution	
Secretariat relationship		
(i) What support to you get from the Centre Secretariat and how would you describe your collaboration?	(i) Administrative (ii) Technical (iii) Academic (iv) Financial (iv) Others Please specify	
		Comments:
AIMS model		
How satisfied are you with the AIMS academic model in general?		
How satisfied are you with the management of the centre?	Very satisfied Satisfied unsatisfied Very Unsatisfied	Comments:
How satisfied are you with the quality and how students are selected/recruited?		
What is your opinion of the academic quality at the centre?		
Given that several lecturers are not from Africa, how do you make sure the content remains relevant for the African problems and challenges it is facing?		
Have you seen any changes in the quality of students during and between the years?	Yes No	Comments:
Describe the system in place to monitor students progress.		
How satisfied are you about the AIMS industry initiative implementation?		
Compared to when you first took up the post, would you say that the Centre has been successful in placing the students that contribute to development solutions in Africa? Illustrate with an example/s. OPEN ENDED		
Does the AIMS model provide more or less Value for Money than other Mathematical university courses in Africa?		
Does the residential set-up improve the learning or not?		

Respondent International Teacher - Distance interview		Name
Basic Information (possibly via email)		
1	Age	
2	Gender	
	Male	
	Female	
3	What is your Country of Origin?	
4	What is your position in your home university?	
5	How long have you been teaching at post-graduate level	
	0-5 years	
	6-10 years	
	11-15 years	
	> 15years	
6	How did you get this posting?	
	(i) Recommended by networks	
	(ii) Saw opportunity through online sources and applied	
	(iii) Seconded by home University	
	(iv) Others Please specify	
7a	If No, 7a. How many times have you been to this Centre before?	
7b	If No, 7b. How many times have you been to other AIMS Centres?	
	Comments	
Questions		
8	What information / initiation did you get about the Centre and the students before you arrived? (<i>Open ended</i>)	
9	What is your preferred teaching method of teaching and to what extend were you able to practice this at the centre? (<i>Open ended</i>)	
10	How would you evaluate the level of the Local/ National Tutors and the quality of support they provide to the students?	
11 (a)	How would you compare the quality of these AIMS students with first year MA students at your home university?	
	Better	
	Similar	
	Worse	
11b	If applicable, how do you compare the quality of the students at this centre with the other centres?	
11c	If Yes, 11 (a) Have you seen an improvement in the students performance in a) academics b) soft skills (attitude, entrepreneurship, social, gender) c) within and across years?	
	Yes	Comment:
	Dont know	
	No	
12	Do you see any impact of extra curricular activities on the students ability to complete the academic courses well?	
13	Have you taken or seen any initiative in AIMS to create potential opportunities for (self) employment for these AIMS students in the context of the African country?	
12b	Do you think that the changes you have made had an influence on the success of the centre placing students towards (self) employment?	
13	In reality, do you think that the majority of the students go into follow-up studies (MA or PhD)?	
	less than 50%	Comment:
	about 50%	
	more than 50%	
14	Is it sufficient to assure the quality of the learning of the students via the current assessment process? If no, would a written examination at the end of your course be an improvement?	
	Comments/recommendations	(i)
		(ii)
		(iii)
		(iv)
		(v)

Respondent National Tutors - preferably face-to-face with 2 tutors at a time		Name(s)
Basic Information (possibly via email)		
1	Age	
2	Gender	
	Male	
	Female	
3	What is your Country of Origin?	
4	What is your position in your home university?	
5	How long have you been tutoring	
	1-3 months	
	3-6 months	
	6-12 months	
	> 12 months	
6	How did you get this posting?	
	(i) Recommended by networks	
	(ii) Saw opportunity through online sources and applied	
	(iii) Previous AIMS Alumni	
	(iv) Others Please specify	
Questions		
7	What information / initiation did you get about the Centre and the students before you arrived? (<i>Open ended</i>)	
8	How would you evaluate the level of the International Lectureres, their affinity with Africa, and the quality of support they provide to the students?	
9a	How would you compare the quality of these AIMS students with first year MA students at your home country?	
	Better	
	Similar	
	Worse	
9b	If applicable, how do you compare the quality of the students at this centre with the other centres?	
10	Did you receive any gender inclusivity training and what did you use from this?	
	Yes	Comment:
	No	
10	Have you seen an improvement in the students performance in a) academics b) soft skills c) within this year?	
	Yes	Comment:
	Dont know	
	No	
11	Do you see any impact of extra curricular activities on the students ability to complete the academic courses well?	
12a	Have you taken or seen any initiative in AIMS to create potential opportunities for (self) employment for these AIMS students in the context of the African country?	
12b	Do you think that the changes you have made had an influence on the success of the centre placing students towards (self) employment?	
13	In reality, do you think that the majority of the students go into follow-up studies (MA or PhD)?	
	less than 50%	Comment:
	about 50%	
	more than 50%	
14	Is it sufficient to assure the quality of the learning of the students via the current assessment process? If no, would a written examination at the end of your course be an improvement?	
Comments/recommendations		(i)
		(ii)
		(iii)
		(iv)
		(v)

Student Development Officer (Senegal + those who take on the SDO role)

BACKGROUND

How long have you been in this post? _____

What was your previous job (if this is not your first)? _____

Why did you leave that post and come here? _____

What was your undergraduate degree? _____

ACTIVITIES AND SUCCESS IN THIS CENTRE

Can you please explain your functions as you see them in this Centre _____

Have you been able to use what you learn in your undergraduate degree in this post? YES - __ NO __

IF YES, in what ways _____

What does your typical week look like in terms of activities

TYPE OF ACTIVITY	NUMBERS GIVEN OR DISCUSSED WITH	TOTAL TIME	ANY OTHER COMMENTS

How much affect do you think you have had on:

	A lot	Not much	Very little
Student problems whilst at Centre			
Student employability			
Actual employment			

If 'a lot', could you please give an example, using a pseudo name for the student Student problems _____

Student Employability _____

Actual employment _____

If 'Not much' or 'Very little', why is that? _____

How long do you think you will stay in this post _____

IF GIVES DEFINITIVE ANSWER LESS THAN THREE YEARS ASK,

Where would you like to work next?

Focus Group Discussion guidelines and questions

OPENING INTRODUCTION - ALUMNI

Thank you all for coming. First of all, we should explain that we are **totally independent**; we are NOT representing AIMS, national or donor governments or anyone else. I am working with a Nairobi-based Management and Training consultancy firm called MDF-ESA.

The British and Canadian governments who are – along with MasterCard Foundation - the major donors to AIMS have provided funds for an independent evaluation to the AIMS Secretariat and we were the consultants chosen – along with partners in Canada who are interacting with expert mathematicians worldwide - to carry out the evaluation.

Our part of the evaluation consists of examination of documents and databases, discussions with the AIMS Secretariat in Kigali and 3-4 day discussions with each of the 6 AIMS Centres.

We are here to **ask your views about the AIMS programme you completed**. There are no right or wrong answers so it is perfectly OK for you to disagree among yourselves. Finally, before we start, I would grateful if you could complete this very short questionnaire about yourselves. This will help us contextualise the discussion. You will note that we are not asking for your names. This is because what you tell us will be totally anonymous and confidential. We will not even be attributing the answers to ‘students in AIMS CENTRE NAME’; instead, in our reporting we shall be talking about the range of responses across all students in all six centres.

Whilst they are completing questionnaire:

- Record number of Alumni present. _____
- And time of starting _____ time of finishing _____

DISCUSSION QUESTIONS (REMIND THEM THERE ARE NO RIGHT OR WRONG ANSWERS; SKIP ANY WHERE THERE IS NO REACTION)

1. Application process

A. What do you think of the application process: VOTE ON

- a. Complicated ()/ easy ()/ user-friendly () ;
- b. Long ()/ short () ;
- c. Fair ()/potential for discrimination () ; etc.

Are there any specific points one of you would like to make in respect of the application process? _____

Are there any improvements you could suggest? _____

2. On boarding and orientation

A. What were your expectations before you arrived at the Centre: VOTE ON

- a. would be like another university course ()/ had heard it would be inter-disciplinary ();
- b. I did ()/didn't () realise it would be so intensive both in terms of the academic courses and the living arrangements?
- c. Did you receive any information on how AIMS approaches gender and inclusivity at the centre?

Are there any specific points one of you would like to make in respect of the information you received before arriving at the Centre? _____

Are there any improvements you could suggest? _____

B. What did you think of the induction / orientation process:

- a. too short ()/sufficient ();
- b. informative ()/ glossed over important features ()

Are there any specific points one of you would like to make about the induction process? _____

Are there any improvements you could suggest? _____

3. What do you think of the living arrangements: VOTE

Fine ()/ would have preferred living outside ()/ too claustrophobic ()

Do any of you have any specific comments about these arrangements? _____

Are there any improvements you could suggest? _____

4. Members of Faculty

A. What did you think of the courses provided by the International Teaching Lecturers : VOTE ON

- a. too high ()/ about right ()/ too low a level ()
- b. Too compressed into 3 weeks, etc.

Were the international teaching lecturers:

- a. approachable ()/ distant ()
- b. helpful ()/ unhelpful ()

Do you have any points to raise about the international lecturers? _____

Are there any improvements that you would suggest in the way they are deployed /used?

B. What do you think of the support provide by the tutors: VOTE ON

- a. Very helpful ()/always ready to explain the content()/ not helpful ().
- b. Were the tutors always available to help with an assignment VOTE Yes ()/ NO ()

If some say NOT HELPFUL or NO to either question, can anyone give a specific example

Are there any improvements you could suggest _____

5. **Members of staff** (Administration, etc.)

Was the Academic Director always approachable? VOTE Yes ()/ No ()

If some say NO, can anyone give a specific example _____

Were other staff members helpful? VOTE Yes ()/ No ()

If some say NO, can anyone give a specific example? _____

Are there any improvements you could suggest? _____

6. **Looking forward** VOTES

A. Did the course provide you with technical and practical skills that are likely to be useful in your future career Yes () ./ No ()

If some say NO, can anyone give a specific example _____

Are there any improvements you could suggest _____

B. Did the program prepare you with social and other non academic skills that you found useful?

If some say NO, can anyone give a specific example _____

Are there any improvements you could suggest _____

- C. What other aspects of the course have been practical and useful to you? (Do you feel they have provided you with a competitive advantage in the market)? Illustrate with examples

Are there any improvements you could suggest _____

7. **Finally difficult Vfm questions.** You may know / have been told that the approximate value of the course per student was US\$25,000. Thinking of your colleagues who took Masters in traditional universities
- (a) Putting aside for the moment that you did not pay anything and your colleagues almost certainly had to pay or support themselves in their accommodation, how would you compare the usefulness of what you learnt in the AIMS course: better than a traditional programme () / about the same () / worse than a traditional programme ()
 - (b) Do you think the donor/ government investment of \$25,000 in your studies is good 'Value for Money' in terms of how you, when compared to your colleagues can contribute to African development Yes () / No (.)
 - (c) Do you think you have created any other jobs as a result of your career so far

SHORT PAPER QUESTIONNAIRE TO BE DISTRIBUTED TO ALUMNI IN FGD

1. Age: _____
2. Gender _____
3. Country/ Nationality: _____
4. Where did you do your undergraduate degree? _____
5. Which Centre did you attend _____
6. When did you leave the Centre?
7. Was this Centre: your first choice? /_/ your second choice /_/ Not chosen /_/
8. How would you rate the facilities at the Centre you attended

	Good	Satisfactory	Moderate	Poor
Overall Physical Infrastructure of the centre				
Overall access to ICT infrastructure				
Classroom or lecture theatres (size, modern facilities, ICT)				
Laboratories – infrastructure				
Laboratories - Equipment and materials				
Catering services				
Social amenities				
Library resources (online and others)				

9. Have you or anyone else that you know of experienced any form of discrimination (gender, ethnicity) or favouritism within the centre?

Yes / No / Don't Know

Please describe briefly:

10. What is your current position:

- a. Studying another Masters or a PhD? If YES, in which year of your course?
- b. In employment. If YES, which kind of employment: government? University? Private company?
Self employed?
- c. Other, please specify

OPENING INTRODUCTION – Students

Thank you all for coming. First of all, we should explain that we are **totally independent; we are NOT representing AIMS**, national or donor governments or anyone else. I am working with a Nairobi-based Management and Training consultancy firm called MDF-ESA. The British and Canadian governments who are – along with MasterCard Foundation - the major donors to AIMS have provided funds for an independent evaluation to the AIMS Secretariat and we were the consultants chosen – along with partners in Canada who are interacting with expert mathematicians worldwide - to carry out the evaluation.

Our part of the evaluation consists of examination of documents and databases, discussions with the AIMS Secretariat in Kigali and 3-4 day discussions with each of the 6 AIMS Centres,

We are here to ask your views about the programme you have nearly completed. There are no right or wrong answers so it is perfectly OK for you to disagree among yourselves.

Finally, before we start, I would be grateful if you could complete this very short questionnaire about yourselves. This will help us contextualise the discussion. You will note that we are not asking for your names. This is because what you tell us will be totally anonymous and confidential. We will not even be attributing the answers to 'students in AIMS CENTRE NAME'; instead, in our reporting we shall be talking about the range of responses across all students in all six centres.

Whilst they are completing questionnaire, record:

Number of students present: _____

And time of starting _____ time of finishing _____

DISCUSSION QUESTIONS (REMIND THEM THERE ARE NO RIGHT OR WRONG ANSWERS; SKIP ANY THERE IS NO REACTION)

1. Application process

A. What do you think of the application process: VOTE ON

- d. Complicated ()/ easy ()/ user-friendly ();
- e. Long ()/ short ();
- f. Fair ()/potential for discrimination (); etc.

Are there any specific points one of you would like to make? _____

Are there any improvements you could suggest? _____

B. Do any of you know of any colleagues or friends with about the same mathematical ability/aptitude to yours who applied, but were not accepted?

If any say YES, ask them “Why do you think this was?”

2. On boarding and orientation

What were your expectations before you came about the course: VOTE ON

- A. would be like another university course ()/ had heard it would be inter-disciplinary ();
- B. Did ()/didn't () realise it would be so intensive both in terms of the academic courses and the living arrangements?

Are there any improvements you could suggest in the communication process? _____

C. What did you think of the induction / orientation process:

- c. too short ()/sufficient ();
- d. informative ()/ glossed over important features ()

Are there are any specific points one of you would like to make in respect of the induction/ orientation process? _____

Are there are any improvements you could suggest in the orientation process _____

3. What do you think of the living arrangements: VOTE

Fine ()/ would have preferred living outside ()/ too claustrophobic ()

Do any of you have any specific comments about these arrangements? _____

Are there any improvements you could suggest? _____

4. Members of Faculty

A. What did you think of the courses provided by the International Teaching Lecturers : VOTE ON

- a. too high ()/ about right ()/ too low a level ();
- b. too compressed into 3 weeks etc

Were the international teaching lecturers:

- c. approachable ()/ distant ()
- d. helpful ()/ unhelpful ()

Do any of you have any specific comments about these arrangements? _____

Are there any improvements you could suggest? _____

B. What do you think of the support provide by the tutors: VOTE ON

c. Very helpful ()/always ready to explain the content ()/ not helpful ().

d. Were the tutors always available to support you n an assignment VOTE Yes ()/ NO ()

If some says NOT HELPFUL or NO to either question, can anyone give a specific example

Are there any improvements you could suggest? _____

5. **Members of staff** (Administration,)

Was the Academic Director always approachable? VOTE Yes ()/ No ()

If some say NO, can anyone give a specific example_____

Are there any improvements you could suggest? _____

Were other staff members helpful VOTE Yes ()/ No ()

If some say NO, can anyone give a specific example_____

Are there any improvements you could suggest? _____

6. **Looking forward** VOTES

D. Is the course providing you with technical and practical skills that are likely to be useful in your future career Yes () ./ No ()

If some say NO, can anyone give a specific example_____

Are there any improvements you could suggest? _____

E. Did the program prepare you with social and other non academic skills that you found useful?

If some say NO, can anyone give a specific example_____

Are there any improvements you could suggest? _____

- F. What other aspects of the course have been practical and useful to you? (Do you feel they have provided you with a competitive advantage in the market)? Illustrate with examples

Are there any improvements you could suggest? _____

7. Finally difficult questions about Value for Money. You may know / have been told that the approximate value of the course per student was US\$25,000. Thinking of your colleagues who have taken Masters in traditional universities
- (a) Putting aside for the moment that you did not pay anything and your colleagues almost certainly had to pay or support themselves in their accommodation, how would you compare the usefulness of what you have learnt in this course: better than a traditional programme () / about the same () / worse than a traditional programme ()
- (b) Do you think the donor/ government investment of \$25,000 in your studies is good 'Value for Money' in terms of how you, when compared to your colleagues can contribute to African development Yes () / No (.)

Do any of you have any specific comments about this analysis? _____

Are there any improvements you could suggest in carrying out the analysis?

SHORT PAPER QUESTIONNAIRE TO BE DISTRIBUTED TO CURRENT STUDENTS IN FGD

1. Age: _____
2. Gender _____
3. Country/ Nationality: _____
4. Where did you do your undergraduate degree? _____
5. Was this Centre: your first choice? /_/ your second choice /_/ Not chosen /_/
6. How would you rate the facilities at the Centre

	(Very) Good	Satisfactory	Moderate	Poor
Overall Physical Infrastructure of the centre				
Overall access to ICT infrastructure				
Classroom or lecture theatres (size, modern facilities, ICT)				
Laboratories – infrastructure				
Laboratories - Equipment and materials				
Catering services				
Social amenities				
Library resources (online and others)				

7. Have you or anyone else that you know of experienced any form of discrimination (gender, ethnicity) or favouritism within the centre?

Yes / No / Don't Know

Please describe briefly:

8. Do you intend – you may not succeed! – After the course has ended to go on to further studies?
Yes/_/ No /_/
- If YES, have you already obtained a place Yes/_/ No /_/
- If NO, are you actively searching for employment? Yes/_/ No /_/



AIMS NEI Survey - Student Satisfaction

Welcome to the AIMS survey

Dear AIMS student,

MDF Training & Consultancy has been contracted to carry out the final evaluation of the IDRC/DFID funded programme for AIMS 2010-2017.

In this regard we would like to have your opinion about your time at AIMS. This will help us to objectively and independently provide feedback to AIMS on how they are doing and what they can improve.

This survey is anonymous and confidential. Please feel free to share your honest opinion. We will not ask for your name and your specific information will not be shared with 3rd parties.

To fill in the questionnaire, please click on the box/circle corresponding to the answer that best suits your situation or opinion.

For further inquiries about this survey, please contact the coordinator of the survey on the following contact details:

Phone Number: +254 728 372 757 or +254 737 938 133

Email: mri@mdf.nl or mdfesa@mdf.nl

It will take you about 10-15 minutes to fill out the questionnaire.

Kind regards,
The evaluation team



AIMS NEI Survey - Student Satisfaction

Are you a student at AIMS?

* 1. At which AIMS center do you study?

- ☐ Cameroon
- ☐ Ghana
- ☐ Rwanda
- ☐ Senegal
- ☐ South Africa
- ☐ Tanzania
- ☐ I do not study at AIMS

AIMS NEI Survey - Student Satisfaction

Personal information

Please provide your personal information

* 2. What is your sex?

- ☐ Male
- ☐ Female

* 3. Please indicate your age category;

- ☐ Younger than 20
- ☐ 20 - 25
- ☐ 26 - 30
- ☐ 31 - 35
- ☐ 36-40
- ☐ Older than 40

AIMS NEI Survey - Student Satisfaction

Application process at AIMS

The questions on this page focus on the application process you went through before starting your studies at AIMS.

Please tick the boxes that suit your current status

* 4. Where did you do your undergraduate degree?

* 5. Did you already obtain a Master degree before studying at AIMS?

☐ Yes

☐ No

If yes, from which country?

* 6. Where did you live when you applied to study at AIMS?

☐ The capital city

☐ Another city / large town

☐ Village / rural area

* 7. How satisfied are you with the application process?

☐ Very satisfied

☐ Satisfied

☐ Unsatisfied

☐ Very unsatisfied

AIMS NEI Survey - Student Satisfaction

Feedback on your time at AIMS

These questions focus on your level of satisfaction with your study programme at AIMS.

* 8. Teaching and learning: How satisfied are you with the following

	Very unsatisfied	Unsatisfied	Satisfied	Very satisfied
Quality of lecturing / teachers at AIMS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of learning materials at AIMS (for example: books, laboratory equipment, computers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helpfulness of lecturers outside the classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assessment/examination process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 9. Curriculum: Do you agree with the following:

	Not at all	Somewhat	Largely	Fully
I gain the right analytical mathematical knowledge for my future career during my studies at AIMS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I gain the right technical/practical skills for my future career during my studies at AIMS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I learn the right attitude / behavior / social life skills for my future career during my studies at AIMS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The AIMS curriculum fits my future career aspirations	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 10. Did you find the content of any of the core courses in the first 3 months too difficult?

- ☐ Yes
- ☐ No
- ☐ If yes (please specify courses)

* 11. Did you find the teaching of the core courses in the first 3 months too dominated/led by the teacher?

☐ Yes

☐ No

If yes, (please specify courses)

* 12. Institute: How satisfied are you with the following

	Very unsatisfied	Unsatisfied	Satisfied	Very satisfied
Access to learning facilities at AIMS, for example: library, laboratory equipment, computers, internet, leisure facilities etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of infrastructure at AIMS, like: university buildings, library, toilets etc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of accommodation facilities, like: dormitories	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Cleanliness of all facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helpfulness of AIMS staff, like: registration officer, administrative assistant, accountant etc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social life at AIMS (fellow students, staff, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

13. Overall, how would you rate the quality of the courses taken at AIMS so far?

Poor	Average	Good	Excellent
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 14. Given that someone provided the \$25.000 for your AIMS study, how would you rate the study in terms of value for money?

☐ Much more value for money

☐ A bit more value for money

☐ A bit lower value for money

☐ Much lower value for money

AIMS NEI Survey - Student Satisfaction

* 15. Have you or do you know anyone who has experienced some form of discrimination at AIMS?

- ☐ Yes I have experienced discrimination at AIMS myself
- ☐ Yes I know someone who experienced discrimination
- ☐ No I have not experienced and don't know anyone who has experienced any form of discrimination

16. If yes, what type of discrimination was this?

- ☐ Discrimination based on gender
- ☐ Discrimination based on race, colour, nationality or minority/tribal/ethnic group
- ☐ Discrimination based on age
- ☐ Discrimination based on religion
- ☐ Other

Please explain

AIMS NEI Survey - Student Satisfaction

General opinion

* 17. Do you feel safe when you are at AIMS?

- ☐ Not at all
- ☐ Somewhat
- ☐ Largely
- ☐ Fully

Please explain

* 18. In general, does your study at AIMS meet your expectations?

- ☐ Not at all
- ☐ Somewhat
- ☐ Largely
- ☐ Fully

Please explain

* 19. Would you recommend someone else to follow your programme at AIMS?

- ☐ Not at all
- ☐ Somewhat
- ☐ Largely
- ☐ Fully

20. Please feel free to share any comments or feedback regarding your time at AIMS. Feel free to use French or English.

AIMS NEI Survey - Student Satisfaction

Support from Student Development Officers

This page asks a few questions about the support you received from the Student Development Officers or equivalent support provided by others

* 21. Did the AIMS student development officers provide guidance during your search for (self) employment?

☐ Yes

☐ No

If yes, how did they help you?

* 22. Did anyone else at AIMS help you in your search for employment?

☐ Yes

☐ No

☐ If yes, who?

* 23. How would rate the guidance received from student development officers/office?

Poor / not useful

Average / Somehow useful

Good / very useful

N/A



* 24. Have you or do you know anyone who has experienced some form of discrimination by the Student Development Office either because of gender or because of ethnic identity? *remember this survey if completely confidential.*

- ☐ Yes, I have experienced discrimination myself
- ☐ Yes I know someone who has experienced discrimination
- ☐ No, I have not experienced and I do not know anyone who has experienced discrimination

If yes, please give an example



AIMS NEI Survey - Student Satisfaction

Thank you for answering the questions in this survey!
Your opinion and feedback is highly valued.

We wish you all the best during your studies at AIMS and in your future endeavors.

For more information about MDF Training & Consultancy check our website www.mdf.nl



AIMS NEI Alumni Satisfaction Survey

Welcome to the AIMS survey

Dear AIMS alumni,

MDF Training & Consultancy has been contracted to carry out the final evaluation of the IDRC/DFID funded programme for AIMS 2010-2017.

In this regard we would like to have your opinion about your time at AIMS. This will help us to objectively and independently provide feedback to AIMS on how they are doing and what they can improve.

This survey is anonymous and confidential. Please feel free to share your honest opinion. We will not ask for your name and your specific information will not be shared with 3rd parties.

To fill in the questionnaire, please click on the box/circle corresponding to the answer that best suits your situation or opinion.

For further inquiries about this survey, please contact the coordinator of the survey on the following contact details:

Phone Number: +254 728 372 757 or +254 737 938 133

Email: mri@mdf.nl or mdfesa@mdf.nl

It will take you about 10-15 minutes to fill out the questionnaire.

Kind regards,

The evaluation team

AIMS NEI Alumni Satisfaction Survey

Personal information

Please provide your personal information

* 1. What is your sex?

- ☐ Male
- ☐ Female

* 2. Please indicate your age category;

- ☐ Younger than 20
- ☐ 20 - 25
- ☐ 26 - 30
- ☐ 31 - 35
- ☐ 36 - 40
- ☐ Above 40 years

* 3. At which AIMS center did you study?

AIMS NEI Alumni Satisfaction Survey

Application and enrollment at AIMS

* 4. In which country did you do your undergraduate degree?

* 5. Did you already obtain a Master degree before studying at AIMS?

☐ Yes

☐ No

If yes, from which country?

* 6. Where did you live when you applied to study at AIMS?

☐ The capital city

☐ Other city / large town

☐ Village / rural area

* 7. How satisfied are you with the application process at AIMS?

☐ Very satisfied

☐ Satisfied

☐ Unsatisfied

☐ Very unsatisfied

AIMS NEI Alumni Satisfaction Survey

Feedback on your time at AIMS

These questions focus on your level of satisfaction with your study programme at AIMS.

8. Teaching and learning: How satisfied were you with the following

	Very unsatisfied	Unsatisfied	Satisfied	Very satisfied
Quality of lecturing at AIMS	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of learning facilities at AIMS (for example: books, laboratory equipment, computers)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helpfulness of the lecturers outside the classroom	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Assessment/examination process	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 9. Curriculum: Do you agree with the following statements

	Not at all	Somewhat	Largely	Fully
I gained the right analytical mathematical knowledge for what I am currently doing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I gained the right technical/practical skills for what I am currently doing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
I learned the right attitude/ behavior/ social life skills for what I am currently doing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
The AIMS curriculum fits with what I am currently doing	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 10. Institute: How satisfied are you with the following

	Very unsatisfied	Unsatisfied	Satisfied	Very satisfied
Access to learning facilities at AIMS, for example: library, laboratory equipment, computers	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of infrastructure at AIMS, like: buildings, library, toilets etc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of accommodation facilities	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Quality of other facilities, like: internet, leisure facilities etc.	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Helpfulness of AIMS staff, like: registration officer, administrative assistant, accountant etc	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Social life at AIMS (fellow students, staff, etc)	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

* 11. Overall, how would you rate the quality of the course taken at AIMS?

Poor	Average	Good	Excellent
<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

12. Given that someone provided the \$25.000 for your AIMS study, how do you rate the value for money of your study?

- ☐ Much more value for money
- ☐ A bit more value for money
- ☐ A bit lower value for money
- ☐ Much lower value for money

AIMS NEI Alumni Satisfaction Survey

Perception of discrimination

* 13. Have you or do you know anyone who has experienced some form of discrimination at AIMS?
remember this survey if completely confidential.

- ☐ Yes, I have experienced discrimination at AIMS myself
- ☐ Yes, I know someone who experienced discrimination
- ☐ No, I have not experienced and don't know anyone who has experienced any form of discrimination

14. If yes, what type of discrimination was this?

- ☐ Discrimination based on gender
- ☐ Discrimination based on race, colour, nationality or minority/tribal/ethnic group
- ☐ Discrimination based on age
- ☐ Discrimination based on religion
- ☐ Other

Please explain

AIMS NEI Alumni Satisfaction Survey

General opinion

* 15. Did you feel safe during your time at AIMS? *-remember this survey is confidential*

- ☐ Not at all
- ☐ Somewhat
- ☐ Largely
- ☐ Fully

Please explain

* 16. In general, did your study at AIMS meet your expectations?

- ☐ Not at all
- ☐ Somewhat
- ☐ Largely
- ☐ Fully

Please explain

* 17. Would you recommend someone else to follow your programme at AIMS?

- ☐ Not at all
- ☐ Somewhat
- ☐ Largely
- ☐ Fully

AIMS NEI Alumni Satisfaction Survey

Search for employment

This page asks questions about your search for employment after graduation from AIMS

* 18. Do you currently have a job?

- ☐ Yes, I work for an employer
- ☐ Yes, I am self-employed
- ☐ No, I am currently not employed
- ☐ No, I continued with another study programme

19. What activities did you engage in to search for (self) employment after graduation?

* 20. Have you or do you know anyone who has experienced some form of discrimination during the search for employment related to gender or ethnic identity? - *remember this survey is confidential*

- ☐ Yes, I have experienced discrimination myself
- ☐ Yes I know someone who has experience discrimination
- ☐ No I have not experienced and I do not know anyone who has experienced discrimination

If yes, please give an example

* 21. Did the AIMS student development officers provide guidance during your search for (self) employment?

- ☐ Yes
- ☐ No

If yes, how did they help you?

* 22. Did anyone else at AIMS help you in your search for employment?

☐ Yes

☐ No

If yes, who?

* 23. Have you or do you know anyone who has experienced some form of discrimination by the Student Development Office related to gender or ethnic identity? - *remember this survey is confidential*

☐ Yes, I have experienced discrimination myself

☐ Yes I know someone who has experienced discrimination

☐ No I have not experienced and I do not know anyone who has experience discrimination

If yes, please give an example

* 24. How would you rate the student development officers guidance?

Poor	Modest	Satisfactory	Good	N/A
				<input type="radio"/>

25. How much do you currently use the skills you learnt?

	Not much	Somewhat	A lot	Not applicable
Computing, Mathematical and Scientific Skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Research and Analytical Skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Communication Skills	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Attitudes and Values	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Innovation and Entrepreneurship	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>



AIMS NEI Alumni Satisfaction Survey

Any other comments

26. Please feel free to share any comments or feedback regarding your time at AIMS. Feel free to use French or English.



AIMS NEI Alumni Satisfaction Survey

Thank you for answering the questions in this survey!
Your opinion and feedback is highly valued.

We wish you all the best during your studies at AIMS and in your future endeavors.

For more information about MDF Training & Consultancy check our website www.mdf.nl

ANNEX H List of documents reviewed

	Primary Folder on Drop Box	Secondary Folder	Description/Details
1	Academic Resources	AIMS model and Curriculum	<ul style="list-style-type: none"> 2015-16 student application form Tutors guide (unknown date of publishing)
		AIMS Structured Masters programme in Mathematical Sciences (Unknown date of publishing)	<ul style="list-style-type: none"> Description of the structure of the course, the students, overview of curriculum, process of learning including overall expectations and intended learning outcomes of AIMS Curriculum
		AIMS teaching assistants guide	<ul style="list-style-type: none"> A description of roles and responsibilities for teaching assistants
		AIMS tutor draft profile	<ul style="list-style-type: none"> A brief description of roles and responsibilities for Tutors
		AIMS PIP Saly programme Structure	<ul style="list-style-type: none"> Presentation on AIMS Coop Pilot Programme Structure
		Assessment Tools	<ul style="list-style-type: none"> Lecturer exit questionnaire Sample course feedback form
		Best Practices for Hosting lecturers	<ul style="list-style-type: none"> General guidelines on what is to be expected on housing, office, internet, lecture rooms, interactions with researchers and other staff.
		Guidelines for Examination process for assignments/theses/dissertations	<ul style="list-style-type: none"> Overview on procedures forms Masters and Doctoral courses (exam taking, thesis, grading, and examiners).
		Database of current students	<ul style="list-style-type: none"> Database of 299 students by name gender, nationality and centre. Includes e-mail contacts
		AIMS-NEI recruitment poster ENG.pdf	<ul style="list-style-type: none"> 1 page promotional material on AIM program
2	Agreement between secretariat	MoU AIMS Canada and Cameroon	<ul style="list-style-type: none"> General contract between donor and grantee as well as terms and conditions (2 pages)
		MoU AIMS XXX and Ghana	<ul style="list-style-type: none"> Folder is empty
		MoU AIMS UK and Senegal	<ul style="list-style-type: none"> English and French Versions. Full contract between the two parties (100 pages)
		MoU AIMS UK and South Africa	<ul style="list-style-type: none"> English version of full agreement between parties (45 pages)

		Tanzania and Rwanda are missing	
3	AIMS Industry Initiatives	AIMS Curriculum and Evaluations from Michael Kennedy	<ul style="list-style-type: none"> ▪ Evaluation of Entrepreneurship and Employability Course (Cameroon). ▪ Enhanced Curriculum in Employability, Entrepreneurship, Business, and Work Search Skills for AIMS Centres
			<ul style="list-style-type: none"> ▪ Enhanced Curriculum Implementation Plan for AIMS Centres 2014-2015 Academic Year
			<ul style="list-style-type: none"> ▪ Enhanced Curriculum in Employability, Entrepreneurship, Business, and Work Search Skills: Summary and Implementation Plan
			<ul style="list-style-type: none"> ▪ Flow Chart for Continuous Delivery of Employability, Entrepreneurship, Business, and Work Search Skills Curriculum
			<ul style="list-style-type: none"> ▪ Terms of Reference Curriculum Consultant – ▪ Integrated Career Learning at the Masters Level
		Brochure for AIMS	(4 page document)
		Career development strategy	<ul style="list-style-type: none"> ▪ AIMS Career Development Strategy 2012 Final
			<ul style="list-style-type: none"> ▪ AIMS-NEI Career Development Strategy.
			<ul style="list-style-type: none"> ▪ NC - AIMS Career Development Strategy 2012 Final – Summary document
		Quarterly Reports 2013	<ul style="list-style-type: none"> i. Jul-Sep 2013 Quarterly Report AIMS Industry Initiative 02 Oct 2013. ii. Oct-Dec 2013 Quarterly Report AIMS Industry Initiative 31 Dec 2013
		2014	<ul style="list-style-type: none"> iii. Jan-Mar 2014 Quarterly Report Career Devt_24 Apr 2014 iv. Mar-Jun 2014 Quarterly Report_24 Apr 2014

			v. Jul-Sept 2014 Quarterly Report Career Development vi. Oct-Dec 2014 Quarterly Report Career Development.
		2015	i. Jan-March 2015 AIMS Industry Initiative quarterly Report ii. April-Jun 2015 AIMS Industry Initiative Quarterly Report.doc iii. July-Dec 2015 Industry Initiative Report.docx
		2016	i. Jan-Jun 2016 AIMS Industry Initiative Report. ii. Jul-Sep 2016 Industry Initiative Quarterly Report iii. Oct-Dec 2016 Industry Initiative Quarterly Report.docx
	Applicants qualified but not admitted (2003-2013)		<ul style="list-style-type: none"> Excel Database Applicants qualified but not admitted (2003-2013)
	Communication	Annual Reports - AIMS Cameroon	No content
		Annual Reports - AIMS Germany	No content
		Annual Reports - AIMS Ghana	No content
		Annual Reports - AIMS Senegal	No content
		Annual Reports - AIMS South Africa	No content
		Tanzania and Rwanda are missing	
		Annual Reports - AIMS NEI	<ul style="list-style-type: none"> AIMS NEI 2012-2013 AR WEB NEW.pdf AIMS NEI Annual Report 2014-2015 WEB NEW.pdf AIMS_Annual_Report_2011-12.pdf AIMS-Annual-Report July 2013-June 2014.pdf
		Annual Reports - AIMS UK	No content
		Communication Strategy - AIMS Brand Guidelines	Published in 2015, provides overview on standard branding standards
		Communications and Public engagement strategy	2017/18 six pages document on public engagement
		Media articles – List	List of 61 online links of articles on AIMS
		Newsletters – AIMS South Africa 2010	AIMS Newsletter Dec 2010

		2011	<ul style="list-style-type: none"> ▪ AIMS Newsletter Mar 2011 ▪ AIMS Newsletter Jun 2011 ▪ AIMS Newsletter Aug 2011 ▪ AIMS Newsletter Sep 2011 ▪ AIMS Newsletter Oct 2011 ▪ AIMS Newsletter Nov 2011 ▪ AIMS Newsletter Dec 2011
		2012	<ul style="list-style-type: none"> ▪ AIMS Newsletter Jan 2012 ▪ AIMS Newsletter Feb 2012 ▪ AIMS Newsletter Mar 2012 ▪ AIMS Newsletter Apr 2012 ▪ AIMS Newsletter May 2012 ▪ AIMS Newsletter Jun 2012 ▪ AIMS Newsletter Jul 2012 ▪ AIMS Newsletter Aug 2012 ▪ AIMS Newsletter Sep 2011 ▪ AIMS Newsletter Oct 2012 ▪ AIMS Newsletter Nov 2012 ▪ AIMS Newsletter Dec 2012
		2014	<ul style="list-style-type: none"> ▪ AIMS Newsletter Jan 2014 ▪ AIMS Newsletter Feb 2014 ▪ AIMS Newsletter Mar 2014 ▪ AIMS Newsletter Apr 2014 ▪ AIMS Newsletter May 2014 ▪ AIMS Newsletter Jun 2014 ▪ AIMS Newsletter Jul 2014 ▪ AIMS Newsletter Aug 2014 ▪ AIMS Newsletter Sep 2014 ▪ AIMS Newsletter Oct 2014 ▪ AIMS Newsletter Nov 2014 ▪ AIMS Newsletter Dec 2014
		2015	<ul style="list-style-type: none"> ▪ AIMS Newsletter Jan 2015 ▪ AIMS Newsletter Feb 2015 ▪ AIMS Newsletter Mar 2015 ▪ AIMS Newsletter Apr 2015 ▪ AIMS Newsletter May 2015 ▪ AIMS Newsletter Jun 2015

			<ul style="list-style-type: none"> ▪ AIMS Newsletter Jul 2015 ▪ AIMS Newsletter Aug 2015 ▪ AIMS Newsletter Sep 2015 ▪ AIMS Newsletter Oct 2015 ▪ AIMS Newsletter Nov 2015 ▪ AIMS Newsletter Dec 2015
		2016	<ul style="list-style-type: none"> ▪ AIMS Newsletter Feb 2016 ▪ AIMS Newsletter Mar 2016 ▪ AIMS Newsletter Apr 2016 ▪ AIMS Newsletter May 2016 ▪ AIMS Newsletter Jun 2016 ▪ AIMS Newsletter Jul 2016 ▪ AIMS Newsletter Aug 2016 ▪ AIMS Newsletter Sep 2016 ▪ AIMS Newsletter Nov 2016 ▪ AIMS Newsletter Dec 2016
		2017	AIMS Newsletter Jan 2017 AIMS Newsletter Feb 2017
		AIMS NEI 2011	AIMS Newsletter May 2011
		2013	AIMS Newsletter Jun 2013 AIMS Newsletter Oct 2013
			2014 AIMS Newsletter Feb 2014 AIMS Newsletter Oct 2014
			2015 AIMS Newsletter Mar 2015
			2016 AIMS Newsletter Sep 2016
		Other Communication Material - Cameroon	Brochure - Welcome to AIMS-Cameroon

			Crystal Gardens, Middle Farms, Limbe
		Other Communication Material - Ghana	<ul style="list-style-type: none"> Admissions Flyer
		Other Communication Material – Other Materials	<ul style="list-style-type: none"> AIMS at a glance (French brochure) AIMS graduate profile 2014 October – English AIMS Infographic Three (3) links on AIMS videos on youtube from perspectives of faculty and students.
		Other Communication Material- Secretariat	<ul style="list-style-type: none"> AIMS Advancement brochure AIMS NEI Recruitment Poster - Annual template AIMS Women in STEM Initiative brochure
		Other Communication Material - Senegal	<ul style="list-style-type: none"> E-week brochure –In French Brochure on sports wear AIMS recruitment brochure – In French AIMS partnership file – in French AIMS Members of the Network brochure – In French AIMS - Mathematics is an integral part of our daily life either directly or indirectly brochure –In French E- Week flyer november 2014 – In French Third AIMS Doctoral Edition December 2013 – In French Activity Report AIMS 2012 – 2013 Senegal – In French
		Other Communication Material – South Africa	AIMS South Africa Presentation
	IDRC – DFID PIP Report	AIMS – NEI Program Implementation Planning Meeting 1-8 February 2013	Report on the PIP meeting held (76 pages) outlining the process of the meeting, the outputs and way forward.
		Program Implementation Plan release 2.0 July 31, 2013	Second version of the PIP that was released in July 31 st 2013 following the meeting held above.
	Monitoring and Evaluation	AIMS Theory of Change	AIM Theory of Change Narrative – Word Document (2013) – 7 pages
		Baseline Study	<p>Baseline Study Report Appendices</p> <ul style="list-style-type: none"> Appendix 1: Performance Measurement Framework, Dec 2013.doc Appendix 2: AIMS Baseline FGDs & KIIs Detailed Schedule.docx Appendix 3: AIMS Alumni Employer KII Questionnaire Guide docx Appendix 4: AIMS Alumni FGD Questionnaire Guide

			<p>docx</p> <ul style="list-style-type: none"> ▪ Appendix 5: AIMS Board KII Questionnaire Guide docx ▪ Appendix 6: AIMS Current Student FGD Questionnaire Guide docx ▪ Appendix 7: AIMS Lecturers & Partner KII Questionnaire Guide docx ▪ Appendix 8: AIMS Management Compensation Ranking Form docx ▪ Appendix 9: AIMS Management FGD Questionnaire Guide docx ▪ Appendix 10: AIMS Staff Compensation Ranking Form docx ▪ Appendix 11: AIMS Staff FGD Questionnaire Guide docx ▪ Appendix 12: Scientific Community KII Questionnaire Guide docx ▪ Appendix 13: Baseline Inception Report – June 2013 docx ▪ Appendix 14: AIMS Alumni FGD Stakeholders Analysis docx ▪ Appendix 15: African Science Community Stakeholders.xlsx ▪ Appendix 16: Science Community Introductory Letter docx ▪ Appendix 17: Situational Analysis Citations ▪ Appendix 18: GERD in Africa docx ▪ Appendix 19: African R&D Personnel ▪ Appendix 20: African Scientific Research Personnel docx ▪ Appendix 21: African Patency Bodies docx ▪ Appendix 22: Potential Recognition and Awards Promoting African Development docx ▪ Appendix 23: AIMS Alumni Making Contributions to African Development Priorities docx ▪ Appendix 24: Accredited Universities AIMS Alumni Currently Attending docx ▪ Appendix 25: AIMS Applicants 2013-2014 docx ▪ Appendix 26: Summary of AIMS Graduates by Year
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			<p>and Centre docx</p> <ul style="list-style-type: none"> ▪ Appendix 27: Confirmed AIMS Publications 2009-2013 docx ▪ Appendix 28: AIMS Media References docx ▪ Appendix 29: AIMS-NEI List of Manuals and Policies docx ▪ Appendix 30: Professional Development Opportunities, 2012 ▪ Appendix 31: Problem Solving Course Outline docx ▪ Appendix 32: Academic Sources Citing the AIMS Model docx ▪ Appendix 33: BOND Principles docx ▪ Appendix 34: Situational Analysis – State of Math and Science Technology and Research and Development in Africa <p>(Appendix 34 is listed in the baseline report but not provided in the actual list of appendices)</p> <p>Baseline Study Report</p> <ul style="list-style-type: none"> ▪ Baseline Study report – Final December 2013 <p>Gender Audit Report</p> <ul style="list-style-type: none"> ▪ AIMS Gender Audit Report Findings Final 23rd October 2013
		Employer Survey	<ul style="list-style-type: none"> ▪ Employer Survey Summary, 19th December 2013
		Log Frames	<ul style="list-style-type: none"> ▪ DFID Logframes revised July 19th 2014.xlsx ▪ IDRC- DFID Logic Model July 11 2013 Final (1).docx ▪ IDRC – DFID PMF – July 11 2013 – Final.doc
		M& E framework	<ul style="list-style-type: none"> ▪ AIMS M&E Framework_final_current.docx ▪ M&E Framework and Schedule 20150512.ppt ▪ M&E Training monitoring framework.pptx ▪ Old AIMS Network Organisational M&E Framework 20131124.docx
		Mid- Term Evaluation	<ul style="list-style-type: none"> ▪ IDRC DFID Mid – Term Evaluation 2015 Final Report

		Pre and Post AIMS Assesment	<p>Databases</p> <ul style="list-style-type: none"> Post AIMS 2013 Assessment (AIMS SA Jan 13 Intake only) Apr 220114.xlsx Post AIMS assessment 2011_2_Apr220114.sav Post AIMS student assessment 2012-3_Apr220114.xlsx Pre AIMS assessment 2012-3_Apr220114.sav Pre-AIMS Assessment 2013-4_Apr222014.xls Pre-AIMS Assessment 2014 AIMS-SA Jan14 intake only_Apr222014.xls <p>Reports</p> <ul style="list-style-type: none"> Pre and Post AIMS Student Assessment 2012-2013 Summary DRAFT 20140415 Summary of Pre and Post AIMS students assessments.pdf <p>Tools</p> <ul style="list-style-type: none"> Draft SOPs for Post-AIMS Student Assessment 20140524.docx Post-AIMS Student Assessment 20140524.docx Post-AIMS survey 2012.docx Post-AIMS survey 2013.docx Post-AIMS Survey 20140530SP.docx post-aims-survey-2013 Final Questionnaire.docx Pre-AIMS Student Assessment-2015-2016.docx Pre-AIMS survey 2012.docx Pre-AIMS survey 2013.docx pre-aims-student-assessment-2013-2014 - web dump.docx
		Schedule of Performance Indicators	<ul style="list-style-type: none"> Revised AIMS-NEI SPIs 20150203.xlsx (2011-2018) <p>UK</p>
		Programme Agreement Docs	<ul style="list-style-type: none"> Grant Agreement between International Development Research Centre approving the grant top up to AIMS – NEI Foundation

			IDRC agreement Aug 2012 Amendment
			IDRC_Grant Agreement_signed 2011
		Work Plans	
		2010	<ul style="list-style-type: none"> No Content
		2011	<ul style="list-style-type: none"> No Content
		2012	<ul style="list-style-type: none"> No Content
		2013	<ul style="list-style-type: none"> Network Annual Workplan by outcome 2013-2014 20130721
		2014	<ul style="list-style-type: none"> Network Annual Workplan 2014-15
		2015	<ul style="list-style-type: none"> Workplan Template 2015-2016 - AIMS Secretariat (Consolidated)v1-1
		2016	<ul style="list-style-type: none"> AIMS 2016 2017 workplan & budget implementation guidelines.pdf AIMS Cameroon 2016-17 Budget (jan 17).xlsx AIMS Ghana 2016-17 Budget (dec 2016).xlsx AIMS Rwanda 2016-17 Budget (dec 2016).xlsx AIMS Senegal 2016-17 Budget (march 2017) AIMS South Africa 2016-17 Budget.xlsx AIMS Tanzania 2016-17 Budget (dec 2016).xlsx Chapter Canada 2016-17 Budget (March 2017).xlsx Chapter Germany 2016-17 Budget (Dec 2016).xlsx Chapter UK 2016-17 Budget (Dec 2016) .xlsx Secretariat (dec 2016) .xlsx
	Management Documents	All Strategic Plans - AIMS Senegal	<ul style="list-style-type: none"> No Content
		All Strategic Plans AIMS South Africa	<ul style="list-style-type: none"> AIMS South Africa Strategic Plan_10Oct2012.pdf
		All Strategic Plans AIMS-Ghana	<ul style="list-style-type: none"> AIMS Ghana Strategy Document draft01Nov2012.docx
		All Strategic Plans - AIMS-NEI Implementation Plan	<ul style="list-style-type: none"> AIMS-NEI Program Implementation Plan 20130630
		All Strategic Plans - Original Business Plan	<ul style="list-style-type: none"> AIMS_Smart Aid AIMS-NEI brochure 2009 AIMS-NEI Business Plan - 20101215 v1.0 AIMS-Senegal Business Plan v0p71
		All Strategic Plans - Strategies or frameworks-AIMS NEI	<ul style="list-style-type: none"> AIMS Alumni engagement strategy draft Mar2014_v1.1 AIMS Strategic Framework AIMS-NEI Career Development Strategy

			<ul style="list-style-type: none"> AIMS-NEI Communications Strategy_Mar2015 AIMS-NEI Resource Allocation Framework Final17Jun2013 AIMS-NEI Resource Mobilisation Policy Final10Nov2013
		By laws – AIMS NEI UK	<ul style="list-style-type: none"> 2011 AIMS-NEI UK Foundation Accounts - Submitted
		By laws - Canada	<ul style="list-style-type: none"> No Content
		By laws - Secretariat	<ul style="list-style-type: none"> AIMS NEI Bye-Laws
		By laws -Senegal	<ul style="list-style-type: none"> 2012-03-11-Statuts AIMS S+@n+@gal
		Governance	<ul style="list-style-type: none"> AIMS - governance structure(989733_1) (3).pdf AIMS Network Governance Background Paper 10.08.2014 Doc 12 - Resolution on Governance Structure(REVISED) Summary of Governance Structure - Legal Integration
		HR	<ul style="list-style-type: none"> AIMS NEI Network List of staff and Board07April2015.(Being updated) AIMS-NEI Employee Opinion Survey Results_Jun2014 Consolidated centre staff list(Being updated)
		Organisational Charts – AIMS Cameroon	<ul style="list-style-type: none"> AIMS Cameroon Org chart.pdf
		Organisational Charts – AIMS Ghana	<ul style="list-style-type: none"> AIMS Ghana Org chart.pdf
		Organisational Charts – AIMS SA	<ul style="list-style-type: none"> AIMS South Africa Org chart 18May2015.pdf
		Organisational Charts – AIMS Senegal	<ul style="list-style-type: none"> Final Org-Chart AIMS Senegal 2015-04-16.pdf
		Organisational Charts – AIMS General	<ul style="list-style-type: none"> AIMS Centre Organogram.pdf
		Organisational Charts – AIMS Global Secretariat	<ul style="list-style-type: none"> AIMS Global Cordination Org Chart 17 Feb2015 PDF Updated Network Coordination Organizational Chart Dec 2016.pdf
		Organisational Charts – NEF	<ul style="list-style-type: none"> The Next Einstein Forum Org Chart.docx
		Organisational Charts – UK	<ul style="list-style-type: none"> AIMS UK Chapter Organogram 11Jul2014.docx
	Network Evaluation Reports	AIMS Alumni Survey Report	No Content
		AIMS SA Evaluation Reports	Review of AIMS 2010.pdf
		AIMSSEC Evaluation Reports	<ul style="list-style-type: none"> AFH Evaluation Full Report Part II executive summary20Mar2013.doc

			<ul style="list-style-type: none"> ▪ AFH Evaluation Part 3 executive summary_13Jun2014 ▪ AIMSSEC evaluation report Part 1 executive summary.doc ▪ Final Report Part 4 Case studies executive summary.doc ▪ The RMB Fund Maths Leadership Programme Evaluation.dco
		Mid Term Evaluation Report	<ul style="list-style-type: none"> ▪ IDRC DFID Mid Term Evaluation 2015 Final Report
	Partners and Other Donors	ADEA	<ul style="list-style-type: none"> ▪ AIMS-ADEA (Association for the Development of Education in Africa)MoU Draft 2014.10.31
		African Development Bank	<ul style="list-style-type: none"> ▪ Case for Support Draft 04May2014
		African Union	<ul style="list-style-type: none"> ▪ African Union -AIMS MOU ▪ Draft AUC-AIMS MOU - Implementation Roadmap for 2015 ▪ Draft MOU AUC-AIMS_Revised 04.05.15
		FAWE	<ul style="list-style-type: none"> ▪ AIMS-NEI and FAWE MOU
		Other donor agreements - Agreements	<ul style="list-style-type: none"> ▪ Agreement - Alexander von Humboldt CM ▪ Agreement - Alexander von Humboldt SA ▪ Agreement - Alexander von Humboldt SN ▪ Agreement - Alexander von Humboldt TZ ▪ Agreement - Carnegie Corporation of NY ▪ Agreement – DAAD ▪ Agreement - Fondation Sonatel ▪ Agreement - Michigan State University ▪ Agreement - Robert Bosch Stiftung ARETE 2 ▪ Agreement - University of Chicago ▪ AIMS NRF Signed conditions of grant 2015-2017 ▪ Cooperation agreement - Senegal and Humboldt ▪ Funding agreement - Mastercard Foundation ▪ Grant agreement - BG Tanzania ▪ Grant agreement - DAAD PhD ▪ Grant agreement - Old Mutual ▪ Grant Agreement - Robert Bosch ARETE 1 ▪ Grant agreement - Robert Bosch Stiftung GAR 2013 ▪ MoA - South African National Research Foundation

			<ul style="list-style-type: none"> MoU - German Fed. Min. for Edu & Research 2015 MoU - Gouvernement of Cameroon MoU - Gouvernement of Senegal MoU - Gouvernement of Tanzania MoU - Robert Bosch Stiftung (NEF) MoU - Supporting African Mathematics Initiatives MoU - University of Regina Partnership agreement - Gov of Rwanda Sponsorship Agreement - Johnson & Johnson
		Other donor agreements – Letters of approval, awards and confirmation	<ul style="list-style-type: none"> Agreement letter - German Research Foundation Agreement letter - Higher education and Training SA Approval letter - FirstRand Foundation Approval letter - Rand Merchant Bank Fund Approval letter - South African National Research Foundation Award letter - South African National Research Foundation Award Letter - Welcome Trust TZ Confirmation letter - Blue Dawn Foundation Confirmation letter - Gov of Senegal (Add.NEFGG16) Confirmation letter - Gov of Senegal (NEFGG2016) Confirmation letter - Old Mutual Confirmation letter - Oppenheimer Memorial Trust Confirmation letter - Wellcome Trust NEF Grant letter - University of Ottawa Joint declaration of intent-BMBF+AIMS Letter of Award - SA Agency for Sci. & Tech Advancement Pledge Letter - Cambridge University Press Pledge Letter – Datatec Pledge letter - Fondation Lombard Odier Signed proposal - Government of SA (NSF, DHT)
		UNESCO	<ul style="list-style-type: none"> UNESCO Endorsement of NEF
		World Bank	<ul style="list-style-type: none"> No Content

	Policies	Cameroon	<ul style="list-style-type: none"> ▪ AIMS Cameroon procurement policy ▪ Cameroon labour code ▪ Code of conduct for AIMS Cameroon ▪ Travel Authorization Form ▪ Travel Manual
		Canada	▪ No Content
		Ghana – Information Technology	<ul style="list-style-type: none"> ▪ AIMS-GH_Acceptable_Use_Policy ▪ AIMS-GH_Anti-virus_Guidelines ▪ AIMS-GH_Internal_Lab_Security_Policy ▪ AIMS-GH_Password_Policy
		Ghana – Other Policies	<ul style="list-style-type: none"> ▪ AIMS Ghana_House Rules ▪ AIMS Whistleblowing Policy ▪ Conflict of Interest ▪ Sample statement of confidentiality
		SA – HR and Finance	▪ HR and Finance
		SA	<ul style="list-style-type: none"> ▪ AIMS Research Centre MSc Guidelines ▪ AIMS Research Centre PhD Guidelines ▪ AIMS Research Centre Post Doc Guidelines ▪ AIMS Research Centre Visiting Researchers Guidelines ▪ AIMS student agreement January 2015 ▪ HR and Finance
		Secretariat	<ul style="list-style-type: none"> ▪ AIMS Gender Equality Framework ▪ AIMS NEI Finance Manual 20130609 SIGNED-OFF ▪ AIMS NEI Procurement Manual 201130609 ▪ AIMS-NEI Resource Mobilisation Policy FINAL 20131110 ▪ AIMS-NEI Resources_Manual_June2013 ▪ AIMS-NEI Statement of Confidentiality ▪ Guidelines_Service Level Agreements, July 2013 ▪ Network Authorization Policy - March 2015
		Senegal	<ul style="list-style-type: none"> ▪ 02-R+èglement Int+èrieur AIMS S+èn+ègal ▪ MANUEL AIMS d+èfinitif
		UK	▪ No Content
	Programme Information	Aug 2012 Review and Planning Developed by Consultant-Rosemary	AIMS Network Members' Publications 2009-2015 - May 2015 (1)

	Management System		<i>Jul-Dec 2016 AIMS Network Publications</i>
		Database project description Feb 2012	
		Questionnaire needs assessments Apr 2012	
		Terms of Reference DRAFT 20120412	
	Research Resources	AIMS Network publications	
		AIMS Alumni Small Research Grant Recipients Jul-Dec 17	
		AIMS Network Academic and Research Committees	
		AIMS Network Research Strategy_draft 1.8	
		AIMS-Researchers-Specialization_20150422	
		The AIMS Research Centre Report April 2014	
	Resource Mobilisation	AIMS-NEI Match Funding Pipeline Template	
		AIMS-NEI Resource Allocation Framework Summary 20141130	
		AIMS-NEI Resource Mobilisation Policy FINAL 20131110	

Annex I: Expert Panel Summary

Overview of Methodology

The Expert Panel

The Expert Panel addressed the following evaluation objectives:

- Assess the quality and rigour of the AIMS Master's Program overall and consistency of delivery at the different Centres
- Evaluate the AIMS Master's Program in comparison to other similar programs in Africa and globally with respect to quality, program design and curriculum content, quality of teaching staff, pedagogy, learning and research infrastructure and facilities including learning and support systems.

The following criteria was used to select the panel members:

- balance of pure mathematics, applied mathematics and mathematics education
- recognized for their work in the field
- at least one with expertise specifically on women in mathematics
- balance of men and women
- diversity of age
- diversity of location
- not involved with AIMS
- 1/3 from Africa

Eighteen academics were contacted. Seven declined because of the timing and four did not respond despite at least three follow-up contacts, leaving a panel of seven experts. The panel included the following members:

Jill Adler	FRF Chair of Mathematics Education at the University of the Witwatersrand in Johannesburg South Africa, and Professor of Mathematics Education at Kings College, London (Math educator)
Jacek Banasiak	Professor and DST/NRF SARCHI Chair in Mathematical Models and Methods in Biosciences and Bioengineering. Although Professor Banasiak has had a connection with AIMS, his position as SARCHI Chair provides him with a unique perspective so he was included in the panel (Applied Mathematics in Biosciences and Bioengineering)
Betsie Jonck	Head of University of Witwatersrand Maths. Previously head of the Department of Pure and Applied Mathematics at the University of Johannesburg (Pure mathematics)
Daniel Coombs	Professor at the University of British Columbia. Received his Ph.D from the University of Arizona (Applied biomathematics)

Yanni Xiao Professor at Xi'an Jiaotong University in China (Applied Mathematics)

Gergely Rost Professor at Bolyai Institute, University of Szeged, Hungary, formerly a research fellow at University of Oxford. Recently involved in re-structuring of the Szeged math program. (Applied mathematics)

Stanca Ciupe Assistant Professor of Mathematics, Virginia Tech University Ph.D from University of Michigan, MSc from Babes-Bolyai University, Romania (Applied Mathematics)

Jane Heffernan, a member of the evaluation team who assisted with creating the panel, also contributed to the discussion.

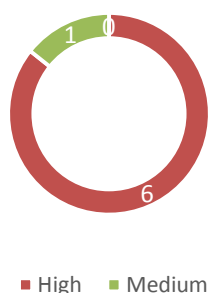
The panel was provided with a summary of information regarding AIMS and each of the campuses and a template to record their response. Two sessions were facilitated to discuss the responses to each of the areas covered. Participants forwarded their completed written responses.

Strengths and Limitations

The expert panel and comparison of universities will contribute to the other data collection sources in this evaluation, strengthening the use of multiple lines of inquiry. While the panel had substantial information based on the documents available and some preliminary reporting from other sources, in some instances the experts expressed that more information would have been helpful. The opportunity for discussion among the expert panel members did result in the members gaining more clarity as they were able to point each other to specific information that helped in forming the views presented in these findings. Although the panel was intended to be at least 10 members, only seven were available. This smaller number spread across two sessions allowed for dynamic discussion. The panel members all took the task seriously and were quite constructive with their comments.

Expert Panel Findings

Appropriateness of Five Formative areas



Comments from all of the experts were fairly consistent regarding the appropriateness of the five formative areas:

The inclusion of this range of formative areas is appropriate for the development goals of AIMS – that well rounded scientists emerge from the programme. The difficulty is that with the information provided, across centres, it is not possible to discern where and how these skills are embedded in and then developed through the particular range of courses offered in each of the individual centres. While this verges into design, there

needs to be greater clarity on the connections and coherence across core skills courses, and how these formative areas develop.

The original idea of AIMS is great and it has contributed to the change of the mathematical landscape in many African countries. The five formative areas are addressed in the AIMS curricula and have helped to produce well-rounded mathematically minded alumni who have significantly improve the academic and educational landscape in many African countries.

I was very impressed with the high variety of topics covered by the AIMS program which cover extensively the five formative areas. The inclusion of entrepreneurship in the program makes it unique.

I think formally recognizing these five areas is very good and impressive. However information regarding latter two (Attitudes and Values, and Innovation and Entrepreneurship...) is less well developed, with exception of courses in Entrepreneurship in first part of program.

Excellent.

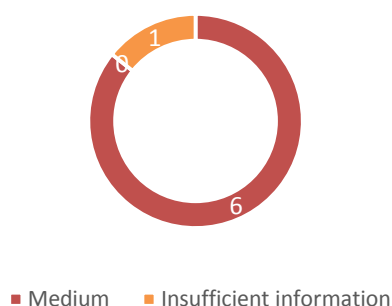
Hard and soft skills are addressed.

Especially impressed by the innovation and entrepreneurship course.

The expert who rated the program as medium indicated that more emphasis on the key mathematics related skills such as problem solving, modelling, formulation of precise questions, rigorous and logical thinking would be desirable, suggesting that the soft skills be combined into one or two formative areas. This would indicate that mathematics and soft skills are of equal importance.

Summary: The five formative areas are indeed important, and it is appropriate that AIMS has recognized these areas for growth. Training programs that include these five formative areas will produce high quality graduates. However, the evidence for the inclusion of the five formative areas in the program was not obvious. Moving forward, connections of the courses to the five formative areas should be explicitly listed, for example, in the course outline with a specific mapping of learning objectives to the five formative areas.

Appropriateness of Program Design



Although one expert felt there was insufficient information to comment, the remainder were somewhat critical of the appropriateness of program design, rating it medium. The comments were:

Great, just worried about centres with accreditation problems.

Rather grow the program slower (2023 goal rather 10-12 instead of 15 centres).

The program is appropriate as a pre-master preparatory program.

The programmes often lack coherence – sometimes there are several overlapping topic e.g. relating to quantum mechanics, or cosmology and general relativity, or differential equations and mathematical modelling. Often the order of the courses should be reversed. Possibly too much emphasis is on theoretical physics. The exit qualification level of AIMS students is in a grey area. Most centres offer an MSc degree but typically it is not considered to have sufficient research component to allow for direct admission to PhD programmes at universities. At best, e.g. for AIMS SA and SA universities, students can be admitted for MSc with the coursework component waived

Since international lecturers are there only for three weeks, the program design has strict constraints. I find it problematic that three weeks are not enough to understand and digest the material, in mathematics one needs a much longer time to really understand new concepts. Given the natural circumstances, it is difficult to establish a program design that follows the structure of one-year master programmes at established universities.

The expert who felt there was insufficient information to rate this factor did comment and also raised a number of questions:

Individual courses clearly very strong, internationally recognized. Questions regarding curriculum choices overall.

- *How are topics ordered?*
- *Are review topics course supposed to be independent modules?*
- *How do instructors know about student background knowledge?*

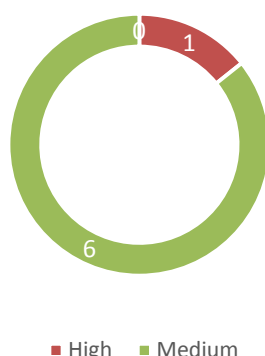
Potential problems of course ordering – e.g. in Ghana, functional analysis course comes after QM course, or in Cameroon, quantum computing precedes basic numerical and ODE courses.

Fundamental question – to me – how much is learned/retained from an intensive, 2-3 week topics review course? Probably this is OK for exposure but how effective is this in developing knowledge and skills beyond what the students already know from undergraduate education?

Is the intent to prepare students for further MSc/PhD studies and allow them to choose their area of specialization?

Summary: The programs are designed to provide experience in a variety of mathematics and theoretical physics subjects. The programs vary across the different AIMS sites, and can vary from year to year. It was recognized that the flexible design is a strength of the program (i.e., can be tailored to the background of the students and the schedules of the visiting lecturers/professors), but that it could also affect the coherence of the programs, especially when courses that are listed cannot be offered on a regular basis. It was recommended that core courses common across all AIMS sites be identified and offered early in the program. It was also recommended that the order of the courses be mapped in a logical progression of course material, while also allowing for some flexibility based on instructor availability.

Appropriateness of Curriculum Content



Overall the panel was positive regarding the appropriateness of the curriculum content. However, it was noted that different centres provided different levels of detail regarding their curriculum content. It would have been useful to have the curriculum content be presented in a consistent way across sites, with sufficient detail to assess the course level and content. Following are specific comments:

Good, but more consistent programmes for different centres are proposed

There is some variability among skills courses from location to location: linear algebra is taught in Tanzania and logic, linear algebra, probability, real analysis are taught in Senegal, real and complex analysis is taught in Cameroon. Do these reflect specific needs of different intake cohorts at the different sites? Otherwise the skills topics that are common across all AIMS sites are consistent and excellent – computing, problem solving, physical reasoning, entrepreneurship.

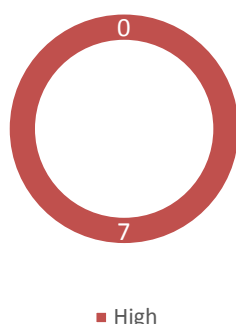
While the curriculum has courses that are more appropriate for an undergraduate curriculum; and courses more appropriate for the PhD program (e.g. algebraic geometry), the majority of courses are appropriate in preparing the students for a masters degree overseas. Prerequisites and continuity from year to year will ensure the success of the program.

The offered courses show great variability both in the covered topics and the level and depth of the material. One can find some courses with undergraduate level content, and also some highly specialized which are typically not included even in master programmes, but overall I think most courses are fine. However, the selection of the courses seem rather arbitrary and therefore incoherent. Many times the students learn completely unrelated courses, the courses don't build on each other (sometimes the preliminaries come after an advanced level course, or there are no preliminaries at all). For example, in the Cameroon program fluid dynamics was earlier than mathematical modelling, and there was no PDE course before the fluid dynamics. In the Rwanda program, there is a Lie algebra course without any preliminary, and most of the courses are totally unrelated such as Cosmology, Image Processing, Infectious Diseases, Quantum Mechanics etc. One can find such examples from other centres too.

Design of AIMS curricula across the region faces many challenges. Possibly the major problem is widely varied level of students coming to the centres. This results both from very varied quality of education across the region but also from the decision to not only accept students with degree in mathematics but also graduates with degrees in physics or engineering. Thus, while some more targeted courses are delivered at the postgraduate level, courses designed for a broader audience, such as mathematical modelling and differential equations, or numerical methods, must span undergraduate and postgraduate levels to cater for all students taking the course. Thus the exit level of such courses often is not satisfactory for an MSc degree.

Summary: There is an issue between the breadth and depth of the program. Some of the courses were viewed to have too low a level of course content and over a very broad number of areas, while others were viewed to have too high a level. It was also seen that a course can vary from year to year depending on the instructor. This could be a strength in some areas, allowing for courses to be tailored to student needs, but it was generally agreed that the basic core skills courses should be fixed in content, and across all AIMS sites. Reviewers identified a need for curriculum coordinators, a central curriculum office, and better documentation of the courses and the corresponding learning expectations.

Innovation Adaptability and Uniqueness of Curriculum



AIMS was seen by all of the experts to be innovative, adaptable and unique. All were quite excited about AIMS, and its student-centred approach. One expert noted that while innovation, adaptability and uniqueness is a strength, it could contribute to some of the issues around consistency across centres. Following are specific comments:

The concept of AIMS is certainly innovative and unique. The fact that the selection of lecturers and courses in done every year makes it possible to adapt the overall structure of the academic year to actual demands.

. . . each center may have its own characteristic, specialized curriculum

Excellent.

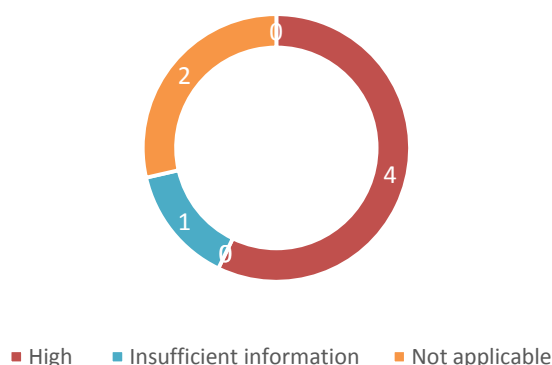
New courses as instructors turn over naturally leads to innovation and adaptation of curriculum. Is this a problem in terms of consistency and program development, as courses change over time?

The program is highly innovative, the inclusion of the entrepreneurship making it unique. It is also adaptable.

The curriculum is indeed unique and adaptable.

Summary: AIMS is highly innovative, can adapt to student needs and instructor availability, and is unique globally. This highly innovative, adaptable and unique program comes with strengths and weaknesses as described in the other discussion points.

Admission Requirements in Line with International Standards



The majority of the panel indicated that because AIMS is unique in terms of its approach and goals, concern over whether the admission requirements met international standard was irrelevant. Most indicated that the admission requirements were appropriate given the goals and context of AIMS. The expert most familiar with AIMS was able to provide more detail on the selection process:

Formally admission is open to anybody with a four year degree with a sufficient mathematical content. However, it is a highly competitive process with each centre accepting 50 candidates out of several hundreds. The admission is done on the basis of academic records with additional telephonic interviews, if possible. This is a standard procedure internationally, though possibly some form of an entrance exam, such as in certain postgraduate schools, would be beneficial

Other specific comments include:

These are appropriate – entry points from different university undergraduate/honours degrees will inevitably mean that students will come in with different levels of preparedness.

From the information I received, the admission requirements seem fine

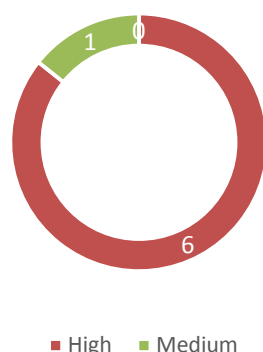
we did not have sufficient information to make that assessment, The requirements seem sufficient and the admission rate is highly competitive. However, I cannot assess it properly due to my lack of a deeper understanding of the African undergraduate system

This seems to be OK, if carefully performed. Presumably the admissions staff aim to carefully select students likely to succeed in the programme and are based in local knowledge of standards across specific African educational systems.

Not applicable, since this program is unique. There is no other program like this in the world

Summary: Admission requirements seem to be in line with international standards for other masters programs: an undergraduate degree with sufficient mathematics background. However, the mathematics background of students globally will certainly vary. There was no discussion on the admission rate of African educated students into programs outside of AIMS. It was mentioned that some reviewers liked aptitude and community service/leadership requirement, but it was not known exactly how much weight these had on admission offer for the different sites. The background of the students will vary (as with any other masters program), but there is also a complication with language of study since a language requirement is not explicitly listed. This is aided by the provision of AIMS translators and language classes.

Admission Requirements to Gender Equality, Inclusion and Ethnic Diversity



All panel members agreed that 33% of the students being women indicated that this was taken seriously in the selection process. The efforts to include students from across Africa was noted as a strength. Only one expert rated it as medium, but did not provide an explanation for that rating. Specific comments included:

Sensitivity towards gender and ethnic diversity is high.

Very impressive number of female students certainly better than Canadian comparisons in mathematically focused disciplines. Also English / French language courses will promote inclusion of varied ethnic groups into student cohort.

I was impressed with the high inclusion and graduation of the female students. The 30% rate is much higher than what we see in the mathematics departments in the US. Programs such as AIMS Women in STEM Initiative will increase women participation even further.

The centres seem to make great efforts to address these issues. Female participation is high, as well as diversity. Some sites have difficulties filling the local quota.

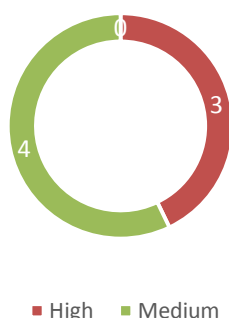
It is highly commendable that all AIMS centres directly target female mathematicians and have very good results as the percentage of female students is much higher than in a typical African university. Students from any African country can apply for admission to any centre. Thus makes population at each centre ethnically diverse though of course there is some bias towards local component for reasons that are both political (in South Africa the government explicitly requires a significant number of local students for continual funding) and social (not all centres are attractive for students from outside respective countries). The admission process also targets students with leadership and community skills though it is not clear how efficient the selection mechanisms for these skills are.

These are appropriate and there is awareness of difficulties in this in different centres. That there is an aim for 30% women encourages higher participation that might otherwise be the case.

It will be interesting to know who goes where after AIMS and what the gender and ethnic breakdown as to the different careers followed.

Summary: The reviewers were impressed with the AIMS student body diversity, and the gender ratios at each site.

Pedagogy – Appropriateness of Modes of Delivery



While experts found it challenging to comment on pedagogy, they were able to glean a sense of the modes of delivery from the more detailed course descriptions. Less than half rated the modes of delivery as high. Specific comments include:

This is really difficult to comment on in full. The flexibility of the programme extends it seems to pedagogy, in that different modes of delivery are possible. The pedagogy that is mentioned that includes small classes supported by tutors is very good and highly valued – also that the tutors are role models in the main being previous graduates. There are clearly constraints with high volume of different lecturers for short period and communication with these.

The courses are delivered in intensive three week blocks in such a way that the total teaching time is the same as in a standard one semester course. Typically there are three different courses running in parallel with student choosing two of them (in the review phase). This is quite typical structure nowadays but more due to the necessity of bringing outside specialists than due to pedagogical advantages. The disadvantages are that the students do not have much time to digest the material and do not have much practice and time to widen their knowledge before the final assessment that is done often at the same time as the last lectures of the course. It would be better to split the course into two parts but this would require either bringing the lecturers twice or much higher involvement of the tutors.

The lecturer/tutor system seems appropriate, given the natural constraints.

The instructors are highly qualified. There was variability between the pedagogical approach among the centers and among the instructors.

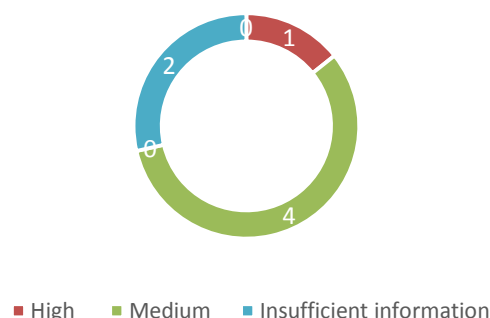
Limited information to answer this question, however, some of the course descriptions indicate thoughtful design of course topics and modes of delivery, including student engagement in class, carefully designed homework / projects

Great. Excellent experienced lecturers deliver the content.

I believe that “doing it the African way” simply boils down to that we must make sure that the students have the right background to do a topic.

Summary: The discussion was limited as the information provided on modes of delivery was limited. The discussion centered on the three week modules and the support by the AIMS tutors. It was thought that 3 weeks was too short a time to learn the material, but it was acknowledged that this was affected mainly by the availability of lecturers and visiting professors. Finally, different modes of delivery were discussed (i.e., lecture, computer lab, etc), but there was not enough information to assess the different modes in the AIMS context.

Appropriateness of Assessing Student Achievement



While two experts felt there was insufficient information to rate the appropriateness of the way student achievement was assessed, most felt it was somewhat appropriate. A primary concern was use of a pass/fail system. The methods for assessing were generally seen as appropriate. The expert with greater familiarity with AIMS commented:

The original idea of AIMS was to create a uncompetitive, collegial and student friendly environment, so it was decided not to use marks and assess the work on the basis of assignments. For the final assignment for each course, students work in groups and the group presents it at the final seminar. Currently, partly due to external requirements for final grades and partly due to increasing differences in students' levels of preparation, there are three levels of pass mark and also some centres have introduced regular short quizzes. While the idea of assignments is very good, it is not always what the potential employers/graduate schools require. Also, the available time is not always sufficient to assess individual students' contribution to the final assignment.

Students write a mini-dissertation which is a small research project. The dissertation is externally examined and also students have individual oral presentations that are also graded. This is in line with international practices for MSc degree.

Other specific comments were:

assessing student achievement may consider their assignments, exam or quiz, and/or ability that they apply what they have learned to solve some practical problem

Not sure how much information is retained at the end of the programme. (No rigorous exams; some subjects is only pass/fail.)

Not much information provided to allow me to answer this question. Course assessments should be designed and documented as a point of strength for moving on to a research based program.

Mostly appropriate. I would suggest moving the exams before the research period. I felt that the grading criteria was a bit unclear. Also, using pass/fail instead of a letter grade can make it hard for other institutions to assess the quality of the instruction.

A more detailed assessment that produces an informative transcript of records may be desirable, to facilitate future employment or admittance into PhD programs.

The question arises because of the pass-fail and no marks which fits with the ethos of AIMS but might impact on students' future career steps. More detailed transcripts could be more useful in some situations. It will be important also to know more about how the formative areas of the core programme are assessed.

Summary: More information is needed in this area. What are the modes of assessment used for each course, and for each site? How is grading done? What feedback do the students get at the end of a course and at the end of the program? The reviewers liked the research requirement and mini-dissertation, but again, it was not clear what feedback the students get. Finally, there was some discussion surrounding grade reports and how these might support the students when they apply to for further graduate study at other institutions. Explicit grades would be very important for the students in this context.

Qualifications of Teaching Staff



The qualifications of teaching staff was seen a high by all of the experts. Following are specific comments:

Many lecturers are from top universities internationally, offering students top quality teaching staff.

Mostly very high. The lecturers are selected on the basis on their research, teaching and supervision record. Some local lecturers have weaker research records but all have PhDs and long practice with teaching in tertiary environment.

The pool of international lecturers is really impressive. From the information I received, the work of tutors received mostly positive comments as well (with a few exceptions, such as report of some poorly performing tutors in Senegal and the lack of local tutors in Tanzania).

The instructors are as invested as in any other place. I was impressed with the participation in the program of tutors with knowledge of the program (alumni).

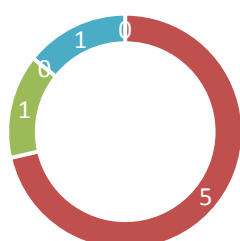
Strong local and international faculty. No problems at all here. I do know of some of the faculty and they have top notch reputations. My personal interactions with the tutors at AIMS South Africa were very good.

Excellent.

Summary: Many great local and international lecturers/professors (also from some top notch universities). The tutors provide good support. There was some discussion of providing some formal training in

mathematics education to the tutors. This would not only benefit the tutors, but also benefit the students.

Learning Facilities



Quality of Student Supports and Learning Facilities

Overall the learning facilities and student supports were seen as high. There was some concern expressed about not being able to have better information regarding library facilities and other resources. All felt that the community design of the program provided strong supports to the students. Specific comments included:

Not much information provided to allow me to answer this question. Tutor support and interactions with faculty seem to be positive. More information (formal student evaluations) would be helpful to allow us to assess this point. Physical infrastructure sounds good. More information (formal student evaluations over whole cohort of students) would be helpful to allow us to assess this point.

The presence of tutors. Lectures in both English and French. The campus facilities are great. The facilities are residential centres with access to computer and library and close interactions between lecturers and students, who live together. Tutors, usually AIMS alumni, are available to provide help with both the language and the material.

I had limited information on this aspect. It appears that the centres can provide a supportive atmosphere to the students. . It appears that the basic facilities (lecture halls, seminar rooms) are given, while libraries and access to international databases need to be improved.

A unique feature of AIMS is that students and lecturers stay on the same premises allowing for really 24/7 learning environment. Lecturers are supported by tutors who attend lectures. However, at some centres (SA, Senegal) some tutors have been reported to perform badly and this not always has been picked up by the system). At AIMS SA (and hopefully soon at other centres) there is a large and active Research Centre allowing the students to be involved in real research activities. Similar role is played by the Research Chairs funded by Germany (currently in Senegal, Ghana, SA and Cameroon) and various junior research Chairs that, unfortunately, are mostly at AIMS SA.

There are adequate computer laboratories at each centre. Libraries, even at AIMS SA, are relatively small with often incoherent collection of books (coming frequently from donations). I do not think AIMS, as the network, has negotiated access to electronic databases without which research work is difficult. In each centre, apart from the main lecture hall, there are areas equipped with blackboards, where the students can work and discuss problem on the 24/7 basis.

Seems like the tutoring system provides good support, as well as modes of interaction across students. Library and other electronic access – these are limitations in the funding model – but if students had access to other libraries, that would be good (this is probably the case for South African students given the links to the various universities). Facilities (though this is not uniform across contexts) are conducive to learning, small rooms for students to interact in small groups outside of formal meetings.

Summary: The students are provided with a community and learning network. They have space to interact with peers, tutors and instructors, have computing facilities, and libraries, and have access to many of these supports 24/7. The reviewers recognized that the student support and learning facilities vary across the AIMS centres, but that they all seem conducive to learning. There was some discussion that library resources could be improved, and it was recognized that this may need dedicated funding and negotiated access to electronic resources.

Differences Among the Centres

The primary differences among the sites that were noted by the panel:

- The length of time that sites have been operating, which may contribute to some of the other differences
- Some centres are accredited and some not. This was considered to be one of the primary concerns, particularly if students want to go on for further studies. One panellist noted that his university, while it sees the potential of AIMS students, their studies were not sufficient to accept them directly into a Ph.D. program. They are accepted into the university, but required to complete a masters degree there prior to entering the Ph.D. program.
- The level of partnership with local universities and research sites seems to differ greatly. South Africa, which is the oldest centre appears to have the most integration.
- The program design varies somewhat across centres, particularly with the skills courses

Summary: While the programs are similar in trying to achieve success under the five formative areas and in adaptability, the sites are very different in almost all aspects discussed (curriculum, student body, pedagogy, assessments, student support, facilities, etc), as well as the quality of management of each site, and the length of time that each site has existed. The key difference is that not all sites are accredited.

The key strengths centre on (i) the adaptability of the programs to the students and the resources/instructors available to each site; (ii) the breadth of the programs; (iii) the research experiences and activities at the sites; (iv) international involvement; (v) the facilitation of learning, community and leadership.

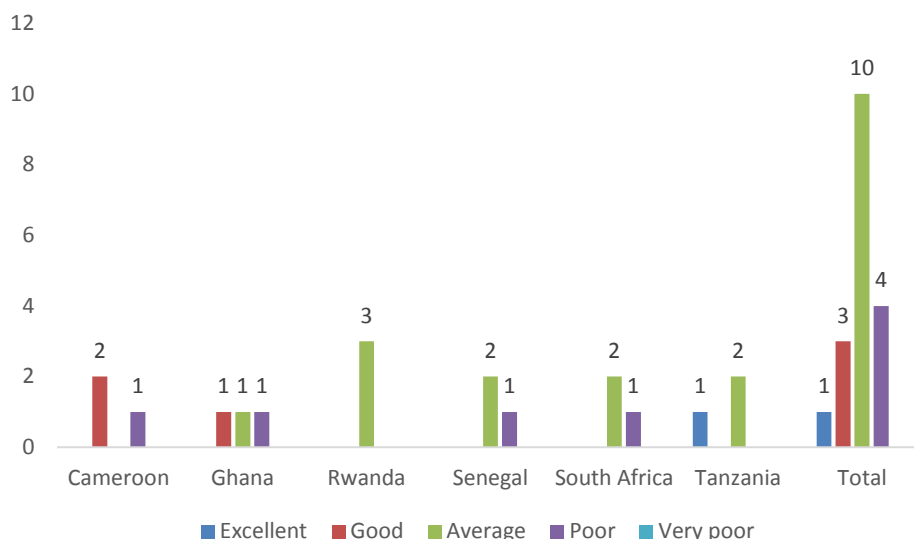
Ways the Program Could be Improved

While all experts agreed that the program was both unique and important, there were a number of suggestions for improvements:

- More connections to local and international universities, and research centres
- Get accreditation for all centres. Affiliation with an accredited university, such as with the South African centre, is one way achieve accreditation.
- More documentation is needed on the website for each centre. For example, on: what courses are offered each year and how they vary from year to year, how the student body varies from year to year across each site, the weight of the admission requirements for each site, the grade reporting and transcripts provided to the students, the facilities at each site (library, computer labs, classrooms, small working rooms, etc), the outcomes of the language courses, and the backgrounds of the lecturers and tutors from year to year.
- The program needs to work to be more visible globally. Most institutions know about AIMS SA, but the other sites are not well known. More visibility, which will certainly come with accreditation, will aid the students.
- All centres need to be supported in a similar manner.

- Streamlining the programs so that they provides a consistent set of basic skills across all campuses (core courses), while also allowing for each site to differ somewhat in the breadth and depth that the students are exposed to in the other courses.
- Course selection should be made much more carefully with strategic thinking, to ensure that each centre in each year offers a coherent program. One possibility is to find a central organizing theme for the given site and year and select the courses accordingly. Such themes can be mathematical biology, mathematical physics, mathematical finance, optimization, algebra and geometry, discrete mathematics, PDEs etc., just pick one and design the year's program accordingly. Attention must be given that the courses build on each other or complement one another. Course selection should be based on each student' specific learning goals, as established at the beginning of the program.
- Perhaps reduce the number of courses given each year and move the exams so they are prior to the research, allowing research focus to be determined based on the particular student's areas of strength.
- For those centres without strong local partnerships, follow the lead of South Africa to develop such partnerships
- Assess the level of mathematics-readiness of students and provide pre-course classes to bring those students up to a higher level
- Library facilities and access to on-line databases should be improved. Possibly NEI could negotiate such access with major publishing houses.
- Increased academic leadership so that the Academic Director at each centre has more support in thinking through the program design and can ensure coherence of courses, particularly base-line.
- A stable funding source is critical to support the implementation of these suggestions.
- It is very impressive to see so many AIMS graduates moving on to further education and positions in government and industry. Perhaps some statistics could be presented on the AIMS website for publicity purposes. These outputs of the program should also be calibrated against the program's goals to determine effectiveness of the program.

Annex J: Student Research Paper Review



Summary of overall quality of research papers

Reviewer notes: Please note that the reviewer is an applied mathematician in mathematical biology. The ability to assess mathematical biology applied math projects is high. The ability to assess anything more related to statistics or physics is low. In the review process, the reviewer has tried to read literature pertaining to each of the 18 projects, but given the time limit on the needed Research Review, these were not in depth. If possible, the review process could be expanded to include more external reviewers.

A further note: Anything assessed as excellent would be publishable. Good to excellent is similar to a Masters project calibre in difficulty level. Average to Good would be similar to Masters survey paper, having direct application of knowledge from classes or readings, but not of good to excellent calibre. Poor to average is similar to project from a simple Masters application, or a 4th year student project. Very poor to poor is similar to a subpar 4th year project. Please note that the reviews below are an opinion of the reviewer, and may include errors where area of expertise is not related.

In many project, spelling and grammar issues were seen. These are not indicated on each individual review.

Paper # __1__

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis		x					Well written, direct, some grammar issues
Appropriateness of research methods			x				Fine, but method is not innovative, 4 th year statistics and

							some grad level
Application of research methods			x				Fine, though, the calculations are not shown.
Clarity of presentation of findings			x	X			Fine, but could have delved further into the problem
Appropriate linkages of findings to conclusions			X	X			Fine, but could have determined avenues for future research
Overall quality of the research paper			x	X			Comparable to 4 th year project or survey paper***

Paper # __2__

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis			X				Clear that we are looking at queuing theory, which can be applied to a call centre, but I would like to see what the real world problem is. Is there something that can be optimized?
Appropriateness of research methods			X	X			Direct application of queuing theory, 4 th year mathematical modelling material
Application of research methods			X	X			Fine, but not innovative. Material is direct from text books in queuing theory. A better assessment would come from a real world problem, using queueing theory to inform a call centre, and optimization of customer service.

Clarity of presentation of findings			X	X			Fine
Appropriate linkages of findings to conclusions			X	X			Fine, but could expand to a real world question
Overall quality of the research paper			X	X			Fine

Paper # _3_

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis		x					Good, clear question, real world problem
Appropriateness of research methods	X	X					Great, grad level mathematics in disease modelling. Chose a good model structure, and appropriate tools for analysis
Application of research methods	x	X					Looks good, like the sensitivity analysis
Clarity of presentation of findings		X					Clearly written
Appropriate linkages of findings to conclusions	x	X					Good, has discussed areas for future work, would have liked to see some discussion of cost of interventions
Overall quality of the research paper		x					

Paper # _4_

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis				X			This is a critique of an already published study on Onchocerciasis. The project does not have a problem or hypothesis.
Appropriateness of research methods				X			The author provides steps that the original paper could have included, but does not conduct the work themselves, just writes new model and does not conduct analysis.
Application of research methods				X		X	No research method presented
Clarity of presentation of findings				X		X	No research findings from this study
Appropriate linkages of findings to conclusions				X		x	No research findings to conclude. The author does identify proper extensions for the model
Overall quality of the research paper				X			Not really a research paper, the introduction and lit review are well done. Would like to see a model developed and analyzed by the student.

Paper # __5__

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis		X					Good, lots of information, good

							motivation
Appropriateness of research methods		X	X				Good, but mix of 4 th year and grad level math/stats
Application of research methods		x	X				Looks fine
Clarity of presentation of findings		X					Good, but not totally clear on the differences of the results between methods
Appropriate linkages of findings to conclusions		x	X				Fine, but would like to see avenues for future work, development of mathematical/statistical methods
Overall quality of the research paper		x	X				

Paper # __6__

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis			X				Not totally clear as to what the point is of doing this study. Seems to be an exploration.
Appropriateness of research methods			X	X			Fine, 4 th year and grad level methods
Application of research methods		x	X				Though, many of the parameters are estimated, when there is much information in the literature on HIV, TB, etc
Clarity of presentation of findings			X				Okay, but not totally clear as to the point for each figure. Need to make sure that each figure shows something specific that pertains to the

							disease dynamics that are measureable, and can be modified using drug therapies
Appropriate linkages of findings to conclusions			X				Fine, but would like to see future work to specific applications, and some avenues for future analysis
Overall quality of the research paper			X				

Paper # __7__

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis			x				The main goal is outlined, but it is not translated to a cloud. i.e., how does one large droplet affect the general problem as discussed in the introduction?
Appropriateness of research methods		x	X				Fine, models are related to the question at hand level of difficulty is high
Application of research methods		x	X				Fine, straightforward from PDE material, but level of difficulty is high
Clarity of presentation of findings			x	X			Fine, but need more description for the figures
Appropriate linkages of findings to conclusions			X				Some discussion of results back to clouds
Overall quality of the research paper		x	x				Lacked the in some details that allow the reader to understand direct application to

							clouds.
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Paper # __8__

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis			X				Fine, but the goal was stated to do analysis, not to also learn about the area of application
Appropriateness of research methods		X	x				Where do the parameter values come from – just illustrative? Or from the literature?
Application of research methods		x	X				
Clarity of presentation of findings				X			Lots of figures, but no discussion as to what they are showing and why that is important.
Appropriate linkages of findings to conclusions			x				Fine, but no areas for future work. Needs to discuss if it is realistic that the parameters identified can be modified using public health control strategies or medical interventions.
Overall quality of the research paper			x				

Paper # __9__

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis				x			No specific section for this. Understand the question, but

							not really why we are interested in this
Appropriateness of research methods			x				Seems fine, not sure of the novelty however
Application of research methods			x				Seems fine
Clarity of presentation of findings				x			Need more description. Spelling mistakes.
Appropriate linkages of findings to conclusions				X			Okay, but can this be made simple for HEP models?
Overall quality of the research paper				X			

Paper # __10__

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis			x				Apply numerical method on an example disease model
Appropriateness of research methods		x	x				Develop disease model, apply numerical method.
Application of research methods		x	x				Seems fine, agree with other numerical results.
Clarity of presentation of findings			x	x			There are results for the numerical method, and some results for the disease model. There needs to be some more description and justification for the structure of the disease model.
Appropriate linkages of findings to conclusions				x			Conclusion is short, mainly focusses on the numerical method application. Mentions disease model a bit. Need

							more description and discussion of both items.
Overall quality of the research paper			x	x			

Paper # __11__

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis		x	X				Apply small world network to zika model, with appropriate justification for network models or models considering special aspects. Does not justify why a small world network would be good for a vector-borne disease.
Appropriateness of research methods		x	x				Imbed a disease model onto the lattice, but it is not clear what the parameters p1, p2, pertain to, or how these are related to the small world network until later in the document. 5 parameter sets are chosen with p1 and p2 varying, but there is no justification for the choices in terms of the actual biology of zika.
Application of research methods		X	x				
Clarity of presentation of findings			x				More information needs to be given as to why the parameters were chosen. A comparison to the regular ode model would also be good.

Appropriate linkages of findings to conclusions			x	X			Conclusion that the small world phenomenon could have contributed to the Zika spread, but there is no real discussion of this and how they are connected. Areas for future research are outlined.
Overall quality of the research paper			x				

Paper # _12_

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis			x	x			Objectives include describing methods, and analyzing data. They do not relate to learning something from the clinical trials. Hypothesis?
Appropriateness of research methods			x	X			Seem fine. Direct application to data. Stats knowledge needed to apply methods is not high. Why not also use hazard ratios? What information would this provide?
Application of research methods			X	X			Application of methods is fine. Would like to see more complex methods or case studies.
Clarity of presentation of findings			x	X			Findings are a list of calculated values, with some interpretation. But, since there is no research question, it is difficult to determine what the findings are.
Appropriate linkages of findings to			x	x			Some mention of outcome of

conclusions							calculations to aspirin and smokers. But, no depth to the discussion, and no connection to hazard ratio as mentioned in previous papers.
Overall quality of the research paper			x	X			Some graphs are taken from references. Student should generate their own graphs. Some grammar issues and spelling mistakes.

Paper # __13__

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis		X					
Appropriateness of research methods		X	X				The methods that are used are being assessed. The drug information is contrived. Would like to see a real world example.
Application of research methods		X	x				It seems that the methods were applied accurately
Clarity of presentation of findings		X	x				It is not totally clear how this work aids realistic drug regimens.
Appropriate linkages of findings to conclusions		X					Statistical conclusions, but would like to see application to real world examples.
Overall quality of the research paper		x					Some grammar and spelling issues

Paper # __14__

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis			X				

Appropriateness of research methods			X				Why can these estimates in 3.4 be used? There are no references to justify the procedures.
Application of research methods			X				Seems fine. Calculations seem fine. But I don't know what good results and better performance really mean. Please justify.
Clarity of presentation of findings			X	X			Not sure how some conclusions are drawn, need more information and description.
Appropriate linkages of findings to conclusions			X	x			If Penman-Monteith isn't consistent, is it really better? What does better mean?
Overall quality of the research paper			x	X			More references are needed to original papers, and other papers that use these methods.

Paper # _15_

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis		X					Wants to model effects of malnutrition, good literature review
Appropriateness of research methods				x			I do not understand how this model can be used to study the effects of malnutrition in a population. There is no link of nutrition to lambda, and no link from adolescence to adults, to birth of children.
Application of research methods			x				Analysis seems fine

Clarity of presentation of findings				x			More description is needed to tell the reader what each figure is trying to show, and how the figure is related to the research question, and if it is realistic. How can there be a population of only pregnant females?
Appropriate linkages of findings to conclusions					X		Conclusions do not point out errors in model, or areas for improvement
Overall quality of the research paper				x	X		Spelling and grammar issues

Paper # _16_

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis	X	X					
Appropriateness of research methods		X					
Application of research methods		X					
Clarity of presentation of findings	X	x					
Appropriate linkages of findings to conclusions		X	x				
Overall quality of the research paper		x					Could add more discussion to the conclusion.

Paper # _17_

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
							This paper was similar to paper 11, but is better written, and has better justification.

Clarity of problem/hypothesis		X					
Appropriateness of research methods		X					
Application of research methods		X					
Clarity of presentation of findings		X					
Appropriate linkages of findings to conclusions		X					
Overall quality of the research paper		x					

Paper # _18_

Criteria	Assessment						Notes
	Excellent	Good	Average	Poor	Very Poor	Insufficient Information	
Clarity of problem/hypothesis		x					Objectives are listed as steps to solving the problem. There should be a research question here instead.
Appropriateness of research methods			x	x			The model is formulated using fractions (section 3.1), but is derived using numbers of individuals (section 3.2). This is an error. Model is taken from the literature, but here is not description as to why this model was chosen.
Application of research methods			X	x			Where are the parameters values from? Analysis is fine, but it is not explained clearly as to why this is being done.
Clarity of presentation of findings				x			Need to add text describing the purpose of each

				x			figure.
Appropriate linkages of findings to conclusions				x			Just reiterate the find, but did not translate this to public health programs.
Overall quality of the research paper				x			

Annex K: Comparison to other University programs

	AIMS	University of California (Berkeley), USA	University of British Columbia, Canada	Oxford University, UK	University of Toronto, Canada	University of Pretoria, South-Africa	IMSP Benin	ICTP Trieste	Indian Institute of Technology Delhi, Madras, Kharagpur, Roorkee, Roorkee, Jodhpur, Guwahati
Costs	In the first years of operation, the cost per student was as high as US\$396,000, but was US\$64,210.24 in 2015/16 as the number of students increased Source: Sustainable Average Cost of AIMS Master’s Program in Mathematical Sciences	US\$17,086 for tuition only	US\$3,720 tuition	US\$25,705 for living and tuitions	US\$10,745 tuition	US\$1,511	US\$531,384	No tuition fees Sponsored by UNESCO & IAEA Fellowship program	These are autonomous public institutes governed by the Institutes of Technology act
Accreditation	Two of the six centres without accreditation	Yes	Yes	Yes	Yes	Yes	Centre of Excellence by UMA Affiliated with University of Abomey-Calavi	Yes	Yes
Admission requirements	4-year university degree in mathematics or related science Demonstrate strong aptitude in mathematics, leadership and community services	Bachelor’s degree in mathematics or a related field. Exceptions can be made at the discretion of the departmental Committee on Graduate Admissions and the Graduate Division. The student should have completed a minimum of 4 courses, each with a content equivalent to a one-semester upper-division mathematics course at Berkeley, distributed as follows:	Four year bachelor’s degree 76% or 3.3/4.0 grade point average English proficiency Completion of undergraduate courses real analysis, complex analysis, abstract algebra and at least one	Has six different masters degrees mathematics Proven academic ability First-class or strong upper second class undergraduate degree 3.4 out of 4.00 grade point average	An appropriate bachelor’s degree with at least a mid-B average from a recognized university Proficiency in English	B.Sc. Hons with at least 60% for all modules at an honours level	Bachelor degree Letter of motivation, CV, transcripts from last three years, two letters of recommendation	No equivalent Masters program Have a postgraduate diploma programe Open to all graduates from UN member countries –	Undergraduate degree and Joint Admission Test to M.Sc

		<p>one in algebra, one in analysis, and one from each of 2 different fields from the following list: geometry, foundations, numerical analysis, computer science, statistics, one or 2 fields of applied mathematics. These courses must have a fair amount of mathematical sophistication. Students who are admitted without having the prescribed 4 courses must make up the entrance deficiency at the beginning of their studies here, and these make-up courses will not be counted toward the MA degree.</p> <p>GRE exams</p> <p>International students must provide evidence of English proficiency</p>	<p>mathematic topic in another area</p>	<p>Proficiency in English</p> <p>Recommendations to admit are based on the judgment of at least two members of the academic staff with relevant experience and expertise</p>				<p>Degree equivalent to M.Sc or exceptionally good B.Sc</p> <p>English fluency</p> <p>Should have knowledge in basic abstract algebra, elements of real and complex analysis topology</p> <p>10 candidates selected per year</p>	
Length of Program	<p>10 months</p> <p>Cameroon coop program is 17 months</p>	Flexibility – approximately 2 years	2 years	<p>Approach depends on students’ ability to work independently</p> <p>Length ranges from a minimum of 9 months</p>	<p>1 year M.Sc</p> <p>2 year M.Sc</p>	<p>2 years</p> <p>Must be completed within three years</p>	Two semesters	<p>1 year</p> <p>Masters in High Performance Computing</p>	2 years
Assessing student achievement	<p>Tests/quizzes during courses</p> <p>Research paper with oral exams</p> <p>Some courses are pass/ fail</p>	Use a 4.00 system of grading	Marks are given on assignments and exams	<p>Invigilated written exams</p> <p>Course work marked on pass/fail basis</p> <p>Take home exams</p> <p>Mini-projects due shortly after end of lecture course</p>	Examinations			<p>Grades are based on a combination of problem sets and course final exams</p>	Exams
Graduation requirements	<p>Successful completion of course requirements</p> <p>Research paper</p>	<p>2 semester academic residence</p> <p>Plan I: 20 semester units of upper-division and graduate courses and a thesis</p> <p>Plan II: 24 semester units of upper-division and graduate courses and a</p>	<p>Earn at least 30 credits from math courses at a 400 level or higher</p> <p>Major essay</p> <p>Thesis with defence</p>	<p>Successful completion of course requirements</p> <p>Dissertation</p>	<p>Completion of 6 half courses</p> <p>Completion of Supervised Research</p> <p>Or</p>	<p>60 credits</p> <p>Dissertation</p>	<p>First semester is core curriculum of</p> <p>Introduction to numerical methods -</p> <p>Introduction to the processing of scientific texts</p>	<p>Those specializing in mathematics must complete six courses: algebra, analysis, algebraic geometry, differential geometry, topology</p>	75 credits – 57 from core program, 12 from program electives, 6 from other courses

		comprehensive final examination		Have at least a 3.00 average		Completion of 4 half courses plus a thesis	(LATEX et al.), Language (Algebra - Geometry - Algebra, Topology and Riemannian and pseudo-Riemannian geometry) Functional analysis and introduction to EDPs TRANSVERSE TEACHING UNITS English) Second semester are choices from optional courses	and dynamic systems	
Qualification of lecturers	Ph.D. – often well recognized lecturers Mostly sessional	Ph.D Most lecturers are permanent staff	Ph.D Most lecturers are permanent staff	Ph.D. Most lecturers are permanent staff		Ph.D. Most lecturers are permanent staff	Ph.D Permanent plus external from African, European and American universities	Ph.D	Ph.D

Annex L: Video Observations

OBSERVATIONS

It was unfortunately not possible to observe the pedagogical approach of the International Teacher Lecturers because of the schedule of their programme (students were in research phase) and consultants' constrained schedule for the evaluation.

Instead, videos for lecturers recorded at the South African Centre in the first decade of the century were observed for four randomly selected slices of their delivery. Clearly, these cannot be taken as a proxy of what has happened in the last six years; instead they are taken as representative of how international teaching lecturers might behave. The first and third lecturers were observed for the whole or nearly the whole hour, whilst the second and fourth lecturers were observed for half hour sessions.

Who is talking?

For the first and third lecturers, out of 27 minutes 18 minutes involved the teacher only talking. The second lecturer spends approximately the same proportion (10 minutes out of 14) on only talking; the fourth lecturer is entirely different, pending only 5 minutes talking only and engaging with students the other ten minutes (Table 1).

But even the one third of the time that the first three lecturers spend interacting with students is probably different than what they would expect with African lecturers. So International Teaching Lecturers are at least giving them a different message in this sense.

What is the teacher doing?

The breakdown of what the teachers are doing with their time is shown in Table 2: the first lecturer is spending about half the time talking to the Blackboard or Powerpoint; the second and third about a third of the time and fourth less than a quarter of the time. Instead the second, third and fourth lecturers spend more time facing, asking questions and responding to the students.

Table 1: WHO IS TALKING?

Code4Lecturer	Teacher Only	Teacher + Single Student	Teacher + Several Students	Teacher + Single + Several Students	Teacher + Single + Most	Single + Several	Teacher + Most	Teacher + Several + Most	Single + Several + Most	Single + Most
1.00 Mean	17.8000	3.6000	2.4000	2.4000	.0000	.0000	.0000	.6000	.0000	.0000
N	5	5	5	5	5	5	5	5	5	5
Std. Deviation	5.21536	1.81659	2.19089	1.81659	.00000	.00000	.00000	.89443	.00000	.00000
2.00 Mean	10.1667	1.6667	1.3333	.1667	.0000	.0000	.0000	.1667	.0000	.0000

N	6	6	6	6	6	6	6	6	6	6
Std. Deviation	3.12517	2.06559	1.50555	.40825	.00000	.00000	.00000	.40825	.00000	.00000
3.00 Mean	17.6667	4.3333	2.6667	1.6667	.0000	.0000	.0000	.6667	.0000	.0000
N	3	3	3	3	3	3	3	3	3	3
Std. Deviation	6.65833	3.51188	1.52753	.57735	.00000	.00000	.00000	1.15470	.00000	.00000
4.00 Mean	4.6667	4.8333	2.3333	2.1667	.0000	.0000	.0000	.0000	.0000	.0000
N	6	6	6	6	6	6	6	6	6	6
Std. Deviation	2.65832	.75277	2.73252	1.47196	.00000	.00000	.00000	.00000	.00000	.00000
Total Mean	11.5500	3.5000	2.1000	1.5500	.0000	.0000	.0000	.3000	.0000	.0000
N	20	20	20	20	20	20	20	20	20	20
Std. Deviation	6.82468	2.23607	2.02355	1.50350	.00000	.00000	.00000	.65695	.00000	.00000

Table 2: WHAT IS TEACHER DOING?

Code4Lecturer	Talking to Backboard or PPT only	Talking to Backboard or PPT and Facing Students	Facing students and asking questions	Talking to Blackboard or PPT, facing students, asking questions and responding	Talking to Blackboard or PPT and asking questions	Talking to Blackboard or PPT, facing student s and asking questro ns	Talking to Blackboard or PPT, facing student and respond ing to Questio ns	Talking to BBD or ppt, Facing students and Respond ing	Facing and Respond ing to Students	Facing students and giving Assignm ents	Respond ing
1.0 Mean	10.6000	4.0000	2.2000	.4000	.8000	1.8000	.0000	.0000	.0000	.0000	.0000
N	5	5	5	5	5	5	5	5	5	5	5
Std. Deviation	4.92950	2.12132	1.92354	.54772	.83666	1.64317	.00000	.00000	.00000	.00000	.00000
2.0 Mean	5.6667	4.5000	.8333	.1667	.0000	1.1667	.0000	.0000	.0000	.0000	.0000
N	6	6	6	6	6	6	6	6	6	6	6
Std. Deviation	3.07679	2.16795	.75277	.40825	.00000	1.16905	.00000	.00000	.00000	.00000	.00000
3.0 Mean	6.0000	7.0000	2.6667	.0000	.3333	1.0000	.0000	.0000	.0000	.0000	.0000
N	3	3	3	3	3	3	3	3	3	3	3
Std. Deviation	3.60555	2.00000	3.05505	.00000	.57735	1.00000	.00000	.00000	.00000	.00000	.00000
4.0 Mean	1.1667	2.8333	1.5000	.0000	.1667	3.1667	.0000	.0000	.0000	.0000	.0000
N	6	6	6	6	6	6	6	6	6	6	6
Std. Deviation	.98319	2.22860	2.73861	.00000	.40825	2.22860	.00000	.00000	.00000	.00000	.00000
Total Mean	5.6000	4.2500	1.6500	.1500	.3000	1.9000	.0000	.0000	.0000	.0000	.0000

N	20	20	20	20	20	20	20	20	20	20	20	20
Std.												
Deviati	4.6949	2.4034	2.0844						.000			
on	0	0	0	.36635	.57124	1.77408	.00000	.00000	.00000	.00000	.00000	.00000

ANNEX M: Fund Disbursements

Funds Disbursement (DFID and IDRC) – Inception – December 2016

Inception - to December , 2016 (Revised after Adjustments)				
Category	Sub Categories	Budgeted	Actuals	Variance
Training and Research	Bursaries	5,289,016.00	5,514,196.00	(225,180.00)
	Taught Masters	3,469,011.00	3,602,306.00	(133,295.00)
	Research Centre	1,183,401.00	1,196,806.00	(13,405.00)
	Career Development and Post AIMS Bursaries	723,320.00	736,858.00	(13,538.00)
	Training and Research Oversight	84,932.00	84,932.00	-
	Curriculum Management	27,694.00	28,305.00	(611.00)
	HR Allocation	2,746,831.00	3,033,108.00	(286,277.00)
	Utilities & Facilities allocation	984,210.00	1,310,173.00	(325,963.00)
	Sub total	14,508,415.00	15,506,684.00	(998,269.00)
Organisational Effectiveness	Planning	1,117,850.00	1,238,055.00	(120,205.00)
	Learning	806,173.00	852,611.00	(46,438.00)
	PIMS	92,679.00	93,584.00	(905.00)
	Quality Assurance	2,081.00	2,081.00	-
	Gender Mainstreaming	10,034.00	10,261.00	(227.00)
	HR Allocation	1,794,412.00	2,408,595.00	(614,183.00)
	Utilities and Facilities allocation	141,422.00	264,455.00	(123,033.00)
	Sub total	3,964,651.00	4,869,642.00	(904,991.00)
Centre Development	Centre Start up	1,181,623.00	1,253,243.00	(71,620.00)
	Facilities Development	-	-	-
	HR Allocation	425,365.00	427,109.00	(1,744.00)
	Utilities and Facilities Allocation	240,243.00	240,243.00	-
	Sub total	1,847,231.00	1,920,595.00	
Advancement	Outreach	2,496,094.00	2,599,350.00	(103,256.00)

Corporate and Admin	Alumni	262,601.00	267,315.00	(4,714.00)
	Resource Mobilisation	448,107.00	608,980.00	(160,873.00)
	Next Einstein Forum	-	-	-
	HR allocation	2,353,649.00	2,726,853.00	(373,204.00)
	Utilities & Facilities allocation	151,471.00	164,260.00	(12,789.00)
		5,711,922.00	6,366,758.00	(654,836.00)
	Human Resources Administration and Office Management	1,795,975.00	2,599,350.00	(803,375.00)
	Governance	20,465.00	267,315.00	(246,850.00)
	Information Technology	224,216.00	608,980.00	(384,764.00)
	Finance	1,178,456.00	-	1,178,456.00
	HR Allocation	2,006,543.00	2,726,853.00	(720,310.00)
	Utilities and Facilities Allocation	334,851.00	164,260.00	170,591.00
	Sub total	5,560,506.00	6,366,758.00	(806,252.00)
Total Costs		31,592,725.00	35,030,437.00	(3,437,712.00)

ANNEX N: Additional findings on a) background of students, b) performance differences between linguistics and centre variables, and c) subsequent occupations of graduates

A

As recommendation number 2 of the MTE promoted further heterogeneity, the evaluation analysed the monthly income of the students.¹ In the pre-assessment survey it is found that 75% of responses earn less than US\$501 (Table 3) being the lowest income bracket. This is not surprising as when comparing the economic status of the students with that of the centre country it is noted that except for South Africa, the monthly per capita income in 2016 was below US\$360 per month².

Breakdowns have been computed by gender, nationality and AIMS centre but the numbers are too small to make any strong factual statements other than that women entrants were more likely to have been in the higher income bracket than men during each academic year.

				Less than US\$ 501		More than US\$500	
Valid replies		M	F	N	%	M	F
2013-14	63	49	14	52	83	16%	21%
2014-15	172	123	49	113	66	31%	43%
2015-16	161	103	58	121	75	20%	33%
2016-17	133	123	10	115	86	13%	20%

Table 1 Monthly income (from Pre-Assessment questionnaire)³

Given the ambiguity of only looking at the income variable, the evaluation also analysed the non-income questions that were asked in the Pre-Assessment form being: the education attainment of parent or respected relative of the student; whether or not their family owned or rented the house they were living in; and whether or not the family owned any land⁴.

From the data as presented in the tables⁵ below it is found that only a minority of the typical AIMS student parents/guardians had no formal or only primary schooling, was renting or did not own land.

	2013-14		2015-16		2016-17	
Nine countries	12/75	16%	29/134	22%	59/195	30%
Other Countries	9/49	18%	12/55	22%	15/81	19%
Total	21/122	16%	41/189	22%	74/276	27%

Table 2 Parent, relative or spouse with no formal schooling or only primary education

	2013-14		2015-16		2016-17	
Nine Countries	62/78	79%	89/128	70%	133/191	70%
Other Countries	35/50	70%	39/68	57%	51/85	60%
Total	97/128	76%	128/196	65%	184/276	67%

Table 3 Family owned or rented house

	2013-14		2015-16		2016-17	
Nine Countries	56/80	70%	86/136	63%	125/196	64%
Other Countries	34/51	67%	32/59	54%	55/74	74%
Total	90/131	69%	118/195	61%	180/270	67%

¹ With the exception of the 2014-15 database when the question referred to Household monthly income instead of personal.

² Source : accessed 08/07/2017 <http://data.worldbank.org/indicator/NY.GDP.PCAP.PP.CD>

³ For the 2014-15 row in the table, it is complicated because the evaluation had to assume a household size. An average of 3 has been taken for these students (either because they are living with partner, or because the parental household they are in, no longer has young children).

⁴ Since neither of the latter two made any further specification (unless the respondent answered 'Other') it is not possible to know whether the house was large or small or whether the land owned was small or extensive. Except when constructing a sort of index of non-income poverty, we have therefore relied on the Educational Attainment variable.

⁵ Students came from between 29 and 34 countries, depending on the year. Although the evaluation understood the importance of distinguishing between country of origin in terms of the prevalence and meaning of non-income poverty variables, we have restricted the breakdowns below to the 6 AIMS centre countries; plus Kenya, Nigeria and Sudan, which were the most likely among other countries to be sending students, versus the rest of Africa.

Table 4 Family owned land

Completing this, table 14 shows that the majority of AIMS students' their parents did have a post-secondary education degree.⁶

	2013-14		2015-16		2016-17	
<i>Nine Countries</i>	44/81	54%	68/137	50%	90/196	46%
<i>Other Countries</i>	30/41	73%	31/52	60%	51/80	64%
<i>Total</i>	74/122	61%	99/189	52%	141/276	51%

Table 5 Parent or guardian with post-secondary education or higher

Based on the data provided in the tables, it can be concluded that the socio-economic background of AIMS students is largely (upper) middle class. This is fully in line with AIMS intention to select the best students on the basis of merit. It is also expected as applicants are to have a four year BA degree. If AIMS further wants to enhance heterogeneity, the socio-economic status of applicants could be taken into account.

B

STATISTICAL ANALYSES OF MOST IMPORTANT VARIABLES

FIRST JOB

CONTINUING STUDENT

Nagelkerke R squared = 0.134

Variables in the Equation						
	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a						
graduating_class	-.345	.059	34.068	1	.000	.708
Gender(1)	-.061	.161	.145	1	.704	.941
nationality_centre_same(1)	.178	.172	1.069	1	.301	1.195
SAvsRest(1)	.687	.169	16.575	1	.000	1.987
RPHONICS			22.817	2	.000	
RPHONICS(1)	.363	.225	2.593	1	.107	1.438
RPHONICS(2)	1.002	.236	18.024	1	.000	2.724
Constant	694.777	119.222	33.961	1	.000	5.468E+301

a. Variable(s) entered on step 1: graduating_class, Gender, nationality_centre_same, SAVsRest, RPHONICS.

ACADEMIC EMPLOYMENT (RESEARCH-TEACHING

Nagelkerke R squared = 0.066

Variables in the Equation						
	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a						
graduating_class	.000	.074	.000	1	.999	1.000
Gender(1)	-.633	.215	8.679	1	.003	.531
nationality_centre_same(1)	.406	.233	3.030	1	.082	1.500
SAvsRest(1)	-.414	.211	3.828	1	.050	.661
RPHONICS			19.725	2	.000	
RPHONICS(1)	-.652	.245	7.066	1	.008	.521
RPHONICS(2)	-1.194	.269	19.695	1	.000	.303
Constant	-.495	148.828	.000	1	.997	.609

a. Variable(s) entered on step 1: graduating_class, Gender, nationality_centre_same, SAVsRest, RPHONICS.

JOBS OUTSIDE ACADEMIA

NAGELKERKE r SQUARED = 0.051

Variables in the Equation						
	B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a						
graduating_class	-.091	.104	.760	1	.383	.913
Gender(1)	.387	.264	2.158	1	.142	1.473
nationality_centre_same(1)	-.191	.277	.474	1	.491	.826

SAvsRest(1)	-.542	.306	3.129	1	.077	.582
RPHONICS			11.633	2	.003	
RPHONICS(1)	1.141	.496	5.290	1	.021	3.131
RPHONICS(2)	.263	.532	.245	1	.621	1.301
Constant	179.918	209.812	.735	1	.391	1.372E+78

a. Variable(s) entered on step 1: graduating_class, Gender, nationality_centre_same, SAVsRest, RPHONICS.

UNEMPLOYMENT

NAGELKERKE R SQUARED 0.134

		Variables in the Equation					
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	graduating_class	.622	.117	28.265	1	.000	1.862
	Gender(1)	.442	.236	3.522	1	.061	1.556
	nationality_centre_same(1)	.213	.254	.702	1	.402	1.237
	SAvsRest(1)	-.859	.300	8.180	1	.004	.423
	RPHONICS			.790	2	.674	
	RPHONICS(1)	.334	.383	.760	1	.383	1.397
	RPHONICS(2)	.240	.402	.356	1	.551	1.271
	Constant	-1255.422	235.737	28.361	1	.000	.000

a. Variable(s) entered on step 1: graduating_class, Gender, nationality_centre_same, SAVsRest, RPHONICS.

INCOME

R squared 0.134

		Coefficients ^a				
		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
Model		B	Std. Error	Beta		
1	(Constant)	278.390	112.117		2.483	.014
	graduating_class	-.137	.056	-.196	-2.461	.015
	NGENDER	-.006	.131	-.004	-.049	.961
	nationality_centre_same	.059	.147	.033	.403	.687
	SAvsRest	-.441	.141	-.261	-3.135	.002
	ANGLOPHONE	.070	.522	.045	.134	.894
	FRANCOPHONE	-.184	.533	-.106	-.346	.730
	OTHERLANG	-.367	.529	-.183	-.693	.489

a. Dependent Variable: rincome_month

b.

LOCATION DEVELOPED COUNTRY

Nagelkerke R squared = 0.64

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	graduating_class	-.282	.076	13.938	1	.000	.754
	Gender(1)	-.146	.214	.469	1	.494	.864
	nationality_centre_same(1)	.184	.222	.691	1	.406	1.202
	SAvsRest(1)	-.466	.231	4.063	1	.044	.627
	RPHONICS			10.526	2	.005	
	RPHONICS(1)	.667	.348	3.678	1	.055	1.949
	RPHONICS(2)	1.060	.344	9.490	1	.002	2.885
	Constant	566.220	152.286	13.825	1	.000	8.059E+245

a. Variable(s) entered on step 1: graduating_class, Gender, nationality_centre_same, SAVsRest, RPHONICS.

SUMMARY TABLES

	Student		Academia		Publi-Private		Unemployed		First Dest		Of 5
	SIG	Exp (B)	SIG	Exp (B)	SIG	Exp (B)	SIG	Exp (B)	Sig	Exp(B)	
graduating_class	.000	.708	.999	1.000	.383	.913	.000	1.862	.000	.754	3
Gender(1)	.704	.941	.003	.531	.142	1.473	.061	1.556	.494	.864	1
nationality_centre_same	.301	1.195	.082	1.500	.491	.826	.402	1.237	.406	1.202	0
SAvsRest(1)	.000	1.987	.050	.661	.077	.582	.004	.423	.044	.627	4
RPHONICS	.000		.000		.003		.674		.005		4
RPHONICS(1)	.107	1.438	.008	.521	.021	3.131	.383	1.397	.055	1.949	2
RPHONICS(2)	.000	2.724	.000	.303	.621	1.301	.551	1.271	.002	2.885	3
Nagelkerke R squared		0.134		0.066		0.051		0.134		0.064	

Clearly the most important variables are studying in the South African centre versus the rest and whether the student was from an Anglophone or Francophone country

SUBSEQUENT JOBS

CONTINUING STUDENT

Nagelkerke R squared 0.10

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	graduating_class	-.055	.130	.178	1	.673	.947
	Gender(1)	-.257	.336	.586	1	.444	.774

nationality_centre_same(1)	-.081	.366	.049	1	.824	.922
SAvsRest(1)	.019	.314	.004	1	.952	1.019
RPHONICS			.602	2	.740	
RPHONICS(1)	.318	.420	.572	1	.449	1.374
RPHONICS(2)	.281	.427	.433	1	.510	1.324
Constant	110.225	262.680	.176	1	.675	7.413E+47

a. Variable(s) entered on step 1: graduating_class, Gender, nationality_centre_same, SAVsRest, RPHONICS.

Academic (RESEARCH OR TEACHING)JOB

Nagelkerke R squared = 0.091

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	graduating_class	-.086	.154	.310	1	.578	.918
	Gender(1)	.201	.365	.302	1	.582	1.222
	nationality_centre_same(1)	.904	.526	2.954	1	.086	2.469
	SAvsRest(1)	.024	.357	.004	1	.947	1.024
	RPHONICS			6.128	2	.047	
	RPHONICS(1)	-.810	.427	3.604	1	.058	.445
	RPHONICS(2)	-1.077	.446	5.834	1	.016	.341
	Constant	171.625	310.327	.306	1	.580	3.435E+74

a. Variable(s) entered on step 1: graduating_class, Gender, nationality_centre_same, SAVsRest, RPHONICS.

OUTSIDE ACEDEMIA _ PUBLIC OR PRIVATE

Nagelkerke R squared = 0.055

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	graduating_class	.100	.193	.268	1	.605	1.105
	Gender(1)	-.573	.579	.979	1	.322	.564
	nationality_centre_same(1)	-.653	.482	1.838	1	.175	.521
	SAvsRest(1)	-.100	.478	.044	1	.834	.905
	RPHONICS			1.427	2	.490	
	RPHONICS(1)	.502	.696	.521	1	.471	1.652
	RPHONICS(2)	-.048	.735	.004	1	.948	.953
	Constant	-203.088	389.625	.272	1	.602	.000

a. Variable(s) entered on step 1: graduating_class, Gender, nationality_centre_same, SAVsRest, RPHONICS.

UNEMPLOYED

NAGELEKERKE R SQUARED = 0.036

Variables in the Equation							
		B	S.E.	Wald	df	Sig.	Exp(B)
Step 1 ^a	graduating_class	.152	.168	.814	1	.367	1.164
	Gender(1)	.375	.428	.768	1	.381	1.455
	nationality_centre_same(1)	-.118	.470	.063	1	.802	.889
	SAvsRest(1)	-.077	.421	.034	1	.854	.926
	RPHONICS			2.201	2	.333	
	RPHONICS(1)	.656	.680	.929	1	.335	1.927
	RPHONICS(2)	.976	.678	2.069	1	.150	2.652
	Constant	-307.632	338.539	.826	1	.364	.000

a. Variable(s) entered on step 1: graduating_class, Gender, nationality_centre_same, SAvsRest, RPHONICS.

HIGHEST INCOME

R SQUARED = 0.136

Coefficients ^a					
		Unstandardized Coefficients		Standardized Coefficients	
		B	Std. Error	Beta	
Model					Sig.
1	(Constant)	335.935	113.939		2.948
	graduating_class	-.166	.057	-.233	-2.927
	NGENDER	.007	.133	.004	.056
	nationality_centre_same	.023	.150	.013	.157
	SAvsRest	-.399	.143	-.233	-2.788
	ANGLOPHONE	.077	.530	.049	.145
	FRANCOPHONE	-.191	.541	-.108	-.352
	OTHERLANG	-.314	.538	-.155	-.583

a. Dependent Variable: highest_income

Destination – LOCATION =NOECD COUNTRY

Nagelkerke R squared = 0.057

Variables in the Equation						
	B	S.E.	Wald	df	Sig.	Exp(B)

Step 1 ^a	graduating_class	-.225	.149	2.279	1	.131	.798
	Gender(1)	.034	.371	.008	1	.928	1.034
	nationality_centre_same(1)	-.358	.395	.820	1	.365	.699
	SAvsRest(1)	-.794	.359	4.903	1	.027	.452
	RPHONICS			.694	2	.707	
	RPHONICS(1)	-.369	.450	.672	1	.412	.692
	RPHONICS(2)	-.300	.450	.442	1	.506	.741
	Constant	453.557	300.478	2.278	1	.131	9.492E+196

a. Variable(s) entered on step 1: graduating_class, Gender, nationality_centre_same, SAvsRest, RPHONICS.

SUMMARY TABLES (with a more liberal definition of 10% significance)

	Student		Academia		Public-Private		Unemployed		Final Dest		Of 5
	SIG	Exp (B)	SIG	Exp (B)	SIG	Exp (B)	SIG	Exp (B)	Sig	Exp(B)	
graduating_class	.673	.947	.578	.918	.605	1.105	.367	1.164	.131	.798	0
Gender(1)	.444	.774	.582	1.22	.322	.564	.381	1.455	.928	1.034	0
nationality_centre_same	.824	.922	.086	2.47	.175	.521	.802	.889	.365	.699	1
SAvsRest(1)	.952	1.019	.947	1.02	.834	.905	.854	.926	.027	.452	0
RPHONICS	.740		.047		.490		.333		.707		0
RPHONICS(1)	.449	1.374	.058	.445	.471	1.652	.335	1.927	.412	.692	0
RPHONICS(2)	.510	1.324	.016	.341	.948	.953	.150	2.652	.506	.741	1
Nagelkerke R squared		0.10		0.091		0.055		0.036		0.057	

C

Subsequent Occupations

Guiding Question 25 also asked to carry out similar analysis for those in jobs 5 years or more. Given that our brief was to evaluate the IDRC-DFID grant since 2010, there were going to be very few such alumni; so we have loosely interpreted the instruction to refer to subsequent occupations after their first job.

Up to three subsequent occupations were recorded: compared to the 712 where details were provided on first occupation, there were 210 with a second occupation, 58 with a third and 12 with a fourth. The breakdown of the broad categories of the 280 occupations reported from 2012-16 are shown in figure 49.

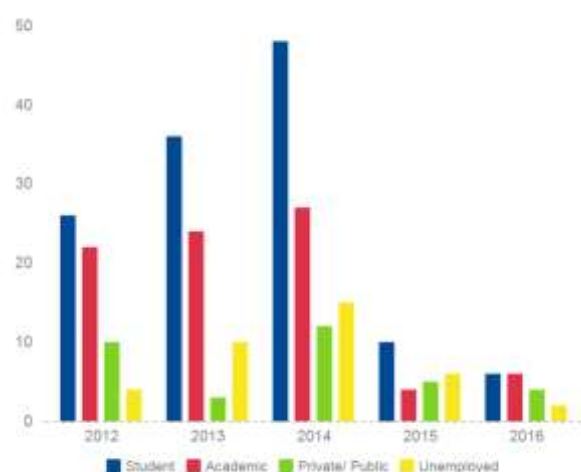
The breakdown of these subsequent occupations is that 45% had continued to be a student, 30% had been at some point teaching or research, 13% at some point working and 13% unemployed.

Compared with the first occupation there are 9% fewer students, 8% more in teaching or research, 3% more are working, 1% fewer are unemployed.

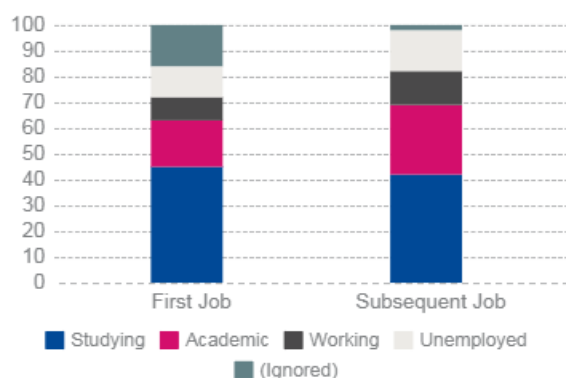
The pattern by gender has changed slightly with the same proportions of men and women being a student or in teaching or research and whilst women are still more likely to be unemployed, they are less likely to be employed; but none of these variations were statistically significant.

Figure 1 Categories of graduates' subsequent occupations 2012-2016

Categories of alumni occupations: 2012-2016



Graduates first vs subsequent job, total (%)



Graduates first vs subsequent job, per centre (%)

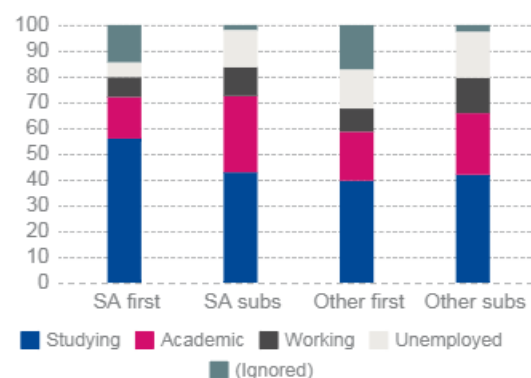


Figure 2 Graduates first vs. subsequent jobs - total and per centre

For those with two or more jobs, comparisons have also been made between their most recent job ⁷ with their first job. Of those who started as students, 38% were still studying in their most recent job, 36% were engaged in academic research/teaching, 7% were working and 19% were unemployed. Of those who started out in teaching or research, only 18% had continued, with 60% now a student. There was very little difference between men and women in either case. Of the 21 who had started in non-academic employment, only 33% had continued; and, although the numbers are very small, it is noticeable that of the 15 men, 7 were still in employment.

Breakdowns by linguistic community did not reveal much: the most striking difference, although based on small numbers, were that 16% of Anglophones compared to 11% of Francophone's were employed outside academia, whilst 16% of Anglophones compared to 22% of Francophone's were unemployed.

There are also no large differences between those graduates who studied at the centre in their home country compared to graduates who studied at another centre outside their home country. The only interesting comparison between AIMS South Africa and the other centres is that the unemployment rate is higher among those studying at other centres not from the same country is higher (20%) compared to those non-South Africans who had studied at AIMS South Africa (12%); and, although based on small numbers, higher than the unemployment rate among those from the same country (13%).

This could again imply that those who are from the same country as the centre they attended have more chance of (their tutors/ the Director) persuading local Universities to accept them onto programs than those from other countries have of persuading their local Universities; and those from the same country are less likely to be unemployed as they have increased networks available.

There is much more difference by language of student combined with whether or not the student studied at the South African centre or not. Of those who **continued studying**: 85% of Francophone students graduating from the South African centre are still a student compared to 60% of Anglophone students; 5% of Francophone and 40% of Anglophone graduates from other centres are still a student, and these differences are statistically significant.

Of those who are **working**: 14% of Anglophones compared to 4% of Francophone's graduating from the South Africa centre are working, compared to 16% and 9% respectively of those from other Centres; and of those **unemployed**: 16% of Anglophones and 8% of Francophone's from the South Africa centre are unemployed compared to 23% of both from other centres. The numbers and percentages are too small for these differences to be statistically significant.

O.1 Graduates working in Public and Private Sector

Out of 210 AIMS graduates with two or more jobs after 2011, 19% (39) reported having a job in the private or public sector at some point. Comparisons of the most recent job with their first position show that of the 21 who started out working outside academia only 8 are still working (with 7 returning to study, 4 unemployed and 2 in academia); whilst of the 26 whose most recent position is working, 9 started out as a student, 9 in either teaching or research and 8 started out working.

O.2 Geographical location and income - Subsequent Career

For those who had two or more positions during their subsequent career and who reported incomes (N = 54), 22% reported their highest income still below US\$501, 33% between US\$501 and US\$1,000 and 44% over US\$1,000. There is little difference between males and females' and, although the numbers were too small to generate significant differences on any of other characteristics, Anglophones were more likely than

⁷ As recorded in the Tracer Study 2016, although that may not have been the last report from the alumnus.

Francophone's to report an income over US\$1,000 (42% vs. 36%), and 64% of those studying at AMS South Africa reported an income over US\$1,000 compared to 32% from other centres.

Both for first and subsequent incomes, therefore, Anglophone graduates earn more than Francophone graduates, and graduates from South Africa earn more than graduates from the other centres⁸.

Graduates location subsequent career

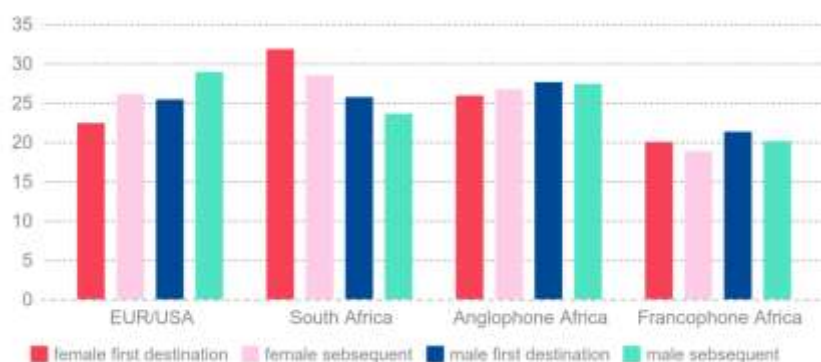
Analysing the final destination of all graduates with two or more occupations after 2011, 34% were in developed countries, 28% in South Africa, 23% in other Anglophone African countries and 16% in Francophone Africa. Women are more likely than men to be in South Africa (33% vs. 25%) and men more likely than women to be in the other African countries (44% vs. 27%).

144 with two or more occupations reported on both first and final destinations. Of the 38 who went 'immediately' to Europe, North America, etc., 76% (29) were still there; but of the 48 who first settled in South Africa, only 19% (9) were still there. In contrast, 57% of the 30 (17) who first settled in Anglophone Africa and 46% of the 28 (13) who first settled in Francophone Africa were still there.

In all these comparisons, the percentages for men were slightly higher than for women.

There are, however, substantial differences in the change or lack of change from first to final destination between those who studied at AIMS South Africa than in the other centres. Out of the 41 graduates who initially stayed in South Africa after studying there, 51% are still there in their last job, compared to the 2 out of the 7 who studied at other centres and initially went to South Africa. In contrast, of the 26 who went to a developed country after studying at one of the other centres, 24 are still in a developed country, compared to 5 out of the 12 who studied at AIMS South Africa. Despite the very small numbers, the difference is statistically significant.

First and Subsequent Destination Graduates by Gender in %



⁸ 52% of graduates from the South African centre stayed in South Africa, see next paragraph on location

First and subsequent destination of graduates by Centre
(South Africa vs other centres) in %

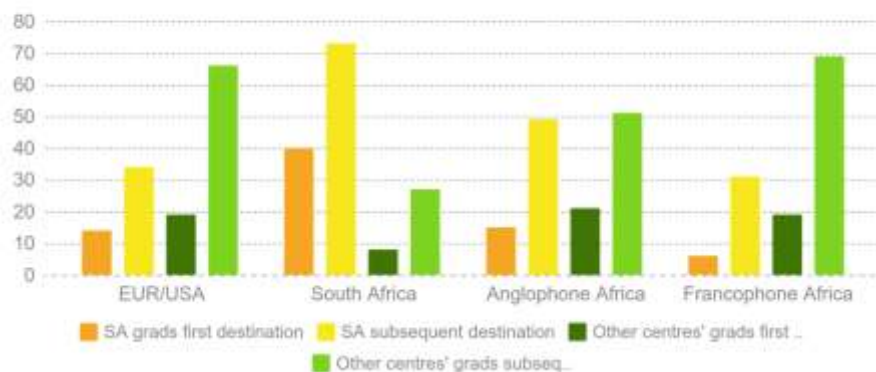


Figure 3 First and Subsequent destination graduates - per centre

O.3 Links to STEM Issues and Contribution to Africa's Development Challenges

Eighty-five of those with two or more jobs (including students) responded to question about the relevance of their most recent occupations to STEM issues; 53% said 'Directly', 22% said 'Indirectly' and 25% said 'Not at All', with 63% of those in academic occupations saying Directly (although given the small numbers, the difference was not statistically significant). There was overall no variation by gender; but for both men and women, a direct link to STEM was more likely to be reported for academic occupations.

Comparison of their reply about the most recent job with their reply about the first position shows a high level of consistency with 84% giving the same answer.

One hundred and fifty four with two or more occupations replied to the question about the contribution of their most recent job to African Development Challenges. Of the 72 students who replied, 53% said to a Great Extent and 46% to Some Extent; and of the 39 in an academic (teaching or research) position who replied, 56% said to a Great Extent and 38% to Some Extent. The 22 who were working outside academia in their most recent job were evenly split between saying 'To a Great Extent' and saying 'To Some Extent' or 'Not at All'. There was therefore only limited variation by occupation and no significant variation by gender.

For the comparison of their replies concerning their most recent job with the first position, there were 109 cases, there was a high level of consistency: with 80% giving the same answer; and 3 of the 8 who said that their first position contributed Not at all had upgraded their answers.

Contributing to Africa's development challenges

Taking the graduates exemplified in Table 1 of the 2016 June-December 2016 Progress Report, four of the 15 cited graduated since 2011. This either shows that impact is low or data is not available.

"Using another source, the 490 alumni that participated in the 2013 update, a total of 183 are employed in African priority sectors. Of these 183, 51 are employed outside Africa. 6 of these were lecturers at universities in Australia, Germany, Saudi Arabia and the USA. 19 of these respondents work in the industrial field in Australia, Europe and North America. Of these, 3 work within the financial sector, including one that works as an Associate Risk Officer at the World Bank. The other 26 are working as researchers in various mathematical fields, with 2 working on influenza and schistosomiasis respective in the public sector. 6 of the 26 are working on the private sector, one of which is working on tuberculosis and cost-effective analysis."

The June to December 2016 Progress Report indicates that 4 of the alumni since 2011 who responded are employed in a sector that contributes to African development albeit employed outside of Africa

ANNEX O-1: Cross tabulation Alumni online evaluation survey

ALUMNI ONLINE SURVEY: Cross tabulation of data per question and centre/gender/francophone/angophone/age

AIMS Center Studied

	Frequency	Percent
Cameroon	20	12.2
Ghana	24	14.6
Senegal	31	18.9
South Africa	28	17.1
Tanzania	61	37.2
Total	164	100.0

[illegible]

center did you study?		% within In which country did you do your undergraduate degree?	18.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	1.2%
	A quel centre AIMS avez-vous étudié ?	Count	0	0	0	0	0	1	0	0	0	0	0	0	1
		% within In which country did you do your undergraduate degree?	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.6%
	Cameroon	Count	0	7	1	2	0	10	0	0	0	0	0	0	20
		% within In which country did you do your undergraduate degree?	0.0%	63.6%	20.0%	10.0%	0.0%	13.5%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	12.0%
	Ghana	Count	2	1	0	7	0	12	0	0	1	0	0	1	24
		% within In which country did you do your undergraduate degree?	18.2%	9.1%	0.0%	35.0%	0.0%	16.2%	0.0%	0.0%	16.7%	0.0%	0.0%	4.5%	14.4%
	Senegal	Count	4	3	2	3	1	7	0	0	1	10	0	0	31
		% within In which country did you do your undergraduate degree?	36.4%	27.3%	40.0%	15.0%	100.0%	9.5%	0.0%	0.0%	16.7%	100.0%	0.0%	0.0%	18.6%

	South Africa	Count	1	0	0	3	0	19	0	0	0	0	4	1	28
		% within In which country did you do your undergraduate degree?	9.1%	0.0%	0.0%	15.0%	0.0%	25.7%	0.0%	0.0%	0.0%	0.0%	100.0%	4.5%	16.8%
	Tanzania	Count	2	0	2	5	0	26	0	2	4	0	0	20	61
		% within In which country did you do your undergraduate degree?	18.2%	0.0%	40.0%	25.0%	0.0%	35.1%	0.0%	100.0%	66.7%	0.0%	0.0%	90.9%	36.5%
Total		Count	11	11	5	20	1	74	1	2	6	10	4	22	167
		% within In which country did you do your undergraduate degree?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

48 Women 116 Men

	Frequency	Percent
20 - 25	32	19.5
26 - 30	104	63.4
31 - 35	24	14.6
36+	4	2.4
Total	164	100.0

	Frequency	Percent
Cameroon	11	7.1
Ghana	20	13.0
In another African Country	79	48.2
Outside Africa	2	1.3
Rwanda	6	3.9
Senegal	10	6.5
South Africa	4	2.6
Tanzania	22	14.3
Total	154	100.0

	Frequency	Percent
Other city / large town	66	42.6
The capital city	55	35.5
Village / rural area	34	21.9
Total	155	100.0

HOW SATISFIED ARE YOU

	N	Very Satisfied		Satisfied		Unsatisfied		Very Unsatisfied	
Application Process	155	79		74		1		1	
Quality of lecturing / teachers	146	58		68		12		8	
Quality of Instructional Materials	147	68		69		3		7	
Helpfulness of Lecturers outside classroom	148	81		56		5		6	
Assessment/ examination practices	145	24		75		36		10	

IN FOLLOWING TABLES 1 = Very Satisfied 2 = Satisfied 3 = Unsatisfied 4 = Very Unsatisfied

Sat_Rat_Application * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	Sat_Rat_Application	1.00	Count	5	7	3	11	25	51
			% within At which AIMS center did you study?	50.0%	50.0%	33.3%	55.0%	67.6%	56.7%
		2.00	Count	5	7	6	9	12	39
			% within At which AIMS center did you study?	50.0%	50.0%	66.7%	45.0%	32.4%	43.3%
	Total		Count	10	14	9	20	37	90
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	Sat_Rat_Application	1.00	Count	1	4	1	3	9	18
			% within At which AIMS center did you study?	33.3%	50.0%	33.3%	42.9%	45.0%	43.9%
		2.00	Count	2	4	2	4	10	22
			% within At which AIMS center did you study?	66.7%	50.0%	66.7%	57.1%	50.0%	53.7%
		4.00	Count	0	0	0	0	1	1
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	0.0%	5.0%	2.4%
	Total		Count	3	8	3	7	20	41
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	Sat_Rat_Application	1.00	Count	6	11	4	14	34	69
			% within At which AIMS center did you study?	46.2%	50.0%	33.3%	51.9%	59.6%	52.7%
		2.00	Count	7	11	8	13	22	61
			% within At which AIMS center did you study?	53.8%	50.0%	66.7%	48.1%	38.6%	46.6%
		4.00	Count	0	0	0	0	1	1
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	0.0%	1.8%	0.8%
	Total		Count	13	22	12	27	57	131
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Sat_Rat_Aplication * agegroup * sex Crosstabulation						
sex				agegroup		Total
				1.00	2.00	
1.00	Sat_Rat_Aplication	1.00	Count	7	43	50
			% within agegroup	63.6%	55.1%	56.2%
		2.00	Count	4	35	39
			% within agegroup	36.4%	44.9%	43.8%
	Total		Count	11	78	89
			% within agegroup	100.0%	100.0%	100.0%
2.00	Sat_Rat_Aplication	1.00	Count	2	16	18
			% within agegroup	20.0%	51.6%	43.9%
		2.00	Count	7	15	22
			% within agegroup	70.0%	48.4%	53.7%
		4.00	Count	1	0	1
			% within agegroup	10.0%	0.0%	2.4%
	Total		Count	10	31	41
			% within agegroup	100.0%	100.0%	100.0%
Total	Sat_Rat_Aplication	1.00	Count	9	59	68
			% within agegroup	42.9%	54.1%	52.3%
		2.00	Count	11	50	61
			% within agegroup	52.4%	45.9%	46.9%
		4.00	Count	1	0	1
			% within agegroup	4.8%	0.0%	0.8%
	Total		Count	21	109	130
			% within agegroup	100.0%	100.0%	100.0%

SatRat_TL * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	SatRat_TL	1.00	Count	10	9	4	6	18	47
			% within At which AIMS center did you study?	71.4%	64.3%	18.2%	37.5%	46.2%	44.8%
		2.00	Count	4	4	9	9	19	45
			% within At which AIMS center did you study?	28.6%	28.6%	40.9%	56.3%	48.7%	42.9%
		3.00	Count	0	0	7	0	1	8
			% within At which AIMS center did you study?	0.0%	0.0%	31.8%	0.0%	2.6%	7.6%
		4.00	Count	0	1	2	1	1	5
			% within At which AIMS center did you study?	0.0%	7.1%	9.1%	6.3%	2.6%	4.8%
		Total	Count	14	14	22	16	39	105
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SatRat_TL	1.00	Count	1	4	0	2	4	11
			% within At which AIMS center did you study?	25.0%	50.0%	0.0%	28.6%	22.2%	26.8%
		2.00	Count	3	3	3	4	10	23
			% within At which AIMS center did you study?	75.0%	37.5%	75.0%	57.1%	55.6%	56.1%
		3.00	Count	0	1	1	1	1	4
			% within At which AIMS center did you study?	0.0%	12.5%	25.0%	14.3%	5.6%	9.8%
		4.00	Count	0	0	0	0	3	3
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	0.0%	16.7%	7.3%
		Total	Count	4	8	4	7	18	41
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	SatRat_TL	1.00	Count	11	13	4	8	22	58
			% within At which AIMS center did you study?	61.1%	59.1%	15.4%	34.8%	38.6%	39.7%
		2.00	Count	7	7	12	13	29	68
			% within At which AIMS center did you study?	38.9%	31.8%	46.2%	56.5%	50.9%	46.6%

3.00	Count	0	1	8	1	2	12
	% within At which AIMS center did you study?	0.0%	4.5%	30.8%	4.3%	3.5%	8.2%
4.00	Count	0	1	2	1	4	8
	% within At which AIMS center did you study?	0.0%	4.5%	7.7%	4.3%	7.0%	5.5%
Total	Count	18	22	26	23	57	146
	% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TL=TEACHING / LECTURES#1 = Very Satisfied; 2 = Satisfied; 3 = Unsatisfied; 4 = VerY Unatisfied

SatRat_TL * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_TL	1.00	Count	8	39	47
			% within agegroup	50.0%	44.3%	45.2%
	2.00	Count	7	37	44	
			% within agegroup	43.8%	42.0%	42.3%
	3.00	Count	1	7	8	
			% within agegroup	6.3%	8.0%	7.7%
	4.00	Count	0	5	5	
			% within agegroup	0.0%	5.7%	4.8%
	Total	Count	16	88	104	
			% within agegroup	100.0%	100.0%	100.0%
2.00	SatRat_TL	1.00	Count	4	7	11
			% within agegroup	36.4%	23.3%	26.8%
	2.00	Count	6	17	23	

				% within agegroup	54.5%	56.7%	56.1%
				3.00 Count	1	3	4
				% within agegroup	9.1%	10.0%	9.8%
				4.00 Count	0	3	3
				% within agegroup	0.0%	10.0%	7.3%
Total				Count	11	30	41
				% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_TL	1.00	Count	12	46	58	
			% within agegroup	44.4%	39.0%	40.0%	
		2.00	Count	13	54	67	
			% within agegroup	48.1%	45.8%	46.2%	
		3.00	Count	2	10	12	
			% within agegroup	7.4%	8.5%	8.3%	
		4.00	Count	0	8	8	
			% within agegroup	0.0%	6.8%	5.5%	
		Total		Count	27	118	145
				% within agegroup	100.0%	100.0%	100.0%

SatRat_TL * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	SatRat_TL	1.00	Count	42	5	47
			% within A_F	49.4%	25.0%	44.8%
		2.00	Count	37	8	45
			% within A_F	43.5%	40.0%	42.9%
		3.00	Count	3	5	8

				% within A_F	3.5%	25.0%	7.6%
				4.00 Count	3	2	5
				% within A_F	3.5%	10.0%	4.8%
Total				Count	85	20	105
				% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_TL	1.00	Count	10	1	11	
			% within A_F	27.0%	25.0%	26.8%	
		2.00	Count	21	2	23	
			% within A_F	56.8%	50.0%	56.1%	
		3.00	Count	3	1	4	
			% within A_F	8.1%	25.0%	9.8%	
		4.00	Count	3	0	3	
			% within A_F	8.1%	0.0%	7.3%	
		Total		Count	37	4	41
				% within A_F	100.0%	100.0%	100.0%
Total	SatRat_TL	1.00	Count	52	6	58	
			% within A_F	42.6%	25.0%	39.7%	
		2.00	Count	58	10	68	
			% within A_F	47.5%	41.7%	46.6%	
		3.00	Count	6	6	12	
			% within A_F	4.9%	25.0%	8.2%	
		4.00	Count	6	2	8	
			% within A_F	4.9%	8.3%	5.5%	
		Total		Count	122	24	146
				% within A_F	100.0%	100.0%	100.0%

TL_A: INSTRUCTIONAL FACILITES

SatRat_TL_A * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	SatRat_TL_A	1.00	Count	5	5	6	11	25	52
			% within At which AIMS center did you study?	35.7%	35.7%	27.3%	68.8%	64.1%	49.5%
		2.00	Count	8	8	14	3	13	46
			% within At which AIMS center did you study?	57.1%	57.1%	63.6%	18.8%	33.3%	43.8%
		3.00	Count	1	0	1	0	1	3
			% within At which AIMS center did you study?	7.1%	0.0%	4.5%	0.0%	2.6%	2.9%
		4.00	Count	0	1	1	2	0	4
			% within At which AIMS center did you study?	0.0%	7.1%	4.5%	12.5%	0.0%	3.8%
	Total		Count	14	14	22	16	39	105
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SatRat_TL_A	1.00	Count	2	3	0	7	4	16
			% within At which AIMS center did you study?	50.0%	37.5%	0.0%	100.0%	21.1%	38.1%
		2.00	Count	2	5	4	0	12	23
			% within At which AIMS center did you study?	50.0%	62.5%	100.0%	0.0%	63.2%	54.8%
		4.00	Count	0	0	0	0	3	3
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	0.0%	15.8%	7.1%
	Total		Count	4	8	4	7	19	42
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	SatRat_TL_A	1.00	Count	7	8	6	18	29	68
			% within At which AIMS center did you study?	38.9%	36.4%	23.1%	78.3%	50.0%	46.3%
		2.00	Count	10	13	18	3	25	69
			% within At which AIMS center did you study?	55.6%	59.1%	69.2%	13.0%	43.1%	46.9%

	3.00	Count	1	0	1	0	1	3
		% within At which AIMS center did you study?	5.6%	0.0%	3.8%	0.0%	1.7%	2.0%
	4.00	Count	0	1	1	2	3	7
		% within At which AIMS center did you study?	0.0%	4.5%	3.8%	8.7%	5.2%	4.8%
Total		Count	18	22	26	23	58	147
		% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TL_A INSTUCTIONAL FACILITIES

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_TL_A	1.00	Count	9	43	52
			% within agegroup	52.9%	49.4%	50.0%
		2.00	Count	7	38	45
			% within agegroup	41.2%	43.7%	43.3%
		3.00	Count	1	2	3
			% within agegroup	5.9%	2.3%	2.9%
	Total	4.00	Count	0	4	4
			% within agegroup	0.0%	4.6%	3.8%
			Count	17	87	104
			% within agegroup	100.0%	100.0%	100.0%
2.00	SatRat_TL_A	1.00	Count	4	12	16
			% within agegroup	33.3%	40.0%	38.1%
	Total	2.00	Count	7	16	23
			% within agegroup	58.3%	53.3%	54.8%

				4.00	Count	1	2	3
					% within agegroup	8.3%	6.7%	7.1%
Total					Count	12	30	42
					% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_TL_A	1.00	Count	13	55	68		
			% within agegroup	44.8%	47.0%	46.6%		
		2.00	Count	14	54	68		
			% within agegroup	48.3%	46.2%	46.6%		
		3.00	Count	1	2	3		
			% within agegroup	3.4%	1.7%	2.1%		
		4.00	Count	1	6	7		
			% within agegroup	3.4%	5.1%	4.8%		
	Total			Count	29	117	146	
				% within agegroup	100.0%	100.0%	100.0%	

SatRat_TL_A * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	SatRat_TL_A	1.00	Count	45	7	52
			% within A_F	52.9%	35.0%	49.5%
		2.00	Count	34	12	46
			% within A_F	40.0%	60.0%	43.8%
		3.00	Count	3	0	3
			% within A_F	3.5%	0.0%	2.9%
		4.00	Count	3	1	4
			% within A_F	3.5%	5.0%	3.8%

Total			Count	85	20	105
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_TL_A	1.00	Count	15	1	16
			% within A_F	39.5%	25.0%	38.1%
		2.00	Count	20	3	23
			% within A_F	52.6%	75.0%	54.8%
		4.00	Count	3	0	3
			% within A_F	7.9%	0.0%	7.1%
		Total		Count	38	4
				% within A_F	100.0%	100.0%
Total	SatRat_TL_A	1.00	Count	60	8	68
			% within A_F	48.8%	33.3%	46.3%
		2.00	Count	54	15	69
			% within A_F	43.9%	62.5%	46.9%
		3.00	Count	3	0	3
			% within A_F	2.4%	0.0%	2.0%
		4.00	Count	6	1	7
			% within A_F	4.9%	4.2%	4.8%
		Total		Count	123	24
				% within A_F	100.0%	100.0%

TL_B: HELPFULNESS OF LECTURERS OUTSIDE CLASSROOM

SatRA_t_TL_B * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	SatRA _t _TL_B	1.00	Count	7	8	7	9	25	56
			% within At which AIMS center did you study?	50.0%	57.1%	31.8%	52.9%	64.1%	52.8%
		2.00	Count	6	4	14	7	11	42
			% within At which AIMS center did you study?	42.9%	28.6%	63.6%	41.2%	28.2%	39.6%
		3.00	Count	1	1	0	0	2	4
			% within At which AIMS center did you study?	7.1%	7.1%	0.0%	0.0%	5.1%	3.8%
		4.00	Count	0	1	1	1	1	4
			% within At which AIMS center did you study?	0.0%	7.1%	4.5%	5.9%	2.6%	3.8%
		Total	Count	14	14	22	17	39	106
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SatRA _t _TL_B	1.00	Count	3	6	1	4	11	25
			% within At which AIMS center did you study?	75.0%	75.0%	25.0%	57.1%	57.9%	59.5%
		2.00	Count	1	2	2	3	6	14
			% within At which AIMS center did you study?	25.0%	25.0%	50.0%	42.9%	31.6%	33.3%
		3.00	Count	0	0	1	0	0	1
			% within At which AIMS center did you study?	0.0%	0.0%	25.0%	0.0%	0.0%	2.4%
		4.00	Count	0	0	0	0	2	2
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	0.0%	10.5%	4.8%
		Total	Count	4	8	4	7	19	42
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	SatRA _t _TL_B	1.00	Count	10	14	8	13	36	81

		% within At which AIMS center did you study?	55.6%	63.6%	30.8%	54.2%	62.1%	54.7%
2.00	Count		7	6	16	10	17	56
		% within At which AIMS center did you study?	38.9%	27.3%	61.5%	41.7%	29.3%	37.8%
3.00	Count		1	1	1	0	2	5
		% within At which AIMS center did you study?	5.6%	4.5%	3.8%	0.0%	3.4%	3.4%
4.00	Count		0	1	1	1	3	6
		% within At which AIMS center did you study?	0.0%	4.5%	3.8%	4.2%	5.2%	4.1%
Total	Count		18	22	26	24	58	148
		% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SatRat_TL_B * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_TL_B	1.00	Count	7	49	56
			% within agegroup	41.2%	55.7%	53.3%
		2.00	Count	9	32	41
			% within agegroup	52.9%	36.4%	39.0%
		3.00	Count	1	3	4
			% within agegroup	5.9%	3.4%	3.8%
		4.00	Count	0	4	4
			% within agegroup	0.0%	4.5%	3.8%
	Total		Count	17	88	105
			% within agegroup	100.0%	100.0%	100.0%
2.00	SatRat_TL_B	1.00	Count	8	17	25
			% within agegroup	66.7%	56.7%	59.5%
		2.00	Count	4	10	14

				% within agegroup	33.3%	33.3%	33.3%
				3.00 Count	0	1	1
				% within agegroup	0.0%	3.3%	2.4%
				4.00 Count	0	2	2
				% within agegroup	0.0%	6.7%	4.8%
Total				Count	12	30	42
				% within agegroup	100.0%	100.0%	100.0%
Total	SatRAt_TL_B	1.00	Count	15	66	81	
			% within agegroup	51.7%	55.9%	55.1%	
		2.00	Count	13	42	55	
			% within agegroup	44.8%	35.6%	37.4%	
		3.00	Count	1	4	5	
			% within agegroup	3.4%	3.4%	3.4%	
		4.00	Count	0	6	6	
			% within agegroup	0.0%	5.1%	4.1%	
		Total		Count	29	118	147
				% within agegroup	100.0%	100.0%	100.0%

SatRAt_TL_B * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	SatRAt_TL_B	1.00	Count	50	6	56
			% within A_F	58.1%	30.0%	52.8%
		2.00	Count	30	12	42
			% within A_F	34.9%	60.0%	39.6%
		3.00	Count	3	1	4

				% within A_F	3.5%	5.0%	3.8%
				4.00 Count	3	1	4
				% within A_F	3.5%	5.0%	3.8%
Total				Count	86	20	106
				% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_TL_B	1.00	Count	24	1	25	
			% within A_F	63.2%	25.0%	59.5%	
		2.00	Count	11	3	14	
			% within A_F	28.9%	75.0%	33.3%	
		3.00	Count	1	0	1	
			% within A_F	2.6%	0.0%	2.4%	
		4.00	Count	2	0	2	
			% within A_F	5.3%	0.0%	4.8%	
		Total		Count	38	4	42
				% within A_F	100.0%	100.0%	100.0%
Total	SatRat_TL_B	1.00	Count	74	7	81	
			% within A_F	59.7%	29.2%	54.7%	
		2.00	Count	41	15	56	
			% within A_F	33.1%	62.5%	37.8%	
		3.00	Count	4	1	5	
			% within A_F	3.2%	4.2%	3.4%	
		4.00	Count	5	1	6	
			% within A_F	4.0%	4.2%	4.1%	
		Total		Count	124	24	148
				% within A_F	100.0%	100.0%	100.0%

TL_C: ASSESSMENT NAD EXAMINATION PRPOCESS

SatRat_TL_C * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	SatRat_TL_C	1.00	Count	1	2	2	3	8	16
			% within At which AIMS center did you study?	7.1%	14.3%	9.1%	20.0%	21.1%	15.5%
		2.00	Count	11	8	7	7	21	54
			% within At which AIMS center did you study?	78.6%	57.1%	31.8%	46.7%	55.3%	52.4%
		3.00	Count	2	3	11	1	9	26
			% within At which AIMS center did you study?	14.3%	21.4%	50.0%	6.7%	23.7%	25.2%
		4.00	Count	0	1	2	4	0	7
			% within At which AIMS center did you study?	0.0%	7.1%	9.1%	26.7%	0.0%	6.8%
		Total	Count	14	14	22	15	38	103
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SatRat_TL_C	1.00	Count	2	2	0	0	4	8
			% within At which AIMS center did you study?	50.0%	25.0%	0.0%	0.0%	21.1%	19.0%
		2.00	Count	2	5	2	3	9	21
			% within At which AIMS center did you study?	50.0%	62.5%	50.0%	42.9%	47.4%	50.0%
		3.00	Count	0	0	2	3	5	10
			% within At which AIMS center did you study?	0.0%	0.0%	50.0%	42.9%	26.3%	23.8%
		4.00	Count	0	1	0	1	1	3
			% within At which AIMS center did you study?	0.0%	12.5%	0.0%	14.3%	5.3%	7.1%
		Total	Count	4	8	4	7	19	42
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	SatRat_TL_C	1.00	Count	3	4	2	3	12	24
			% within At which AIMS center did you study?	16.7%	18.2%	7.7%	13.6%	21.1%	16.6%

	2.00	Count	13	13	9	10	30	75
		% within At which AIMS center did you study?	72.2%	59.1%	34.6%	45.5%	52.6%	51.7%
	3.00	Count	2	3	13	4	14	36
		% within At which AIMS center did you study?	11.1%	13.6%	50.0%	18.2%	24.6%	24.8%
	4.00	Count	0	2	2	5	1	10
		% within At which AIMS center did you study?	0.0%	9.1%	7.7%	22.7%	1.8%	6.9%
Total		Count	18	22	26	22	57	145
		% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SatRat_TL_C * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_TL_C	1.00	Count	4	12	16
			% within agegroup	23.5%	14.1%	15.7%
		2.00	Count	7	46	53
			% within agegroup	41.2%	54.1%	52.0%
		3.00	Count	4	22	26
			% within agegroup	23.5%	25.9%	25.5%
		4.00	Count	2	5	7
			% within agegroup	11.8%	5.9%	6.9%
		Total	Count	17	85	102
			% within agegroup	100.0%	100.0%	100.0%
2.00	SatRat_TL_C	1.00	Count	4	4	8
			% within agegroup	33.3%	13.3%	19.0%
		2.00	Count	5	16	21
			% within agegroup	41.7%	53.3%	50.0%

				3.00	Count	2	8	10
					% within agegroup	16.7%	26.7%	23.8%
				4.00	Count	1	2	3
					% within agegroup	8.3%	6.7%	7.1%
Total					Count	12	30	42
					% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_TL_C	1.00	Count			8	16	24
			% within agegroup			27.6%	13.9%	16.7%
		2.00	Count			12	62	74
			% within agegroup			41.4%	53.9%	51.4%
		3.00	Count			6	30	36
			% within agegroup			20.7%	26.1%	25.0%
		4.00	Count			3	7	10
			% within agegroup			10.3%	6.1%	6.9%
	Total		Count			29	115	144
			% within agegroup			100.0%	100.0%	100.0%

SatRat_TL_C * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	SatRat_TL_C	1.00	Count	14	2	16
			% within A_F	16.9%	10.0%	15.5%
		2.00	Count	46	8	54
			% within A_F	55.4%	40.0%	52.4%
		3.00	Count	18	8	26
			% within A_F	21.7%	40.0%	25.2%

				4.00	Count	5	2	7
					% within A_F	6.0%	10.0%	6.8%
Total					Count	83	20	103
					% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_TL_C	1.00	Count	6	2	8		
			% within A_F	15.8%	50.0%	19.0%		
		2.00	Count	19	2	21		
			% within A_F	50.0%	50.0%	50.0%		
		3.00	Count	10	0	10		
			% within A_F	26.3%	0.0%	23.8%		
		4.00	Count	3	0	3		
			% within A_F	7.9%	0.0%	7.1%		
	Total			Count	38	4	42	
				% within A_F	100.0%	100.0%	100.0%	
Total	SatRat_TL_C	1.00	Count	20	4	24		
			% within A_F	16.5%	16.7%	16.6%		
		2.00	Count	65	10	75		
			% within A_F	53.7%	41.7%	51.7%		
		3.00	Count	28	8	36		
			% within A_F	23.1%	33.3%	24.8%		
		4.00	Count	8	2	10		
			% within A_F	6.6%	8.3%	6.9%		
	Total			Count	121	24	145	
				% within A_F	100.0%	100.0%	100.0%	

GAINED SKILLS

	N	Fully	Largely	Somewhat	Not at Al
Mathematical Knowledge	148	35	76	33	4
Technical Practical Skills	148	39	70	33	6
Right attitudes, behaviour, social skills	148	57	77	9	5
AIM curriculum fitted with what I am doing	148	34	55	52	7

DID YOU GAIN THE FOLLOWING SKILLS 1=FULLY; 2 = LARGELY; 3 = SOMEHWAT; 4 – NOT AT ALL

Maths Skills

MathSkills * At which AIMS center did you study? * sex Crosstabulation

Sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	MathSkills	1.00	Count	3	4	2	4	19	32
			% within At which AIMS center did you study?	21.4%	28.6%	9.1%	23.5%	48.7%	30.2%
		2.00	Count	9	7	9	8	18	51
			% within At which AIMS center did you study?	64.3%	50.0%	40.9%	47.1%	46.2%	48.1%
		3.00	Count	2	3	8	4	2	19
			% within At which AIMS center did you study?	14.3%	21.4%	36.4%	23.5%	5.1%	17.9%
		4.00	Count	0	0	3	1	0	4
			% within At which AIMS center did you study?	0.0%	0.0%	13.6%	5.9%	0.0%	3.8%
		Total	Count	14	14	22	17	39	106
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	MathSkills	1.00	Count	0	1	0	1	1	3
			% within At which AIMS center did you study?	0.0%	12.5%	0.0%	14.3%	5.3%	7.1%
		2.00	Count	3	6	2	4	10	25

				% within At which AIMS center did you study?	75.0%	75.0%	50.0%	57.1%	52.6%	59.5%
3.00				Count	1	1	2	2	8	14
				% within At which AIMS center did you study?	25.0%	12.5%	50.0%	28.6%	42.1%	33.3%
Total				Count	4	8	4	7	19	42
				% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	MathSkills	1.00	Count	3	5	2	5	20	35	
			% within At which AIMS center did you study?	16.7%	22.7%	7.7%	20.8%	34.5%	23.6%	
	2.00	Count	12	13	11	12	28	76		
		% within At which AIMS center did you study?	66.7%	59.1%	42.3%	50.0%	48.3%	51.4%		
	3.00	Count	3	4	10	6	10	33		
		% within At which AIMS center did you study?	16.7%	18.2%	38.5%	25.0%	17.2%	22.3%		
	4.00	Count	0	0	3	1	0	4		
		% within At which AIMS center did you study?	0.0%	0.0%	11.5%	4.2%	0.0%	2.7%		
	Total		Count	18	22	26	24	58	148	
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

MathSkills * agegroup * sex Crosstabulation

				agegroup		Total
				1.00	2.00	
sex						
1.00	MathSkills	1.00	Count	3	29	32
			% within agegroup	17.6%	33.0%	30.5%
		2.00	Count	9	41	50
			% within agegroup	52.9%	46.6%	47.6%
		3.00	Count	4	15	19
			% within agegroup	23.5%	17.0%	18.1%
		4.00	Count	1	3	4

				% within agegroup	5.9%	3.4%	3.8%
Total				Count	17	88	105
				% within agegroup	100.0%	100.0%	100.0%
2.00	MathSkills	1.00	Count	0	3	3	
			% within agegroup	0.0%	10.0%	7.1%	
		2.00	Count	5	20	25	
			% within agegroup	41.7%	66.7%	59.5%	
		3.00	Count	7	7	14	
			% within agegroup	58.3%	23.3%	33.3%	
		Total		Count	12	30	42
				% within agegroup	100.0%	100.0%	100.0%
Total	MathSkills	1.00	Count	3	32	35	
			% within agegroup	10.3%	27.1%	23.8%	
		2.00	Count	14	61	75	
			% within agegroup	48.3%	51.7%	51.0%	
		3.00	Count	11	22	33	
			% within agegroup	37.9%	18.6%	22.4%	
		4.00	Count	1	3	4	
			% within agegroup	3.4%	2.5%	2.7%	
		Total		Count	29	118	147
				% within agegroup	100.0%	100.0%	100.0%

MathSkills * A_F * sex Crosstabulation

				A_F		Total
				1.00	2.00	
sex						
1.00	MathSkills	1.00	Count	28	4	32

				% within A_F	32.6%	20.0%	30.2%	
				2.00	Count	46	5	51
					% within A_F	53.5%	25.0%	48.1%
				3.00	Count	10	9	19
					% within A_F	11.6%	45.0%	17.9%
				4.00	Count	2	2	4
					% within A_F	2.3%	10.0%	3.8%
		Total	Count	86	20	106		
				% within A_F	100.0%	100.0%	100.0%	
2.00	MathSkills	1.00	Count	3	0	3		
			% within A_F	7.9%	0.0%	7.1%		
		2.00	Count	23	2	25		
			% within A_F	60.5%	50.0%	59.5%		
		3.00	Count	12	2	14		
			% within A_F	31.6%	50.0%	33.3%		
		Total	Count	38	4	42		
			% within A_F	100.0%	100.0%	100.0%		
Total	MathSkills	1.00	Count	31	4	35		
			% within A_F	25.0%	16.7%	23.6%		
		2.00	Count	69	7	76		
			% within A_F	55.6%	29.2%	51.4%		
		3.00	Count	22	11	33		
			% within A_F	17.7%	45.8%	22.3%		
		4.00	Count	2	2	4		
			% within A_F	1.6%	8.3%	2.7%		
		Total		Count	124	24	148	

% within A_F

100.0%

100.0%

100.0%

TECH SKILLS

TechSkills * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	TechSkills	1.00	Count	4	5	1	4	19	33
			% within At which AIMS center did you study?	28.6%	35.7%	4.5%	23.5%	48.7%	31.1%
		2.00	Count	6	4	10	12	17	49
			% within At which AIMS center did you study?	42.9%	28.6%	45.5%	70.6%	43.6%	46.2%
		3.00	Count	2	5	7	1	3	18
			% within At which AIMS center did you study?	14.3%	35.7%	31.8%	5.9%	7.7%	17.0%
		4.00	Count	2	0	4	0	0	6
			% within At which AIMS center did you study?	14.3%	0.0%	18.2%	0.0%	0.0%	5.7%
		Total	Count	14	14	22	17	39	106
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	TechSkills	1.00	Count	1	1	0	0	4	6
			% within At which AIMS center did you study?	25.0%	12.5%	0.0%	0.0%	21.1%	14.3%
		2.00	Count	3	5	2	2	9	21
			% within At which AIMS center did you study?	75.0%	62.5%	50.0%	28.6%	47.4%	50.0%
		3.00	Count	0	2	2	5	6	15
			% within At which AIMS center did you study?	0.0%	25.0%	50.0%	71.4%	31.6%	35.7%
		Total	Count	4	8	4	7	19	42
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	TechSkills	1.00	Count	5	6	1	4	23	39

		% within At which AIMS center did you study?	27.8%	27.3%	3.8%	16.7%	39.7%	26.4%
2.00	Count		9	9	12	14	26	70
		% within At which AIMS center did you study?	50.0%	40.9%	46.2%	58.3%	44.8%	47.3%
3.00	Count		2	7	9	6	9	33
		% within At which AIMS center did you study?	11.1%	31.8%	34.6%	25.0%	15.5%	22.3%
4.00	Count		2	0	4	0	0	6
		% within At which AIMS center did you study?	11.1%	0.0%	15.4%	0.0%	0.0%	4.1%
Total	Count		18	22	26	24	58	148
		% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TechSkills * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	TechSkills	1.00	Count	5	28	33
			% within agegroup	29.4%	31.8%	31.4%
		2.00	Count	7	41	48
			% within agegroup	41.2%	46.6%	45.7%
		3.00	Count	2	16	18
			% within agegroup	11.8%	18.2%	17.1%
		4.00	Count	3	3	6
			% within agegroup	17.6%	3.4%	5.7%
	Total		Count	17	88	105
			% within agegroup	100.0%	100.0%	100.0%
2.00	TechSkills	1.00	Count	0	6	6
			% within agegroup	0.0%	20.0%	14.3%
		2.00	Count	6	15	21

				% within agegroup	50.0%	50.0%	50.0%
				3.00 Count	6	9	15
				% within agegroup	50.0%	30.0%	35.7%
Total				Count	12	30	42
				% within agegroup	100.0%	100.0%	100.0%
Total	TechSkills	1.00	Count	5	34	39	
			% within agegroup	17.2%	28.8%	26.5%	
		2.00	Count	13	56	69	
			% within agegroup	44.8%	47.5%	46.9%	
		3.00	Count	8	25	33	
			% within agegroup	27.6%	21.2%	22.4%	
		4.00	Count	3	3	6	
			% within agegroup	10.3%	2.5%	4.1%	
		Total		Count	29	118	147
				% within agegroup	100.0%	100.0%	100.0%

TechSkills * A_F * sex Crosstabulation

				A_F		Total
				1.00	2.00	
sex						
1.00	TechSkills	1.00	Count	29	4	33
			% within A_F	33.7%	20.0%	31.1%
		2.00	Count	44	5	49
			% within A_F	51.2%	25.0%	46.2%
		3.00	Count	12	6	18
			% within A_F	14.0%	30.0%	17.0%
		4.00	Count	1	5	6

				% within A_F	1.2%	25.0%	5.7%
Total		Count		86	20	106	
				% within A_F	100.0%	100.0%	100.0%
2.00	TechSkills	1.00	Count	6	0	6	
			% within A_F	15.8%	0.0%	14.3%	
		2.00	Count	18	3	21	
			% within A_F	47.4%	75.0%	50.0%	
		3.00	Count	14	1	15	
			% within A_F	36.8%	25.0%	35.7%	
		Total		Count	38	4	42
				% within A_F	100.0%	100.0%	100.0%
Total	TechSkills	1.00	Count	35	4	39	
			% within A_F	28.2%	16.7%	26.4%	
		2.00	Count	62	8	70	
			% within A_F	50.0%	33.3%	47.3%	
		3.00	Count	26	7	33	
			% within A_F	21.0%	29.2%	22.3%	
		4.00	Count	1	5	6	
			% within A_F	0.8%	20.8%	4.1%	
	Total		Count	124	24	148	
			% within A_F	100.0%	100.0%	100.0%	

RIGHT ATTITUDES, SOCIAL SKILLS

SocialSkills * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	SocialSkills	1.00	Count	5	7	6	5	20	43
			% within At which AIMS center did you study?	35.7%	50.0%	27.3%	29.4%	51.3%	40.6%
		2.00	Count	7	5	11	12	19	54
			% within At which AIMS center did you study?	50.0%	35.7%	50.0%	70.6%	48.7%	50.9%
		3.00	Count	1	2	3	0	0	6
			% within At which AIMS center did you study?	7.1%	14.3%	13.6%	0.0%	0.0%	5.7%
		4.00	Count	1	0	2	0	0	3
			% within At which AIMS center did you study?	7.1%	0.0%	9.1%	0.0%	0.0%	2.8%
		Total	Count	14	14	22	17	39	106
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SocialSkills	1.00	Count	1	3	0	1	9	14
			% within At which AIMS center did you study?	25.0%	37.5%	0.0%	14.3%	47.4%	33.3%
		2.00	Count	3	4	3	6	7	23
			% within At which AIMS center did you study?	75.0%	50.0%	75.0%	85.7%	36.8%	54.8%
		3.00	Count	0	0	1	0	2	3
			% within At which AIMS center did you study?	0.0%	0.0%	25.0%	0.0%	10.5%	7.1%
		4.00	Count	0	1	0	0	1	2
			% within At which AIMS center did you study?	0.0%	12.5%	0.0%	0.0%	5.3%	4.8%
		Total	Count	4	8	4	7	19	42
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	SocialSkills	1.00	Count	6	10	6	6	29	57
			% within At which AIMS center did you study?	33.3%	45.5%	23.1%	25.0%	50.0%	38.5%

	2.00	Count	10	9	14	18	26	77
		% within At which AIMS center did you study?	55.6%	40.9%	53.8%	75.0%	44.8%	52.0%
	3.00	Count	1	2	4	0	2	9
		% within At which AIMS center did you study?	5.6%	9.1%	15.4%	0.0%	3.4%	6.1%
	4.00	Count	1	1	2	0	1	5
		% within At which AIMS center did you study?	5.6%	4.5%	7.7%	0.0%	1.7%	3.4%
Total		Count	18	22	26	24	58	148
		% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SocialSkills * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SocialSkills	1.00	Count	6	37	43
			% within agegroup	35.3%	42.0%	41.0%
		2.00	Count	9	44	53
			% within agegroup	52.9%	50.0%	50.5%
		3.00	Count	0	6	6
			% within agegroup	0.0%	6.8%	5.7%
		4.00	Count	2	1	3
			% within agegroup	11.8%	1.1%	2.9%
	Total		Count	17	88	105
			% within agegroup	100.0%	100.0%	100.0%
2.00	SocialSkills	1.00	Count	2	12	14
			% within agegroup	16.7%	40.0%	33.3%
		2.00	Count	8	15	23
			% within agegroup	66.7%	50.0%	54.8%
		3.00	Count	2	1	3

				% within agegroup	16.7%	3.3%	7.1%
				4.00 Count	0	2	2
				% within agegroup	0.0%	6.7%	4.8%
Total				Count	12	30	42
				% within agegroup	100.0%	100.0%	100.0%
Total	SocialSkills	1.00	Count	8	49	57	
			% within agegroup	27.6%	41.5%	38.8%	
		2.00	Count	17	59	76	
			% within agegroup	58.6%	50.0%	51.7%	
		3.00	Count	2	7	9	
			% within agegroup	6.9%	5.9%	6.1%	
		4.00	Count	2	3	5	
			% within agegroup	6.9%	2.5%	3.4%	
		Total		Count	29	118	147
				% within agegroup	100.0%	100.0%	100.0%

SocialSkills * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	SocialSkills	1.00	Count	37	6	43
			% within A_F	43.0%	30.0%	40.6%
		2.00	Count	45	9	54
			% within A_F	52.3%	45.0%	50.9%
		3.00	Count	4	2	6
			% within A_F	4.7%	10.0%	5.7%
		4.00	Count	0	3	3
			% within A_F	0.0%	15.0%	2.8%

Total			Count	86	20	106
			% within A_F	100.0%	100.0%	100.0%
2.00	SocialSkills	1.00	Count	14	0	14
			% within A_F	36.8%	0.0%	33.3%
		2.00	Count	20	3	23
			% within A_F	52.6%	75.0%	54.8%
		3.00	Count	2	1	3
			% within A_F	5.3%	25.0%	7.1%
		4.00	Count	2	0	2
			% within A_F	5.3%	0.0%	4.8%
		Total		Count	38	4
				% within A_F	100.0%	100.0%
Total	SocialSkills	1.00	Count	51	6	57
			% within A_F	41.1%	25.0%	38.5%
		2.00	Count	65	12	77
			% within A_F	52.4%	50.0%	52.0%
		3.00	Count	6	3	9
			% within A_F	4.8%	12.5%	6.1%
		4.00	Count	2	3	5
			% within A_F	1.6%	12.5%	3.4%
		Total		Count	124	24
				% within A_F	100.0%	100.0%

FIT MY CAREER

FitCareerAspir * At which AIMS center did you study? * sex Crosstabulation

Sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	FitCareerAspir	1.00	Count	4	3	1	1	17	26
			% within At which AIMS center did you study?	28.6%	21.4%	4.5%	5.9%	43.6%	24.5%
		2.00	Count	3	6	11	9	14	43
			% within At which AIMS center did you study?	21.4%	42.9%	50.0%	52.9%	35.9%	40.6%
		3.00	Count	7	5	6	7	7	32
			% within At which AIMS center did you study?	50.0%	35.7%	27.3%	41.2%	17.9%	30.2%
		4.00	Count	0	0	4	0	1	5
			% within At which AIMS center did you study?	0.0%	0.0%	18.2%	0.0%	2.6%	4.7%
		Total	Count	14	14	22	17	39	106
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	FitCareerAspir	1.00	Count	0	2	0	1	5	8
			% within At which AIMS center did you study?	0.0%	25.0%	0.0%	14.3%	26.3%	19.0%
		2.00	Count	2	3	0	1	6	12
			% within At which AIMS center did you study?	50.0%	37.5%	0.0%	14.3%	31.6%	28.6%
		3.00	Count	2	3	4	4	7	20
			% within At which AIMS center did you study?	50.0%	37.5%	100.0%	57.1%	36.8%	47.6%
		4.00	Count	0	0	0	1	1	2
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	14.3%	5.3%	4.8%
		Total	Count	4	8	4	7	19	42
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	FitCareerAspir	1.00	Count	4	5	1	2	22	34
			% within At which AIMS center did you study?	22.2%	22.7%	3.8%	8.3%	37.9%	23.0%

	2.00	Count	5	9	11	10	20	55
		% within At which AIMS center did you study?	27.8%	40.9%	42.3%	41.7%	34.5%	37.2%
	3.00	Count	9	8	10	11	14	52
		% within At which AIMS center did you study?	50.0%	36.4%	38.5%	45.8%	24.1%	35.1%
	4.00	Count	0	0	4	1	2	7
		% within At which AIMS center did you study?	0.0%	0.0%	15.4%	4.2%	3.4%	4.7%
Total		Count	18	22	26	24	58	148
		% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

FitCareerAspir * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	FitCareerAspir	1.00	Count	2	24	26
			% within agegroup	11.8%	27.3%	24.8%
		2.00	Count	6	36	42
			% within agegroup	35.3%	40.9%	40.0%
		3.00	Count	7	25	32
			% within agegroup	41.2%	28.4%	30.5%
		4.00	Count	2	3	5
			% within agegroup	11.8%	3.4%	4.8%
	Total		Count	17	88	105
			% within agegroup	100.0%	100.0%	100.0%
2.00	FitCareerAspir	1.00	Count	2	6	8
			% within agegroup	16.7%	20.0%	19.0%
		2.00	Count	3	9	12
			% within agegroup	25.0%	30.0%	28.6%
		3.00	Count	7	13	20

				% within agegroup	58.3%	43.3%	47.6%
				4.00 Count	0	2	2
				% within agegroup	0.0%	6.7%	4.8%
Total				Count	12	30	42
				% within agegroup	100.0%	100.0%	100.0%
Total	FitCareerAspir	1.00	Count	4	30	34	
			% within agegroup	13.8%	25.4%	23.1%	
		2.00	Count	9	45	54	
			% within agegroup	31.0%	38.1%	36.7%	
		3.00	Count	14	38	52	
			% within agegroup	48.3%	32.2%	35.4%	
		4.00	Count	2	5	7	
			% within agegroup	6.9%	4.2%	4.8%	
		Total		Count	29	118	147
				% within agegroup	100.0%	100.0%	100.0%

FitCareerAspir * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	FitCareerAspir	1.00	Count	22	4	26
			% within A_F	25.6%	20.0%	24.5%
		2.00	Count	37	6	43
			% within A_F	43.0%	30.0%	40.6%
		3.00	Count	25	7	32
			% within A_F	29.1%	35.0%	30.2%
		4.00	Count	2	3	5

				% within A_F	2.3%	15.0%	4.7%
Total				Count	86	20	106
				% within A_F	100.0%	100.0%	100.0%
2.00	FitCareerAspir	1.00	Count	8	0	8	
			% within A_F	21.1%	0.0%	19.0%	
		2.00	Count	11	1	12	
			% within A_F	28.9%	25.0%	28.6%	
		3.00	Count	17	3	20	
			% within A_F	44.7%	75.0%	47.6%	
		4.00	Count	2	0	2	
			% within A_F	5.3%	0.0%	4.8%	
		Total		Count	38	4	42
				% within A_F	100.0%	100.0%	100.0%
Total	FitCareerAspir	1.00	Count	30	4	34	
			% within A_F	24.2%	16.7%	23.0%	
		2.00	Count	48	7	55	
			% within A_F	38.7%	29.2%	37.2%	
		3.00	Count	42	10	52	
			% within A_F	33.9%	41.7%	35.1%	
		4.00	Count	4	3	7	
			% within A_F	3.2%	12.5%	4.7%	
		Total		Count	124	24	148
				% within A_F	100.0%	100.0%	100.0%

HOW SATISFIED ARE YOU

	N	Very Satisfied	Satisfied	Unsatisfied	Very Unsatisfied
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Access to Learning Facilities	148	81		57		8		2	
Infrastructure	148	59		71		15		3	
Quality of Accommodation	148	42		83		20		3	
Other facilities, internet, leisure facilities	148	59		72		15		2	
Helpfulness of staff	148	60		72		13		3	
Social Life at AIMS	148	73		71		2		2	

HOW SATISFIED ARE YOU WITH: 1=Very Satisfied; 2 = Satisfied; 3 = Unsatisfied; 4 = Very Unsatisfied

ACCESS TO LEARNING FACILITIES

SatRat_Facilities * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	SatRat_Facilities	1.00	Count	8	9	11	10	26	64
			% within At which AIMS center did you study?	57.1%	64.3%	50.0%	58.8%	66.7%	60.4%
		2.00	Count	6	5	5	6	12	34
			% within At which AIMS center did you study?	42.9%	35.7%	22.7%	35.3%	30.8%	32.1%
		3.00	Count	0	0	6	0	1	7
			% within At which AIMS center did you study?	0.0%	0.0%	27.3%	0.0%	2.6%	6.6%
		4.00	Count	0	0	0	1	0	1
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	5.9%	0.0%	0.9%
	Total		Count	14	14	22	17	39	106
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SatRat_Facilities	1.00	Count	2	2	1	6	6	17
			% within At which AIMS center did you study?	50.0%	25.0%	25.0%	85.7%	31.6%	40.5%
		2.00	Count	2	6	2	1	12	23
			% within At which AIMS center did you study?	50.0%	75.0%	50.0%	14.3%	63.2%	54.8%

				3.00	Count	0	0	0	0	1	1
					% within At which AIMS center did you study?	0.0%	0.0%	0.0%	0.0%	5.3%	2.4%
				4.00	Count	0	0	1	0	0	1
					% within At which AIMS center did you study?	0.0%	0.0%	25.0%	0.0%	0.0%	2.4%
Total					Count	4	8	4	7	19	42
					% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	SatRat_Facilities	1.00	Count	10	11	12	16	32	81		
			% within At which AIMS center did you study?	55.6%	50.0%	46.2%	66.7%	55.2%	54.7%		
		2.00	Count	8	11	7	7	24	57		
			% within At which AIMS center did you study?	44.4%	50.0%	26.9%	29.2%	41.4%	38.5%		
		3.00	Count	0	0	6	0	2	8		
			% within At which AIMS center did you study?	0.0%	0.0%	23.1%	0.0%	3.4%	5.4%		
		4.00	Count	0	0	1	1	0	2		
			% within At which AIMS center did you study?	0.0%	0.0%	3.8%	4.2%	0.0%	1.4%		
		Total			Count	18	22	26	24	58	148
					% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SatRat_Facilities * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_Facilities	1.00	Count	10	54	64
			% within agegroup	58.8%	61.4%	61.0%
		2.00	Count	6	27	33
			% within agegroup	35.3%	30.7%	31.4%
		3.00	Count	1	6	7
			% within agegroup	5.9%	6.8%	6.7%
		4.00	Count	0	1	1
			% within agegroup	0.0%	1.1%	1.1%

		% within agegroup		0.0%	1.1%	1.0%
Total		Count		17	88	105
		% within agegroup		100.0%	100.0%	100.0%
2.00	SatRat_Facilities	1.00	Count	7	10	17
			% within agegroup	58.3%	33.3%	40.5%
		2.00	Count	5	18	23
			% within agegroup	41.7%	60.0%	54.8%
		3.00	Count	0	1	1
			% within agegroup	0.0%	3.3%	2.4%
		4.00	Count	0	1	1
			% within agegroup	0.0%	3.3%	2.4%
	Total		Count	12	30	42
			% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_Facilities	1.00	Count	17	64	81
			% within agegroup	58.6%	54.2%	55.1%
		2.00	Count	11	45	56
			% within agegroup	37.9%	38.1%	38.1%
		3.00	Count	1	7	8
			% within agegroup	3.4%	5.9%	5.4%
		4.00	Count	0	2	2
			% within agegroup	0.0%	1.7%	1.4%
	Total		Count	29	118	147
			% within agegroup	100.0%	100.0%	100.0%

SatRat_Facilities * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	SatRat_Facilities	1.00	Count	52	12	64
			% within A_F	60.5%	60.0%	60.4%
		2.00	Count	30	4	34
			% within A_F	34.9%	20.0%	32.1%
		3.00	Count	3	4	7
			% within A_F	3.5%	20.0%	6.6%
		4.00	Count	1	0	1
			% within A_F	1.2%	0.0%	0.9%
	Total		Count	86	20	106
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_Facilities	1.00	Count	15	2	17
			% within A_F	39.5%	50.0%	40.5%
		2.00	Count	22	1	23
			% within A_F	57.9%	25.0%	54.8%
		3.00	Count	1	0	1
			% within A_F	2.6%	0.0%	2.4%
		4.00	Count	0	1	1
			% within A_F	0.0%	25.0%	2.4%
	Total		Count	38	4	42
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_Facilities	1.00	Count	67	14	81
			% within A_F	54.0%	58.3%	54.7%
		2.00	Count	52	5	57

		% within A_F	41.9%	20.8%	38.5%
3.00	Count		4	4	8
		% within A_F	3.2%	16.7%	5.4%
4.00	Count		1	1	2
		% within A_F	0.8%	4.2%	1.4%
Total	Count		124	24	148
	% within A_F		100.0%	100.0%	100.0%

INRASTRUCTURE

SatRat_Infrastructure * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	SatRat_Infrastructure	1.00	Count	4	6	9	6	20	45
			% within At which AIMS center did you study?	28.6%	42.9%	40.9%	35.3%	51.3%	42.5%
		2.00	Count	7	5	11	8	18	49
			% within At which AIMS center did you study?	50.0%	35.7%	50.0%	47.1%	46.2%	46.2%
		3.00	Count	3	3	2	1	1	10
			% within At which AIMS center did you study?	21.4%	21.4%	9.1%	5.9%	2.6%	9.4%
		4.00	Count	0	0	0	2	0	2
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	11.8%	0.0%	1.9%
	Total		Count	14	14	22	17	39	106
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SatRat_Infrastructure	1.00	Count	1	2	1	4	6	14
			% within At which AIMS center did you study?	25.0%	25.0%	25.0%	57.1%	31.6%	33.3%
		2.00	Count	2	6	1	3	10	22
			% within At which AIMS center did you study?	50.0%	75.0%	25.0%	42.9%	52.6%	52.4%

				3.00	Count	1	0	1	0	3	5
					% within At which AIMS center did you study?	25.0%	0.0%	25.0%	0.0%	15.8%	11.9%
				4.00	Count	0	0	1	0	0	1
					% within At which AIMS center did you study?	0.0%	0.0%	25.0%	0.0%	0.0%	2.4%
Total					Count	4	8	4	7	19	42
					% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	SatRat_Infrastructure	1.00	Count	5	8	10	10	26	59		
			% within At which AIMS center did you study?	27.8%	36.4%	38.5%	41.7%	44.8%	39.9%		
		2.00	Count	9	11	12	11	28	71		
			% within At which AIMS center did you study?	50.0%	50.0%	46.2%	45.8%	48.3%	48.0%		
		3.00	Count	4	3	3	1	4	15		
			% within At which AIMS center did you study?	22.2%	13.6%	11.5%	4.2%	6.9%	10.1%		
		4.00	Count	0	0	1	2	0	3		
			% within At which AIMS center did you study?	0.0%	0.0%	3.8%	8.3%	0.0%	2.0%		
		Total			Count	18	22	26	24	58	148
					% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SatRat_Infrastructure * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_Infrastructure	1.00	Count	7	38	45
			% within agegroup	41.2%	43.2%	42.9%
		2.00	Count	8	40	48
			% within agegroup	47.1%	45.5%	45.7%
		3.00	Count	2	8	10
			% within agegroup	11.8%	9.1%	9.5%

		4.00	Count	0	2	2
			% within agegroup	0.0%	2.3%	1.9%
Total			Count	17	88	105
			% within agegroup	100.0%	100.0%	100.0%
2.00	SatRat_Infrastructure	1.00	Count	6	8	14
			% within agegroup	50.0%	26.7%	33.3%
		2.00	Count	4	18	22
			% within agegroup	33.3%	60.0%	52.4%
		3.00	Count	2	3	5
			% within agegroup	16.7%	10.0%	11.9%
		4.00	Count	0	1	1
			% within agegroup	0.0%	3.3%	2.4%
	Total		Count	12	30	42
			% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_Infrastructure	1.00	Count	13	46	59
			% within agegroup	44.8%	39.0%	40.1%
		2.00	Count	12	58	70
			% within agegroup	41.4%	49.2%	47.6%
		3.00	Count	4	11	15
			% within agegroup	13.8%	9.3%	10.2%
		4.00	Count	0	3	3
			% within agegroup	0.0%	2.5%	2.0%
	Total		Count	29	118	147
			% within agegroup	100.0%	100.0%	100.0%

SatRat_Infrastructure * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	SatRat_Infrastructure	1.00	Count	36	9	45
			% within A_F	41.9%	45.0%	42.5%
		2.00	Count	40	9	49
			% within A_F	46.5%	45.0%	46.2%
		3.00	Count	8	2	10
			% within A_F	9.3%	10.0%	9.4%
		4.00	Count	2	0	2
			% within A_F	2.3%	0.0%	1.9%
		Total	Count	86	20	106
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_Infrastructure	1.00	Count	13	1	14
			% within A_F	34.2%	25.0%	33.3%
		2.00	Count	21	1	22
			% within A_F	55.3%	25.0%	52.4%
		3.00	Count	4	1	5
			% within A_F	10.5%	25.0%	11.9%
		4.00	Count	0	1	1
			% within A_F	0.0%	25.0%	2.4%
		Total	Count	38	4	42
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_Infrastructure	1.00	Count	49	10	59
			% within A_F	39.5%	41.7%	39.9%
		2.00	Count	61	10	71

		% within A_F	49.2%	41.7%	48.0%
3.00	Count		12	3	15
		% within A_F	9.7%	12.5%	10.1%
4.00	Count		2	1	3
		% within A_F	1.6%	4.2%	2.0%
Total	Count		124	24	148
		% within A_F	100.0%	100.0%	100.0%

ACCOMMODATION

SatRat_Accommodation * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	SatRat_Accommodation	1.00	Count	4	3	9	4	10	30
			% within At which AIMS center did you study?	28.6%	21.4%	40.9%	23.5%	25.6%	28.3%
		2.00	Count	8	9	9	10	23	59
			% within At which AIMS center did you study?	57.1%	64.3%	40.9%	58.8%	59.0%	55.7%
		3.00	Count	2	2	4	2	5	15
			% within At which AIMS center did you study?	14.3%	14.3%	18.2%	11.8%	12.8%	14.2%
		4.00	Count	0	0	0	1	1	2
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	5.9%	2.6%	1.9%
	Total		Count	14	14	22	17	39	106

			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SatRat_Accommodation	1.00	Count	1	2	0	2	7	12
			% within At which AIMS center did you study?	25.0%	25.0%	0.0%	28.6%	36.8%	28.6%
		2.00	Count	2	5	3	5	9	24
			% within At which AIMS center did you study?	50.0%	62.5%	75.0%	71.4%	47.4%	57.1%
		3.00	Count	1	1	1	0	2	5
			% within At which AIMS center did you study?	25.0%	12.5%	25.0%	0.0%	10.5%	11.9%
		4.00	Count	0	0	0	0	1	1
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	0.0%	5.3%	2.4%
	Total		Count	4	8	4	7	19	42
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	SatRat_Accommodation	1.00	Count	5	5	9	6	17	42
			% within At which AIMS center did you study?	27.8%	22.7%	34.6%	25.0%	29.3%	28.4%
		2.00	Count	10	14	12	15	32	83
			% within At which AIMS center did you study?	55.6%	63.6%	46.2%	62.5%	55.2%	56.1%
		3.00	Count	3	3	5	2	7	20
			% within At which AIMS center did you study?	16.7%	13.6%	19.2%	8.3%	12.1%	13.5%
		4.00	Count	0	0	0	1	2	3

		% within At which AIMS center did you study?	0.0%	0.0%	0.0%	4.2%	3.4%	2.0%
Total	Count		18	22	26	24	58	148
		% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SatRat_Accommodation * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_Accommodation	1.00	Count	5	25	30
			% within agegroup	29.4%	28.4%	28.6%
		2.00	Count	10	49	59
			% within agegroup	58.8%	55.7%	56.2%
		3.00	Count	1	13	14
			% within agegroup	5.9%	14.8%	13.3%
		4.00	Count	1	1	2
			% within agegroup	5.9%	1.1%	1.9%
	Total	Count		17	88	105
		% within agegroup		100.0%	100.0%	100.0%
2.00	SatRat_Accommodation	1.00	Count	4	8	12
			% within agegroup	33.3%	26.7%	28.6%
		2.00	Count	7	17	24
			% within agegroup	58.3%	56.7%	57.1%
		3.00	Count	1	4	5
			% within agegroup	8.3%	13.3%	11.9%
		4.00	Count	0	1	1
			% within agegroup	0.0%	3.3%	2.4%

Total			Count	12	30	42
			% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_Accommodation	1.00	Count	9	33	42
			% within agegroup	31.0%	28.0%	28.6%
		2.00	Count	17	66	83
			% within agegroup	58.6%	55.9%	56.5%
		3.00	Count	2	17	19
			% within agegroup	6.9%	14.4%	12.9%
		4.00	Count	1	2	3
			% within agegroup	3.4%	1.7%	2.0%
Total		Count	29	118	147	
		% within agegroup	100.0%	100.0%	100.0%	

SatRat_Accommodation * A_F * sex Crosstabulation

				A_F		Total
				1.00	2.00	
Sex						
1.00	SatRat_Accommodation	1.00	Count	21	9	30
			% within A_F	24.4%	45.0%	28.3%
		2.00	Count	51	8	59
			% within A_F	59.3%	40.0%	55.7%
		3.00	Count	12	3	15
			% within A_F	14.0%	15.0%	14.2%
		4.00	Count	2	0	2
			% within A_F	2.3%	0.0%	1.9%
	Total		Count	86	20	106
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_Accommodation	1.00	Count	11	1	12

				% within A_F	28.9%	25.0%	28.6%
				2.00 Count	21	3	24
				% within A_F	55.3%	75.0%	57.1%
				3.00 Count	5	0	5
				% within A_F	13.2%	0.0%	11.9%
				4.00 Count	1	0	1
				% within A_F	2.6%	0.0%	2.4%
Total				Count	38	4	42
				% within A_F	100.0%	100.0%	100.0%
Total	SatRat_Accommodation	1.00	Count	32	10	42	
			% within A_F	25.8%	41.7%	28.4%	
		2.00	Count	72	11	83	
			% within A_F	58.1%	45.8%	56.1%	
		3.00	Count	17	3	20	
			% within A_F	13.7%	12.5%	13.5%	
		4.00	Count	3	0	3	
			% within A_F	2.4%	0.0%	2.0%	
		Total		Count	124	24	148
				% within A_F	100.0%	100.0%	100.0%

OTHER FACILITIES (INTERNET ETC)

SatRat_OtherFacilities * At which AIMS center did you study? * sex Crosstabulation

				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
sex									
1.00	SatRat_OtherFacilities	1.00	Count	1	1	9	8	24	43

				% within At which AIMS center did you study?	7.1%	7.1%	40.9%	47.1%	61.5%	40.6%
2.00				Count	11	9	8	7	13	48
				% within At which AIMS center did you study?	78.6%	64.3%	36.4%	41.2%	33.3%	45.3%
3.00				Count	2	3	5	1	2	13
				% within At which AIMS center did you study?	14.3%	21.4%	22.7%	5.9%	5.1%	12.3%
4.00				Count	0	1	0	1	0	2
				% within At which AIMS center did you study?	0.0%	7.1%	0.0%	5.9%	0.0%	1.9%
Total				Count	14	14	22	17	39	106
				% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SatRat_OtherFacilities	1.00	Count	2	1	1	6	6	16	
			% within At which AIMS center did you study?	50.0%	12.5%	25.0%	85.7%	31.6%	38.1%	
		2.00	Count	2	5	3	1	13	24	
			% within At which AIMS center did you study?	50.0%	62.5%	75.0%	14.3%	68.4%	57.1%	
		3.00	Count	0	2	0	0	0	2	
			% within At which AIMS center did you study?	0.0%	25.0%	0.0%	0.0%	0.0%	4.8%	
		Total		Count	4	8	4	7	19	42
				% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	SatRat_OtherFacilities	1.00	Count	3	2	10	14	30	59	
			% within At which AIMS center did you study?	16.7%	9.1%	38.5%	58.3%	51.7%	39.9%	
		2.00	Count	13	14	11	8	26	72	
			% within At which AIMS center did you study?	72.2%	63.6%	42.3%	33.3%	44.8%	48.6%	
		3.00	Count	2	5	5	1	2	15	
			% within At which AIMS center did you study?	11.1%	22.7%	19.2%	4.2%	3.4%	10.1%	
		4.00	Count	0	1	0	1	0	2	
			% within At which AIMS center did you study?	0.0%	4.5%	0.0%	4.2%	0.0%	1.4%	
		Total		Count	18	22	26	24	58	148

% within At which AIMS center did you study?

100.0%

100.0%

100.0%

100.0%

100.0%

100.0%

SatRat_OTHERfACILITIES * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_OtherFacilities	1.00	Count	6	37	43
			% within agegroup	35.3%	42.0%	41.0%
		2.00	Count	10	37	47
			% within agegroup	58.8%	42.0%	44.8%
		3.00	Count	1	12	13
			% within agegroup	5.9%	13.6%	12.4%
		4.00	Count	0	2	2
			% within agegroup	0.0%	2.3%	1.9%
	Total		Count	17	88	105
			% within agegroup	100.0%	100.0%	100.0%
2.00	SatRat_OtherFacilities	1.00	Count	7	9	16
			% within agegroup	58.3%	30.0%	38.1%
		2.00	Count	4	20	24
			% within agegroup	33.3%	66.7%	57.1%
		3.00	Count	1	1	2
			% within agegroup	8.3%	3.3%	4.8%
	Total		Count	12	30	42
			% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_OtherFacilities	1.00	Count	13	46	59
			% within agegroup	44.8%	39.0%	40.1%
		2.00	Count	14	57	71
			% within agegroup	48.3%	48.3%	48.3%

	3.00	Count	2	13	15
		% within agegroup	6.9%	11.0%	10.2%
	4.00	Count	0	2	2
		% within agegroup	0.0%	1.7%	1.4%
	Total	Count	29	118	147
		% within agegroup	100.0%	100.0%	100.0%

SatRat_OtherFacilities * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	SatRat_OtherFacilities	1.00	Count	33	10	43
			% within A_F	38.4%	50.0%	40.6%
		2.00	Count	39	9	48
			% within A_F	45.3%	45.0%	45.3%
		3.00	Count	12	1	13
			% within A_F	14.0%	5.0%	12.3%
	Total	4.00	Count	2	0	2
			% within A_F	2.3%	0.0%	1.9%
			Count	86	20	106
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_OtherFacilities	1.00	Count	15	1	16
			% within A_F	39.5%	25.0%	38.1%
		2.00	Count	21	3	24
			% within A_F	55.3%	75.0%	57.1%
		3.00	Count	2	0	2
			% within A_F	5.3%	0.0%	4.8%

Total			Count	38	4	42
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_OtherFacilities	1.00	Count	48	11	59
			% within A_F	38.7%	45.8%	39.9%
		2.00	Count	60	12	72
			% within A_F	48.4%	50.0%	48.6%
		3.00	Count	14	1	15
			% within A_F	11.3%	4.2%	10.1%
		4.00	Count	2	0	2
			% within A_F	1.6%	0.0%	1.4%
		Total		Count	124	24
				% within A_F	100.0%	100.0%

HELFULNESS OF STAFF

SatRat_Helpfulness * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	SatRat_Helpfulness	1.00	Count	5	3	2	7	26	43
			% within At which AIMS center did you study?	35.7%	21.4%	9.1%	41.2%	66.7%	40.6%
		2.00	Count	9	10	12	8	11	50
			% within At which AIMS center did you study?	64.3%	71.4%	54.5%	47.1%	28.2%	47.2%
		3.00	Count	0	1	6	1	2	10
			% within At which AIMS center did you study?	0.0%	7.1%	27.3%	5.9%	5.1%	9.4%
		4.00	Count	0	0	2	1	0	3
			% within At which AIMS center did you study?	0.0%	0.0%	9.1%	5.9%	0.0%	2.8%

Total				Count	14	14	22	17	39	106
				% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SatRat_Helpfulness	1.00	Count	2	0	1	5	9	17	
			% within At which AIMS center did you study?	50.0%	0.0%	25.0%	71.4%	47.4%	40.5%	
		2.00	Count	2	7	2	2	9	22	
			% within At which AIMS center did you study?	50.0%	87.5%	50.0%	28.6%	47.4%	52.4%	
		3.00	Count	0	1	1	0	1	3	
			% within At which AIMS center did you study?	0.0%	12.5%	25.0%	0.0%	5.3%	7.1%	
	Total		Count	4	8	4	7	19	42	
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Total	SatRat_Helpfulness	1.00	Count	7	3	3	12	35	60	
			% within At which AIMS center did you study?	38.9%	13.6%	11.5%	50.0%	60.3%	40.5%	
		2.00	Count	11	17	14	10	20	72	
			% within At which AIMS center did you study?	61.1%	77.3%	53.8%	41.7%	34.5%	48.6%	
		3.00	Count	0	2	7	1	3	13	
			% within At which AIMS center did you study?	0.0%	9.1%	26.9%	4.2%	5.2%	8.8%	
		4.00	Count	0	0	2	1	0	3	
			% within At which AIMS center did you study?	0.0%	0.0%	7.7%	4.2%	0.0%	2.0%	
	Total		Count	18	22	26	24	58	148	
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

SatRat_Helpfulness * agegroup * sex Crosstabulation

				agegroup		Total
				1.00	2.00	
sex						
1.00	SatRat_Helpfulness	1.00	Count	5	38	43
			% within agegroup	29.4%	43.2%	41.0%
	2.00		Count	12	37	49

				% within agegroup	70.6%	42.0%	46.7%			
		3.00	Count	0	10	10				
					% within agegroup	0.0%	11.4%	9.5%		
		4.00	Count	0	3	3				
					% within agegroup	0.0%	3.4%	2.9%		
		Total	Count	17	88	105				
					% within agegroup	100.0%	100.0%	100.0%		
		2.00	SatRat_Helpfulness	1.00	Count	6	11	17		
							% within agegroup	50.0%	36.7%	40.5%
				2.00	Count	5	17	22		
							% within agegroup	41.7%	56.7%	52.4%
3.00	Count			1	2	3				
				% within agegroup	8.3%	6.7%	7.1%			
Total		Count	12	30	42					
			% within agegroup	100.0%	100.0%	100.0%				
Total	SatRat_Helpfulness	1.00	Count	11	49	60				
					% within agegroup	37.9%	41.5%	40.8%		
		2.00	Count	17	54	71				
					% within agegroup	58.6%	45.8%	48.3%		
		3.00	Count	1	12	13				
					% within agegroup	3.4%	10.2%	8.8%		
		4.00	Count	0	3	3				
					% within agegroup	0.0%	2.5%	2.0%		
		Total		Count	29	118	147			
					% within agegroup	100.0%	100.0%	100.0%		

SatRat_Helpfulness * A_F * sex Crosstabulation

Sex				A_F		Total
				1.00	2.00	
1.00	SatRat_Helpfulness	1.00	Count	39	4	43
			% within A_F	45.3%	20.0%	40.6%
		2.00	Count	40	10	50
			% within A_F	46.5%	50.0%	47.2%
		3.00	Count	6	4	10
			% within A_F	7.0%	20.0%	9.4%
		4.00	Count	1	2	3
			% within A_F	1.2%	10.0%	2.8%
		Total	Count	86	20	106
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_Helpfulness	1.00	Count	16	1	17
			% within A_F	42.1%	25.0%	40.5%
		2.00	Count	19	3	22
			% within A_F	50.0%	75.0%	52.4%
		3.00	Count	3	0	3
			% within A_F	7.9%	0.0%	7.1%
		Total	Count	38	4	42
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_Helpfulness	1.00	Count	55	5	60
			% within A_F	44.4%	20.8%	40.5%
		2.00	Count	59	13	72
			% within A_F	47.6%	54.2%	48.6%
		3.00	Count	9	4	13
			% within A_F	7.3%	16.7%	8.8%

	4.00	Count	1	2	3
		% within A_F	0.8%	8.3%	2.0%
Total		Count	124	24	148
		% within A_F	100.0%	100.0%	100.0%

SOCIAL LIFE AT AIMS CENTRE

SatRat_SocialLife * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	SatRat_SocialLife	1.00	Count	6	5	14	4	28	57
			% within At which AIMS center did you study?	42.9%	35.7%	63.6%	23.5%	71.8%	53.8%
		2.00	Count	8	9	6	11	11	45
			% within At which AIMS center did you study?	57.1%	64.3%	27.3%	64.7%	28.2%	42.5%
		3.00	Count	0	0	2	0	0	2
			% within At which AIMS center did you study?	0.0%	0.0%	9.1%	0.0%	0.0%	1.9%
		4.00	Count	0	0	0	2	0	2
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	11.8%	0.0%	1.9%
	Total		Count	14	14	22	17	39	106
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SatRat_SocialLife	1.00	Count	2	1	1	4	8	16
			% within At which AIMS center did you study?	50.0%	12.5%	25.0%	57.1%	42.1%	38.1%
		2.00	Count	2	7	3	3	11	26
			% within At which AIMS center did you study?	50.0%	87.5%	75.0%	42.9%	57.9%	61.9%
	Total		Count	4	8	4	7	19	42
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Total	SatRat_SocialLife	1.00	Count	8	6	15	8	36	73
			% within At which AIMS center did you study?	44.4%	27.3%	57.7%	33.3%	62.1%	49.3%
		2.00	Count	10	16	9	14	22	71
			% within At which AIMS center did you study?	55.6%	72.7%	34.6%	58.3%	37.9%	48.0%
		3.00	Count	0	0	2	0	0	2
			% within At which AIMS center did you study?	0.0%	0.0%	7.7%	0.0%	0.0%	1.4%
		4.00	Count	0	0	0	2	0	2
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	8.3%	0.0%	1.4%
	Total	Count	18	22	26	24	58	148	
		% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

SatRat_SocialLife * agegroup * sex Crosstabulation

Sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_SocialLife	1.00	Count	7	49	56
			% within agegroup	41.2%	55.7%	53.3%
		2.00	Count	10	35	45
			% within agegroup	58.8%	39.8%	42.9%
		3.00	Count	0	2	2
			% within agegroup	0.0%	2.3%	1.9%
		4.00	Count	0	2	2
			% within agegroup	0.0%	2.3%	1.9%
	Total		Count	17	88	105
			% within agegroup	100.0%	100.0%	100.0%
2.00	SatRat_SocialLife	1.00	Count	6	10	16
			% within agegroup	50.0%	33.3%	38.1%
		2.00	Count	6	20	26

				% within agegroup	50.0%	66.7%	61.9%
Total				Count	12	30	42
				% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_SocialLife	1.00	Count	13	59	72	
			% within agegroup	44.8%	50.0%	49.0%	
		2.00	Count	16	55	71	
			% within agegroup	55.2%	46.6%	48.3%	
		3.00	Count	0	2	2	
			% within agegroup	0.0%	1.7%	1.4%	
		4.00	Count	0	2	2	
			% within agegroup	0.0%	1.7%	1.4%	
		Total		Count	29	118	147
				% within agegroup	100.0%	100.0%	100.0%

SatRat_SocialLife * A_F * sex Crosstabulation

Sex				A_F		Total
				1.00	2.00	
1.00	SatRat_SocialLife	1.00	Count	43	14	57
			% within A_F	50.0%	70.0%	53.8%
		2.00	Count	40	5	45
			% within A_F	46.5%	25.0%	42.5%
		3.00	Count	1	1	2
			% within A_F	1.2%	5.0%	1.9%
		4.00	Count	2	0	2
			% within A_F	2.3%	0.0%	1.9%
	Total		Count	86	20	106
			% within A_F	100.0%	100.0%	100.0%

2.00	SatRat_SocialLife	1.00	Count	15	1	16
			% within A_F	39.5%	25.0%	38.1%
		2.00	Count	23	3	26
			% within A_F	60.5%	75.0%	61.9%
		Total	Count	38	4	42
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_SocialLife	1.00	Count	58	15	73
			% within A_F	46.8%	62.5%	49.3%
		2.00	Count	63	8	71
			% within A_F	50.8%	33.3%	48.0%
		3.00	Count	1	1	2
			% within A_F	0.8%	4.2%	1.4%
		4.00	Count	2	0	2
			% within A_F	1.6%	0.0%	1.4%
		Total	Count	124	24	148
			% within A_F	100.0%	100.0%	100.0%

*****88.

RATING of Quality of AIMS Course Excellent 54; Good 77; Average 17

OverallQuality * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	OverallQuality	1.00	Count	5	10	4	5	19	43
			% within At which AIMS center did you study?	35.7%	71.4%	18.2%	29.4%	48.7%	40.6%
		2.00	Count	9	3	8	11	20	51
			% within At which AIMS center did you study?	64.3%	21.4%	36.4%	64.7%	51.3%	48.1%

				3.00	Count	0	1	10	1	0	12
					% within At which AIMS center did you study?	0.0%	7.1%	45.5%	5.9%	0.0%	11.3%
Total					Count	14	14	22	17	39	106
					% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	OverallQuality	1.00	Count	1	4	0	0	6	11		
			% within At which AIMS center did you study?	25.0%	50.0%	0.0%	0.0%	31.6%	26.2%		
		2.00	Count	3	3	4	5	11	26		
			% within At which AIMS center did you study?	75.0%	37.5%	100.0%	71.4%	57.9%	61.9%		
		3.00	Count	0	1	0	2	2	5		
			% within At which AIMS center did you study?	0.0%	12.5%	0.0%	28.6%	10.5%	11.9%		
	Total		Count	4	8	4	7	19	42		
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
Total	OverallQuality	1.00	Count	6	14	4	5	25	54		
			% within At which AIMS center did you study?	33.3%	63.6%	15.4%	20.8%	43.1%	36.5%		
		2.00	Count	12	6	12	16	31	77		
			% within At which AIMS center did you study?	66.7%	27.3%	46.2%	66.7%	53.4%	52.0%		
		3.00	Count	0	2	10	3	2	17		
			% within At which AIMS center did you study?	0.0%	9.1%	38.5%	12.5%	3.4%	11.5%		
	Total		Count	18	22	26	24	58	148		
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		

OverallQuality * agegroup * sex Crosstabulation

				agegroup		Total	
				1.00	2.00		
Sex	1.00	OverallQuality	1.00	Count	7	36	43
				% within agegroup	41.2%	40.9%	41.0%
		2.00	Count	7	43	50	

			% within agegroup	41.2%	48.9%	47.6%
		3.00	Count	3	9	12
			% within agegroup	17.6%	10.2%	11.4%
Total			Count	17	88	105
			% within agegroup	100.0%	100.0%	100.0%
2.00	OverallQuality	1.00	Count	1	10	11
			% within agegroup	8.3%	33.3%	26.2%
		2.00	Count	9	17	26
			% within agegroup	75.0%	56.7%	61.9%
		3.00	Count	2	3	5
			% within agegroup	16.7%	10.0%	11.9%
		Total	Count	12	30	42
			% within agegroup	100.0%	100.0%	100.0%
Total	OverallQuality	1.00	Count	8	46	54
			% within agegroup	27.6%	39.0%	36.7%
		2.00	Count	16	60	76
			% within agegroup	55.2%	50.8%	51.7%
		3.00	Count	5	12	17
			% within agegroup	17.2%	10.2%	11.6%
		Total	Count	29	118	147
			% within agegroup	100.0%	100.0%	100.0%

OverallQuality * A_F * sex Crosstabulation

Sex				A_F		Total
				1.00	2.00	
1.00	OverallQuality	1.00	Count	37	6	43
				% within A_F		
				43.0%	30.0%	40.6%

				Count	Count	Count
				2.00	3.00	4.00
				% within A_F	% within A_F	% within A_F
				2.00	Count	45
				% within A_F	52.3%	
				3.00	Count	4
				% within A_F	4.7%	
Total				Count	86	20
				% within A_F	100.0%	100.0%
2.00	OverallQuality	1.00	Count	11	0	11
			% within A_F	28.9%	0.0%	26.2%
		2.00	Count	22	4	26
			% within A_F	57.9%	100.0%	61.9%
		3.00	Count	5	0	5
			% within A_F	13.2%	0.0%	11.9%
		Total	Count	38	4	42
			% within A_F	100.0%	100.0%	100.0%
Total	OverallQuality	1.00	Count	48	6	54
			% within A_F	38.7%	25.0%	36.5%
		2.00	Count	67	10	77
			% within A_F	54.0%	41.7%	52.0%
		3.00	Count	9	8	17
			% within A_F	7.3%	33.3%	11.5%
		Total	Count	124	24	148
			% within A_F	100.0%	100.0%	100.0%

VfM: Much more VfM 57; A bit more VfM 46; A bit lower VfM 32; Much lower VfM 12

SelfPer_VfM * At which AIMS center did you study? * sex Crosstabulation

sex	At which AIMS center did you study?	Total
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				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	SelfPer_VfM	1.00	Count	5	7	7	9	15	43
			% within At which AIMS center did you study?	35.7%	50.0%	31.8%	52.9%	38.5%	40.6%
		2.00	Count	5	3	4	4	15	31
			% within At which AIMS center did you study?	35.7%	21.4%	18.2%	23.5%	38.5%	29.2%
		3.00	Count	2	4	7	3	9	25
			% within At which AIMS center did you study?	14.3%	28.6%	31.8%	17.6%	23.1%	23.6%
		4.00	Count	2	0	4	1	0	7
			% within At which AIMS center did you study?	14.3%	0.0%	18.2%	5.9%	0.0%	6.6%
		Total	Count	14	14	22	17	39	106
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SelfPer_VfM	1.00	Count	0	5	0	1	8	14
			% within At which AIMS center did you study?	0.0%	62.5%	0.0%	14.3%	44.4%	34.1%
		2.00	Count	2	3	2	3	5	15
			% within At which AIMS center did you study?	50.0%	37.5%	50.0%	42.9%	27.8%	36.6%
		3.00	Count	1	0	1	3	2	7
			% within At which AIMS center did you study?	25.0%	0.0%	25.0%	42.9%	11.1%	17.1%
		4.00	Count	1	0	1	0	3	5
			% within At which AIMS center did you study?	25.0%	0.0%	25.0%	0.0%	16.7%	12.2%
		Total	Count	4	8	4	7	18	41
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	SelfPer_VfM	1.00	Count	5	12	7	10	23	57
			% within At which AIMS center did you study?	27.8%	54.5%	26.9%	41.7%	40.4%	38.8%
		2.00	Count	7	6	6	7	20	46
			% within At which AIMS center did you study?	38.9%	27.3%	23.1%	29.2%	35.1%	31.3%
		3.00	Count	3	4	8	6	11	32

		% within At which AIMS center did you study?	16.7%	18.2%	30.8%	25.0%	19.3%	21.8%
4.00	Count		3	0	5	1	3	12
		% within At which AIMS center did you study?	16.7%	0.0%	19.2%	4.2%	5.3%	8.2%
Total	Count		18	22	26	24	57	147
		% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SelfPer_VfM * agegroup * sex Crosstabulation

Sex				agegroup		Total
				1.00	2.00	
1.00	SelfPer_VfM	1.00	Count	7	36	43
			% within agegroup	41.2%	40.9%	41.0%
		2.00	Count	4	26	30
			% within agegroup	23.5%	29.5%	28.6%
		3.00	Count	3	22	25
			% within agegroup	17.6%	25.0%	23.8%
	Total	4.00	Count	3	4	7
			% within agegroup	17.6%	4.5%	6.7%
			Count	17	88	105
			% within agegroup	100.0%	100.0%	100.0%
2.00	SelfPer_VfM	1.00	Count	2	12	14
			% within agegroup	16.7%	41.4%	34.1%
		2.00	Count	7	8	15
			% within agegroup	58.3%	27.6%	36.6%
		3.00	Count	2	5	7
			% within agegroup	16.7%	17.2%	17.1%
	Total	4.00	Count	1	4	5
			% within agegroup	8.3%	13.8%	12.2%

Total			Count	12	29	41
			% within agegroup	100.0%	100.0%	100.0%
Total	SelfPer_VfM	1.00	Count	9	48	57
			% within agegroup	31.0%	41.0%	39.0%
		2.00	Count	11	34	45
			% within agegroup	37.9%	29.1%	30.8%
		3.00	Count	5	27	32
			% within agegroup	17.2%	23.1%	21.9%
		4.00	Count	4	8	12
			% within agegroup	13.8%	6.8%	8.2%
	Total	Count	29	117	146	
		% within agegroup	100.0%	100.0%	100.0%	

SelfPer_VfM * A_F * sex Crosstabulation

				A_F		Total
				1.00	2.00	
sex						
1.00	SelfPer_VfM	1.00	Count	37	6	43
			% within A_F	43.0%	30.0%	40.6%
		2.00	Count	27	4	31
			% within A_F	31.4%	20.0%	29.2%
		3.00	Count	19	6	25
			% within A_F	22.1%	30.0%	23.6%
		4.00	Count	3	4	7
			% within A_F	3.5%	20.0%	6.6%

Total			Count	86	20	106	
			% within A_F	100.0%	100.0%	100.0%	
2.00	SelfPer_VfM	1.00	Count	14	0	14	
			% within A_F	37.8%	0.0%	34.1%	
		2.00	Count	13	2	15	
			% within A_F	35.1%	50.0%	36.6%	
		3.00	Count	7	0	7	
			% within A_F	18.9%	0.0%	17.1%	
		4.00	Count	3	2	5	
			% within A_F	8.1%	50.0%	12.2%	
		Total		Count	37	4	41
				% within A_F	100.0%	100.0%	100.0%
Total	SelfPer_VfM	1.00	Count	51	6	57	
			% within A_F	41.5%	25.0%	38.8%	
		2.00	Count	40	6	46	
			% within A_F	32.5%	25.0%	31.3%	
		3.00	Count	26	6	32	
			% within A_F	21.1%	25.0%	21.8%	
		4.00	Count	6	6	12	
			% within A_F	4.9%	25.0%	8.2%	
		Total		Count	123	24	147

% within A_F	100.0%	100.0%	100.0%
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STUDY MET EXPECTATIONS: FULLY 28; LARGELY 65; SOMEWHAT 46; NOT AT ALL 4. TOTAL 143

AIMS_metexpect * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	AIMS_metexpect	1.00	Count	2	7	0	1	10	20
			% within At which AIMS center did you study?	15.4%	50.0%	0.0%	5.9%	27.0%	19.4%
		2.00	Count	8	5	10	7	24	54
			% within At which AIMS center did you study?	61.5%	35.7%	45.5%	41.2%	64.9%	52.4%
		3.00	Count	3	2	8	9	3	25
			% within At which AIMS center did you study?	23.1%	14.3%	36.4%	52.9%	8.1%	24.3%
		4.00	Count	0	0	4	0	0	4
			% within At which AIMS center did you study?	0.0%	0.0%	18.2%	0.0%	0.0%	3.9%
		Total	Count	13	14	22	17	37	103
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	AIMS_metexpect	1.00	Count	1	3	0	0	4	8
			% within At which AIMS center did you study?	25.0%	37.5%	0.0%	0.0%	23.5%	20.0%
		2.00	Count	2	3	0	1	5	11
			% within At which AIMS center did you study?	50.0%	37.5%	0.0%	14.3%	29.4%	27.5%
		3.00	Count	1	2	4	6	8	21
			% within At which AIMS center did you study?	25.0%	25.0%	100.0%	85.7%	47.1%	52.5%
		Total	Count	4	8	4	7	17	40
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	AIMS_metexpect	1.00	Count	3	10	0	1	14	28
			% within At which AIMS center did you study?	17.6%	45.5%	0.0%	4.2%	25.9%	19.6%

	2.00	Count	10	8	10	8	29	65
		% within At which AIMS center did you study?	58.8%	36.4%	38.5%	33.3%	53.7%	45.5%
	3.00	Count	4	4	12	15	11	46
		% within At which AIMS center did you study?	23.5%	18.2%	46.2%	62.5%	20.4%	32.2%
	4.00	Count	0	0	4	0	0	4
		% within At which AIMS center did you study?	0.0%	0.0%	15.4%	0.0%	0.0%	2.8%
	Total	Count	17	22	26	24	54	143
		% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

AIMS_metexpect * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	AIMS_metexpect	1.00	Count	2	18	20
			% within agegroup	12.5%	20.9%	19.6%
		2.00	Count	9	44	53
			% within agegroup	56.3%	51.2%	52.0%
		3.00	Count	3	22	25
			% within agegroup	18.8%	25.6%	24.5%
		4.00	Count	2	2	4
			% within agegroup	12.5%	2.3%	3.9%
	Total		Count	16	86	102
			% within agegroup	100.0%	100.0%	100.0%
2.00	AIMS_metexpect	1.00	Count	1	7	8
			% within agegroup	9.1%	24.1%	20.0%
		2.00	Count	3	8	11
			% within agegroup	27.3%	27.6%	27.5%
		3.00	Count	7	14	21

				% within agegroup	63.6%	48.3%	52.5%
Total				Count	11	29	40
				% within agegroup	100.0%	100.0%	100.0%
Total	AIMS_metexpect	1.00	Count	3	25	28	
			% within agegroup	11.1%	21.7%	19.7%	
		2.00	Count	12	52	64	
			% within agegroup	44.4%	45.2%	45.1%	
		3.00	Count	10	36	46	
			% within agegroup	37.0%	31.3%	32.4%	
		4.00	Count	2	2	4	
			% within agegroup	7.4%	1.7%	2.8%	
Total				Count	27	115	142
				% within agegroup	100.0%	100.0%	100.0%

AIMS_metexpect * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	AIMS_metexpect	1.00	Count	19	1	20
			% within A_F	22.4%	5.6%	19.4%
		2.00	Count	45	9	54
			% within A_F	52.9%	50.0%	52.4%
		3.00	Count	21	4	25
			% within A_F	24.7%	22.2%	24.3%
		4.00	Count	0	4	4
			% within A_F	0.0%	22.2%	3.9%
	Total	Count	85	18	103	
		% within A_F	100.0%	100.0%	100.0%	

2.00	AIMS_metexpect	1.00	Count	7	1	8
			% within A_F	19.4%	25.0%	20.0%
		2.00	Count	10	1	11
			% within A_F	27.8%	25.0%	27.5%
		3.00	Count	19	2	21
			% within A_F	52.8%	50.0%	52.5%
		Total	Count	36	4	40
			% within A_F	100.0%	100.0%	100.0%
Total	AIMS_metexpect	1.00	Count	26	2	28
			% within A_F	21.5%	9.1%	19.6%
	2.00	Count	55	10	65	
		% within A_F	45.5%	45.5%	45.5%	
	3.00	Count	40	6	46	
		% within A_F	33.1%	27.3%	32.2%	
	4.00	Count	0	4	4	
		% within A_F	0.0%	18.2%	2.8%	
	Total	Count	121	22	143	
		% within A_F	100.0%	100.0%	100.0%	

WOULD YOU RECOMMEND AIMS TO SOMEONE ELSE: FULLY 78; LARGELY 37; SOMEWHAT 26; NOT AT ALL 2.
TOTAL 143

Would Recommend * At which AIMS center did you study? * sex Crosstabulation

				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
sex									
1.00	Would_Recommend	1.00	Count	8	10	7	10	26	61
			% within At which AIMS center did you study?	61.5%	71.4%	31.8%	58.8%	70.3%	59.2%

				2.00	Count	5	3	3	4	9	24
					% within At which AIMS center did you study?	38.5%	21.4%	13.6%	23.5%	24.3%	23.3%
				3.00	Count	0	1	11	2	2	16
					% within At which AIMS center did you study?	0.0%	7.1%	50.0%	11.8%	5.4%	15.5%
				4.00	Count	0	0	1	1	0	2
					% within At which AIMS center did you study?	0.0%	0.0%	4.5%	5.9%	0.0%	1.9%
Total				Count	13	14	22	17	37	103	
					% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	Would_Recommend	1.00	Count	2	6	0	2	7	17		
			% within At which AIMS center did you study?	50.0%	75.0%	0.0%	28.6%	41.2%	42.5%		
		2.00	Count	2	1	2	2	6	13		
			% within At which AIMS center did you study?	50.0%	12.5%	50.0%	28.6%	35.3%	32.5%		
		3.00	Count	0	1	2	3	4	10		
			% within At which AIMS center did you study?	0.0%	12.5%	50.0%	42.9%	23.5%	25.0%		
		Total	Count	4	8	4	7	17	40		
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
Total	Would_Recommend	1.00	Count	10	16	7	12	33	78		
			% within At which AIMS center did you study?	58.8%	72.7%	26.9%	50.0%	61.1%	54.5%		
		2.00	Count	7	4	5	6	15	37		
			% within At which AIMS center did you study?	41.2%	18.2%	19.2%	25.0%	27.8%	25.9%		
		3.00	Count	0	2	13	5	6	26		
			% within At which AIMS center did you study?	0.0%	9.1%	50.0%	20.8%	11.1%	18.2%		
		4.00	Count	0	0	1	1	0	2		
			% within At which AIMS center did you study?	0.0%	0.0%	3.8%	4.2%	0.0%	1.4%		
Total		Count	17	22	26	24	54	143			
		% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%			

Would_Recommend * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	Would_Recommend	1.00	Count	10	50	60
			% within agegroup	62.5%	58.1%	58.8%
		2.00	Count	3	21	24
			% within agegroup	18.8%	24.4%	23.5%
		3.00	Count	3	13	16
			% within agegroup	18.8%	15.1%	15.7%
		4.00	Count	0	2	2
			% within agegroup	0.0%	2.3%	2.0%
		Total	Count	16	86	102
			% within agegroup	100.0%	100.0%	100.0%
2.00	Would_Recommend	1.00	Count	2	15	17
			% within agegroup	18.2%	51.7%	42.5%
		2.00	Count	4	9	13
			% within agegroup	36.4%	31.0%	32.5%
		3.00	Count	5	5	10
			% within agegroup	45.5%	17.2%	25.0%
		Total	Count	11	29	40
			% within agegroup	100.0%	100.0%	100.0%
Total	Would_Recommend	1.00	Count	12	65	77
			% within agegroup	44.4%	56.5%	54.2%
		2.00	Count	7	30	37
			% within agegroup	25.9%	26.1%	26.1%
		3.00	Count	8	18	26
			% within agegroup			

		% within agegroup	29.6%	15.7%	18.3%
4.00	Count		0	2	2
		% within agegroup	0.0%	1.7%	1.4%
Total	Count		27	115	142
		% within agegroup	100.0%	100.0%	100.0%

Would_ Recommend * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	Would_Recommend	1.00	Count	55	6	61
			% within A_F	64.7%	33.3%	59.2%
		2.00	Count	20	4	24
			% within A_F	23.5%	22.2%	23.3%
		3.00	Count	9	7	16
			% within A_F	10.6%	38.9%	15.5%
		4.00	Count	1	1	2
			% within A_F	1.2%	5.6%	1.9%
	Total		Count	85	18	103
			% within A_F	100.0%	100.0%	100.0%
2.00	Would_Recommend	1.00	Count	16	1	17
			% within A_F	44.4%	25.0%	42.5%
		2.00	Count	12	1	13
			% within A_F	33.3%	25.0%	32.5%
		3.00	Count	8	2	10
			% within A_F	22.2%	50.0%	25.0%
	Total		Count	36	4	40
			% within A_F	100.0%	100.0%	100.0%

Total	Would_Recommend	1.00	Count	71	7	78
			% within A_F	58.7%	31.8%	54.5%
		2.00	Count	32	5	37
			% within A_F	26.4%	22.7%	25.9%
		3.00	Count	17	9	26
			% within A_F	14.0%	40.9%	18.2%
		4.00	Count	1	1	2
			% within A_F	0.8%	4.5%	1.4%
		Total		Count	121	22
				% within A_F	100.0%	100.0%

FELT SAFE DID YOU FEEL SAFE AT AIMS: FULLY 76; LARGELY 48; SOMEWHAT 16; NOT AT ALL 3 TOTAL 143

FeltSafe * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	FeltSafe	1.00	Count	6	7	6	12	25	56
			% within At which AIMS center did you study?	46.2%	50.0%	27.3%	70.6%	67.6%	54.4%
		2.00	Count	3	6	11	5	10	35
			% within At which AIMS center did you study?	23.1%	42.9%	50.0%	29.4%	27.0%	34.0%
		3.00	Count	4	1	4	0	2	11
			% within At which AIMS center did you study?	30.8%	7.1%	18.2%	0.0%	5.4%	10.7%
		4.00	Count	0	0	1	0	0	1
			% within At which AIMS center did you study?	0.0%	0.0%	4.5%	0.0%	0.0%	1.0%
		Total		Count	13	14	22	17	37
				% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%

2.00	FeltSafe	1.00	Count	3	5	0	4	8	20
			% within At which AIMS center did you study?	75.0%	62.5%	0.0%	57.1%	47.1%	50.0%
		2.00	Count	0	2	3	3	5	13
			% within At which AIMS center did you study?	0.0%	25.0%	75.0%	42.9%	29.4%	32.5%
		3.00	Count	1	1	1	0	2	5
			% within At which AIMS center did you study?	25.0%	12.5%	25.0%	0.0%	11.8%	12.5%
		4.00	Count	0	0	0	0	2	2
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	0.0%	11.8%	5.0%
		Total	Count	4	8	4	7	17	40
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	FeltSafe	1.00	Count	9	12	6	16	33	76
			% within At which AIMS center did you study?	52.9%	54.5%	23.1%	66.7%	61.1%	53.1%
		2.00	Count	3	8	14	8	15	48
			% within At which AIMS center did you study?	17.6%	36.4%	53.8%	33.3%	27.8%	33.6%
		3.00	Count	5	2	5	0	4	16
			% within At which AIMS center did you study?	29.4%	9.1%	19.2%	0.0%	7.4%	11.2%
		4.00	Count	0	0	1	0	2	3
			% within At which AIMS center did you study?	0.0%	0.0%	3.8%	0.0%	3.7%	2.1%
		Total	Count	17	22	26	24	54	143
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

FeltSafe * agegroup * sex Crosstabulation

				agegroup		Total
				1.00	2.00	
1.00	FeltSafe	1.00	Count	7	48	55
			% within agegroup	43.8%	55.8%	53.9%
		2.00	Count	8	27	35

				% within agegroup	50.0%	31.4%	34.3%
		3.00	Count	1	10	11	
			% within agegroup	6.3%	11.6%	10.8%	
		4.00	Count	0	1	1	
			% within agegroup	0.0%	1.2%	1.0%	
		Total	Count	16	86	102	
			% within agegroup	100.0%	100.0%	100.0%	
2.00	FeltSafe	1.00	Count	6	14	20	
			% within agegroup	54.5%	48.3%	50.0%	
		2.00	Count	3	10	13	
			% within agegroup	27.3%	34.5%	32.5%	
		3.00	Count	1	4	5	
			% within agegroup	9.1%	13.8%	12.5%	
		4.00	Count	1	1	2	
			% within agegroup	9.1%	3.4%	5.0%	
		Total	Count	11	29	40	
			% within agegroup	100.0%	100.0%	100.0%	
Total	FeltSafe	1.00	Count	13	62	75	
			% within agegroup	48.1%	53.9%	52.8%	
		2.00	Count	11	37	48	
			% within agegroup	40.7%	32.2%	33.8%	
		3.00	Count	2	14	16	
			% within agegroup	7.4%	12.2%	11.3%	
		4.00	Count	1	2	3	
			% within agegroup	3.7%	1.7%	2.1%	
Total		Count	27	115	142		

% within agegroup

100.0%

100.0%

100.0%

FeltSafe * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	FeltSafe	1.00	Count	50	6	56
			% within A_F	58.8%	33.3%	54.4%
		2.00	Count	25	10	35
			% within A_F	29.4%	55.6%	34.0%
		3.00	Count	10	1	11
			% within A_F	11.8%	5.6%	10.7%
		4.00	Count	0	1	1
			% within A_F	0.0%	5.6%	1.0%
		Total	Count	85	18	103
			% within A_F	100.0%	100.0%	100.0%
2.00	FeltSafe	1.00	Count	18	2	20
			% within A_F	50.0%	50.0%	50.0%
		2.00	Count	12	1	13
			% within A_F	33.3%	25.0%	32.5%
		3.00	Count	4	1	5
			% within A_F	11.1%	25.0%	12.5%
		4.00	Count	2	0	2
			% within A_F	5.6%	0.0%	5.0%
		Total	Count	36	4	40
			% within A_F	100.0%	100.0%	100.0%
Total	FeltSafe	1.00	Count	68	8	76
			% within A_F	56.2%	36.4%	53.1%

2.00	Count	37	11	48
	% within A_F	30.6%	50.0%	33.6%
3.00	Count	14	2	16
	% within A_F	11.6%	9.1%	11.2%
4.00	Count	2	1	3
	% within A_F	1.7%	4.5%	2.1%
Total	Count	121	22	143
	% within A_F	100.0%	100.0%	100.0%

CURRENTLY HAVE A JOB? YES, WORK FOR AN EMPLOYER 59; SLEF-EMPLOYED 2; NO, CONTINUED WITH STUDY 46; UNEMPLOYED 35. TOTAL 142

CurrentJobStatus * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	CurrentJobStatus	1.00	Count	6	5	4	5	21	41
			% within At which AIMS center did you study?	54.5%	35.7%	25.0%	29.4%	56.8%	43.2%
		2.00	Count	1	0	1	0	0	2
			% within At which AIMS center did you study?	9.1%	0.0%	6.3%	0.0%	0.0%	2.1%
		3.00	Count	3	6	8	10	10	37
			% within At which AIMS center did you study?	27.3%	42.9%	50.0%	58.8%	27.0%	38.9%
		4.00	Count	1	3	3	2	6	15
			% within At which AIMS center did you study?	9.1%	21.4%	18.8%	11.8%	16.2%	15.8%
	Total		Count	11	14	16	17	37	95
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	CurrentJobStatus	1.00	Count	1	2	3	3	9	18

				% within At which AIMS center did you study?	33.3%	25.0%	100.0%	42.9%	56.3%	48.6%
3.00				Count	1	3	0	2	3	9
				% within At which AIMS center did you study?	33.3%	37.5%	0.0%	28.6%	18.8%	24.3%
4.00				Count	1	3	0	2	4	10
				% within At which AIMS center did you study?	33.3%	37.5%	0.0%	28.6%	25.0%	27.0%
Total				Count	3	8	3	7	16	37
				% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	CurrentJobStatus	1.00	Count	7	7	7	8	30	59	
			% within At which AIMS center did you study?	50.0%	31.8%	36.8%	33.3%	56.6%	44.7%	
		2.00	Count	1	0	1	0	0	2	
			% within At which AIMS center did you study?	7.1%	0.0%	5.3%	0.0%	0.0%	1.5%	
		3.00	Count	4	9	8	12	13	46	
			% within At which AIMS center did you study?	28.6%	40.9%	42.1%	50.0%	24.5%	34.8%	
		4.00	Count	2	6	3	4	10	25	
			% within At which AIMS center did you study?	14.3%	27.3%	15.8%	16.7%	18.9%	18.9%	
		Total		Count	14	22	19	24	53	132
				% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

CurrentJobStatus * agegroup * sex Crosstabulation

Sex				agegroup		Total
				1.00	2.00	
1.00	CurrentJobStatus	1.00	Count	4	37	41
			% within agegroup	30.8%	45.7%	43.6%
		2.00	Count	1	1	2
			% within agegroup	7.7%	1.2%	2.1%
		3.00	Count	8	28	36
			% within agegroup	61.5%	34.6%	38.3%

		4.00	Count	0	15	15
			% within agegroup	0.0%	18.5%	16.0%
Total			Count	13	81	94
			% within agegroup	100.0%	100.0%	100.0%
2.00	CurrentJobStatus	1.00	Count	7	11	18
			% within agegroup	77.8%	39.3%	48.6%
		3.00	Count	2	7	9
			% within agegroup	22.2%	25.0%	24.3%
		4.00	Count	0	10	10
			% within agegroup	0.0%	35.7%	27.0%
	Total		Count	9	28	37
			% within agegroup	100.0%	100.0%	100.0%
Total	CurrentJobStatus	1.00	Count	11	48	59
			% within agegroup	50.0%	44.0%	45.0%
		2.00	Count	1	1	2
			% within agegroup	4.5%	0.9%	1.5%
		3.00	Count	10	35	45
			% within agegroup	45.5%	32.1%	34.4%
		4.00	Count	0	25	25
			% within agegroup	0.0%	22.9%	19.1%
	Total		Count	22	109	131
			% within agegroup	100.0%	100.0%	100.0%

CurrentJobStatus * A_F * sex Crosstabulation

Sex				A_F		Total
				1.00	2.00	
1.00	CurrentJobStatus	1.00	Count	38	3	41

				% within A_F	44.7%	30.0%	43.2%	
		2.00	Count		2	0	2	
				% within A_F	2.4%	0.0%	2.1%	
		3.00	Count		30	7	37	
				% within A_F	35.3%	70.0%	38.9%	
		4.00	Count		15	0	15	
				% within A_F	17.6%	0.0%	15.8%	
Total			Count		85	10	95	
				% within A_F	100.0%	100.0%	100.0%	
2.00	CurrentJobStatus	1.00	Count		17	1	18	
			% within A_F		48.6%	50.0%	48.6%	
		3.00	Count		8	1	9	
			% within A_F		22.9%	50.0%	24.3%	
		4.00	Count		10	0	10	
			% within A_F		28.6%	0.0%	27.0%	
		Total		Count		35	2	37
						% within A_F	100.0%	100.0%
Total	CurrentJobStatus	1.00	Count		55	4	59	
			% within A_F		45.8%	33.3%	44.7%	
		2.00	Count		2	0	2	
			% within A_F		1.7%	0.0%	1.5%	
		3.00	Count		38	8	46	
			% within A_F		31.7%	66.7%	34.8%	
		4.00	Count		25	0	25	
			% within A_F		20.8%	0.0%	18.9%	
		Total		Count		120	12	132

% within A_F	100.0%	100.0%	100.0%
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HOW MUCH DO YOU CURRENTLY USE SKILLS

	N	A LOT	Somewhat	Not Much
Computing, Mathematical and scientific skills	144	117	22	5
Research and Analytical Skills	140	112	23	5
Communication Skills	143	125	12	6
Attitudes and Values	147	122	11	4
Innovation and Entrepreneurship	133	62	54	17

HOW MUCH DOYOU USE SKILLS IN BREAKDOWNS 1 = A lot; 2 =Somewhat; 3 Not much

COMPUTING KILLS

Use_Computing * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	Use_Computing	1.00	Count	11	11	16	14	35	87
			% within At which AIMS center did you study?	78.6%	78.6%	72.7%	82.4%	92.1%	82.9%
		2.00	Count	3	3	3	3	2	14
			% within At which AIMS center did you study?	21.4%	21.4%	13.6%	17.6%	5.3%	13.3%
		3.00	Count	0	0	3	0	1	4
			% within At which AIMS center did you study?	0.0%	0.0%	13.6%	0.0%	2.6%	3.8%
	Total		Count	14	14	22	17	38	105
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	Use_Computing	1.00	Count	2	7	3	5	13	30
			% within At which AIMS center did you study?	50.0%	87.5%	75.0%	71.4%	81.3%	76.9%
		2.00	Count	2	1	0	2	3	8

				% within At which AIMS center did you study?	50.0%	12.5%	0.0%	28.6%	18.8%	20.5%
				3.00 Count	0	0	1	0	0	1
				% within At which AIMS center did you study?	0.0%	0.0%	25.0%	0.0%	0.0%	2.6%
Total				Count	4	8	4	7	16	39
				% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	Use_Computing	1.00	Count	13	18	19	19	48	117	
			% within At which AIMS center did you study?	72.2%	81.8%	73.1%	79.2%	88.9%	81.3%	
		2.00	Count	5	4	3	5	5	22	
			% within At which AIMS center did you study?	27.8%	18.2%	11.5%	20.8%	9.3%	15.3%	
		3.00	Count	0	0	4	0	1	5	
			% within At which AIMS center did you study?	0.0%	0.0%	15.4%	0.0%	1.9%	3.5%	
		Total		Count	18	22	26	24	54	144
				% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Use_Computing * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	Use_Computing	1.00	Count	13	73	86
			% within agegroup	76.5%	83.9%	82.7%
		2.00	Count	3	11	14
			% within agegroup	17.6%	12.6%	13.5%
		3.00	Count	1	3	4
			% within agegroup	5.9%	3.4%	3.8%
	Total		Count	17	87	104
			% within agegroup	100.0%	100.0%	100.0%
2.00	Use_Computing	1.00	Count	7	23	30

				% within agegroup	63.6%	82.1%	76.9%
				2.00 Count	4	4	8
				% within agegroup	36.4%	14.3%	20.5%
				3.00 Count	0	1	1
				% within agegroup	0.0%	3.6%	2.6%
Total				Count	11	28	39
				% within agegroup	100.0%	100.0%	100.0%
Total	Use_Computing	1.00	Count	20	96	116	
			% within agegroup	71.4%	83.5%	81.1%	
		2.00	Count	7	15	22	
			% within agegroup	25.0%	13.0%	15.4%	
		3.00	Count	1	4	5	
			% within agegroup	3.6%	3.5%	3.5%	
		Total		Count	28	115	143
				% within agegroup	100.0%	100.0%	100.0%

Use_Computing * A_F * sex Crosstabulation

				A_F		Total
				1.00	2.00	
sex						
1.00	Use_Computing	1.00	Count	74	13	87
			% within A_F	87.1%	65.0%	82.9%
		2.00	Count	9	5	14
			% within A_F	10.6%	25.0%	13.3%
		3.00	Count	2	2	4
			% within A_F	2.4%	10.0%	3.8%
Total			Count	85	20	105

			% within A_F	100.0%	100.0%	100.0%
2.00	Use_Computing	1.00	Count	28	2	30
			% within A_F	80.0%	50.0%	76.9%
		2.00	Count	7	1	8
			% within A_F	20.0%	25.0%	20.5%
		3.00	Count	0	1	1
			% within A_F	0.0%	25.0%	2.6%
Total	Count	35	4	39		
	% within A_F	100.0%	100.0%	100.0%		
Total	Use_Computing	1.00	Count	102	15	117
			% within A_F	85.0%	62.5%	81.3%
		2.00	Count	16	6	22
			% within A_F	13.3%	25.0%	15.3%
		3.00	Count	2	3	5
			% within A_F	1.7%	12.5%	3.5%
Total	Count	120	24	144		
	% within A_F	100.0%	100.0%	100.0%		

RESEARCH SKILLS

Use_Research * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	Use_Research	1.00	Count	14	12	16	13	35	90
			% within At which AIMS center did you study?	100.0%	92.3%	76.2%	76.5%	92.1%	87.4%
		2.00	Count	0	1	3	4	3	11
			% within At which AIMS center did you study?	0.0%	7.7%	14.3%	23.5%	7.9%	10.7%

				0	0	2	0	0	2
				0.0%	0.0%	9.5%	0.0%	0.0%	1.9%
Total		Count		14	13	21	17	38	103
		% within At which AIMS center did you study?		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	Use_Research	1.00	Count	1	7	1	4	9	22
			% within At which AIMS center did you study?	33.3%	87.5%	25.0%	57.1%	60.0%	59.5%
		2.00	Count	2	0	2	2	6	12
			% within At which AIMS center did you study?	66.7%	0.0%	50.0%	28.6%	40.0%	32.4%
		3.00	Count	0	1	1	1	0	3
			% within At which AIMS center did you study?	0.0%	12.5%	25.0%	14.3%	0.0%	8.1%
	Total		Count	3	8	4	7	15	37
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	Use_Research	1.00	Count	15	19	17	17	44	112
			% within At which AIMS center did you study?	88.2%	90.5%	68.0%	70.8%	83.0%	80.0%
		2.00	Count	2	1	5	6	9	23
			% within At which AIMS center did you study?	11.8%	4.8%	20.0%	25.0%	17.0%	16.4%
		3.00	Count	0	1	3	1	0	5
			% within At which AIMS center did you study?	0.0%	4.8%	12.0%	4.2%	0.0%	3.6%
	Total		Count	17	21	25	24	53	140
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Use_Research * agegroup * sex Crosstabulation

				agegroup		Total
				1.00	2.00	
sex						
1.00	Use_Research	1.00	Count	14	75	89
			% within agegroup	82.4%	88.2%	87.3%

				2.00	Count	2	9	11
					% within agegroup	11.8%	10.6%	10.8%
				3.00	Count	1	1	2
					% within agegroup	5.9%	1.2%	2.0%
Total					Count	17	85	102
					% within agegroup	100.0%	100.0%	100.0%
2.00	Use_Research	1.00	Count	7	15	22		
			% within agegroup	70.0%	55.6%	59.5%		
	2.00		Count	3	9	12		
			% within agegroup	30.0%	33.3%	32.4%		
	3.00		Count	0	3	3		
			% within agegroup	0.0%	11.1%	8.1%		
	Total		Count	10	27	37		
			% within agegroup	100.0%	100.0%	100.0%		
Total	Use_Research	1.00	Count	21	90	111		
			% within agegroup	77.8%	80.4%	79.9%		
	2.00		Count	5	18	23		
			% within agegroup	18.5%	16.1%	16.5%		
	3.00		Count	1	4	5		
			% within agegroup	3.7%	3.6%	3.6%		
	Total		Count	27	112	139		
			% within agegroup	100.0%	100.0%	100.0%		

Use_Research * A_F * sex Crosstabulation

sex	A_F		
	1.00	2.00	
	Total		

1.00	Use_Research	1.00	Count	74	16	90
			% within A_F	89.2%	80.0%	87.4%
		2.00	Count	9	2	11
			% within A_F	10.8%	10.0%	10.7%
		3.00	Count	0	2	2
			% within A_F	0.0%	10.0%	1.9%
		Total	Count	83	20	103
			% within A_F	100.0%	100.0%	100.0%
2.00	Use_Research	1.00	Count	20	2	22
			% within A_F	58.8%	66.7%	59.5%
		2.00	Count	12	0	12
			% within A_F	35.3%	0.0%	32.4%
		3.00	Count	2	1	3
			% within A_F	5.9%	33.3%	8.1%
		Total	Count	34	3	37
			% within A_F	100.0%	100.0%	100.0%
Total	Use_Research	1.00	Count	94	18	112
			% within A_F	80.3%	78.3%	80.0%
		2.00	Count	21	2	23
			% within A_F	17.9%	8.7%	16.4%
		3.00	Count	2	3	5
			% within A_F	1.7%	13.0%	3.6%
		Total	Count	117	23	140
			% within A_F	100.0%	100.0%	100.0%

COMMUNICARTION SKILLS

Use_Comm * At which AIMS center did you study? * sex Crosstabulation

Sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	Use_Comm	1.00	Count	9	13	17	16	36	91
			% within At which AIMS center did you study?	64.3%	92.9%	77.3%	94.1%	94.7%	86.7%
		2.00	Count	4	1	2	1	1	9
			% within At which AIMS center did you study?	28.6%	7.1%	9.1%	5.9%	2.6%	8.6%
		3.00	Count	1	0	3	0	1	5
			% within At which AIMS center did you study?	7.1%	0.0%	13.6%	0.0%	2.6%	4.8%
		Total	Count	14	14	22	17	38	105
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
	2.00	1.00	Count	4	7	3	7	13	34
			% within At which AIMS center did you study?	100.0%	87.5%	75.0%	100.0%	86.7%	89.5%
		2.00	Count	0	1	1	0	1	3
			% within At which AIMS center did you study?	0.0%	12.5%	25.0%	0.0%	6.7%	7.9%
		3.00	Count	0	0	0	0	1	1
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	0.0%	6.7%	2.6%
		Total	Count	4	8	4	7	15	38
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	Use_Comm	1.00	Count	13	20	20	23	49	125
			% within At which AIMS center did you study?	72.2%	90.9%	76.9%	95.8%	92.5%	87.4%
		2.00	Count	4	2	3	1	2	12
			% within At which AIMS center did you study?	22.2%	9.1%	11.5%	4.2%	3.8%	8.4%
		3.00	Count	1	0	3	0	2	6
			% within At which AIMS center did you study?	5.6%	0.0%	11.5%	0.0%	3.8%	4.2%
		Total	Count	18	22	26	24	53	143

% within At which AIMS center did you study?

100.0%

100.0%

100.0%

100.0%

100.0%

100.0%

Use_Comm * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	Use_Comm	1.00	Count	12	78	90
			% within agegroup	70.6%	89.7%	86.5%
		2.00	Count	4	5	9
			% within agegroup	23.5%	5.7%	8.7%
		3.00	Count	1	4	5
			% within agegroup	5.9%	4.6%	4.8%
	Total	Count		17	87	104
		% within agegroup		100.0%	100.0%	100.0%
2.00	Use_Comm	1.00	Count	9	25	34
			% within agegroup	81.8%	92.6%	89.5%
		2.00	Count	1	2	3
			% within agegroup	9.1%	7.4%	7.9%
		3.00	Count	1	0	1
			% within agegroup	9.1%	0.0%	2.6%
	Total	Count		11	27	38
		% within agegroup		100.0%	100.0%	100.0%
Total	Use_Comm	1.00	Count	21	103	124
			% within agegroup	75.0%	90.4%	87.3%
		2.00	Count	5	7	12
			% within agegroup	17.9%	6.1%	8.5%
		3.00	Count	2	4	6
			% within agegroup			

	% within agegroup	7.1%	3.5%	4.2%
Total	Count	28	114	142
	% within agegroup	100.0%	100.0%	100.0%

Use_Comm * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	Use_Comm	1.00	Count	78	13	91
			% within A_F	91.8%	65.0%	86.7%
		2.00	Count	6	3	9
			% within A_F	7.1%	15.0%	8.6%
		3.00	Count	1	4	5
			% within A_F	1.2%	20.0%	4.8%
		Total	Count	85	20	105
			% within A_F	100.0%	100.0%	100.0%
2.00	Use_Comm	1.00	Count	31	3	34
			% within A_F	91.2%	75.0%	89.5%
		2.00	Count	2	1	3
			% within A_F	5.9%	25.0%	7.9%
		3.00	Count	1	0	1
			% within A_F	2.9%	0.0%	2.6%
		Total	Count	34	4	38
			% within A_F	100.0%	100.0%	100.0%
Total	Use_Comm	1.00	Count	109	16	125
			% within A_F	91.6%	66.7%	87.4%
		2.00	Count	8	4	12

		% within A_F	6.7%	16.7%	8.4%
3.00	Count		2	4	6
		% within A_F	1.7%	16.7%	4.2%
Total	Count		119	24	143
		% within A_F	100.0%	100.0%	100.0%

ATTITUDES

Use_Attitudes * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	Use_Attitudes	1.00	Count	11	12	17	15	36	91
			% within At which AIMS center did you study?	78.6%	85.7%	81.0%	88.2%	97.3%	88.3%
		2.00	Count	3	2	2	2	0	9
			% within At which AIMS center did you study?	21.4%	14.3%	9.5%	11.8%	0.0%	8.7%
		3.00	Count	0	0	2	0	1	3
			% within At which AIMS center did you study?	0.0%	0.0%	9.5%	0.0%	2.7%	2.9%
	Total		Count	14	14	21	17	37	103
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	Use_Attitudes	1.00	Count	3	8	2	6	12	31
			% within At which AIMS center did you study?	100.0%	100.0%	50.0%	100.0%	92.3%	91.2%
		2.00	Count	0	0	2	0	0	2
			% within At which AIMS center did you study?	0.0%	0.0%	50.0%	0.0%	0.0%	5.9%
		3.00	Count	0	0	0	0	1	1
			% within At which AIMS center did you study?	0.0%	0.0%	0.0%	0.0%	7.7%	2.9%
	Total		Count	3	8	4	6	13	34
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Total	Use_Attitudes	1.00	Count	14	20	19	21	48	122
			% within At which AIMS center did you study?	82.4%	90.9%	76.0%	91.3%	96.0%	89.1%
		2.00	Count	3	2	4	2	0	11
			% within At which AIMS center did you study?	17.6%	9.1%	16.0%	8.7%	0.0%	8.0%
		3.00	Count	0	0	2	0	2	4
			% within At which AIMS center did you study?	0.0%	0.0%	8.0%	0.0%	4.0%	2.9%
	Total	Count		17	22	25	23	50	137
		% within At which AIMS center did you study?		100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Use_Attitudes * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	Use_Attitudes	1.00	Count	14	76	90
			% within agegroup	87.5%	88.4%	88.2%
		2.00	Count	2	7	9
			% within agegroup	12.5%	8.1%	8.8%
		3.00	Count	0	3	3
			% within agegroup	0.0%	3.5%	2.9%
	Total	Count		16	86	102
		% within agegroup		100.0%	100.0%	100.0%
2.00	Use_Attitudes	1.00	Count	8	23	31
			% within agegroup	88.9%	92.0%	91.2%
		2.00	Count	0	2	2
			% within agegroup	0.0%	8.0%	5.9%
		3.00	Count	1	0	1
			% within agegroup	11.1%	0.0%	2.9%

Total			Count	9	25	34
			% within agegroup	100.0%	100.0%	100.0%
Total	Use_Attitudes	1.00	Count	22	99	121
			% within agegroup	88.0%	89.2%	89.0%
		2.00	Count	2	9	11
			% within agegroup	8.0%	8.1%	8.1%
		3.00	Count	1	3	4
			% within agegroup	4.0%	2.7%	2.9%
	Total		Count	25	111	136
			% within agegroup	100.0%	100.0%	100.0%

Use_Attitudes * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	Use_Attitudes	1.00	Count	77	14	91
			% within A_F	91.7%	73.7%	88.3%
		2.00	Count	5	4	9
			% within A_F	6.0%	21.1%	8.7%
		3.00	Count	2	1	3
			% within A_F	2.4%	5.3%	2.9%
	Total		Count	84	19	103
			% within A_F	100.0%	100.0%	100.0%
2.00	Use_Attitudes	1.00	Count	29	2	31
			% within A_F	93.5%	66.7%	91.2%
		2.00	Count	1	1	2
			% within A_F	3.2%	33.3%	5.9%
		3.00	Count	1	0	1

				% within A_F	3.2%	0.0%	2.9%
Total				Count	31	3	34
				% within A_F	100.0%	100.0%	100.0%
Total	Use_Attitudes	1.00	Count	106	16	122	
			% within A_F	92.2%	72.7%	89.1%	
		2.00	Count	6	5	11	
			% within A_F	5.2%	22.7%	8.0%	
		3.00	Count	3	1	4	
			% within A_F	2.6%	4.5%	2.9%	
		Total		Count	115	22	137
				% within A_F	100.0%	100.0%	100.0%

INNOVATION

Use_Innov * At which AIMS center did you study? * sex Crosstabulation

				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
sex									
1.00	Use_Innov	1.00	Count	5	4	10	9	20	48
			% within At which AIMS center did you study?	35.7%	33.3%	45.5%	60.0%	54.1%	48.0%
		2.00	Count	7	6	9	3	15	40
			% within At which AIMS center did you study?	50.0%	50.0%	40.9%	20.0%	40.5%	40.0%
		3.00	Count	2	2	3	3	2	12
			% within At which AIMS center did you study?	14.3%	16.7%	13.6%	20.0%	5.4%	12.0%
	Total		Count	14	12	22	15	37	100
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	Use_Innov	1.00	Count	3	3	3	0	5	14

				% within At which AIMS center did you study?	75.0%	37.5%	75.0%	0.0%	38.5%	42.4%
2.00				Count	0	4	1	4	5	14
				% within At which AIMS center did you study?	0.0%	50.0%	25.0%	100.0%	38.5%	42.4%
3.00				Count	1	1	0	0	3	5
				% within At which AIMS center did you study?	25.0%	12.5%	0.0%	0.0%	23.1%	15.2%
Total				Count	4	8	4	4	13	33
				% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	Use_Innov	1.00	Count	8	7	13	9	25	62	
			% within At which AIMS center did you study?	44.4%	35.0%	50.0%	47.4%	50.0%	46.6%	
	2.00	Count	7	10	10	7	20	54		
		% within At which AIMS center did you study?	38.9%	50.0%	38.5%	36.8%	40.0%	40.6%		
	3.00	Count	3	3	3	3	5	17		
		% within At which AIMS center did you study?	16.7%	15.0%	11.5%	15.8%	10.0%	12.8%		
	Total		Count	18	20	26	19	50	133	
			% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

Use_Innov * agegroup * sex Crosstabulation

Sex				agegroup		Total
				1.00	2.00	
1.00	Use_Innov	1.00	Count	7	41	48
			% within agegroup	46.7%	48.8%	48.5%
		2.00	Count	6	33	39
			% within agegroup	40.0%	39.3%	39.4%
		3.00	Count	2	10	12
			% within agegroup	13.3%	11.9%	12.1%
	Total	Count	15	84	99	
		% within agegroup	100.0%	100.0%	100.0%	

2.00	Use_Innov	1.00	Count	5	9	14
			% within agegroup	50.0%	39.1%	42.4%
		2.00	Count	3	11	14
			% within agegroup	30.0%	47.8%	42.4%
		3.00	Count	2	3	5
			% within agegroup	20.0%	13.0%	15.2%
	Total		Count	10	23	33
			% within agegroup	100.0%	100.0%	100.0%
Total	Use_Innov	1.00	Count	12	50	62
			% within agegroup	48.0%	46.7%	47.0%
		2.00	Count	9	44	53
			% within agegroup	36.0%	41.1%	40.2%
		3.00	Count	4	13	17
			% within agegroup	16.0%	12.1%	12.9%
	Total		Count	25	107	132
			% within agegroup	100.0%	100.0%	100.0%

Use_Innov * A_F * sex Crosstabulation

				A_F		Total
				1.00	2.00	
Sex						
1.00	Use_Innov	1.00	Count	42	6	48
			% within A_F	51.9%	31.6%	48.0%
		2.00	Count	29	11	40
			% within A_F	35.8%	57.9%	40.0%
		3.00	Count	10	2	12
			% within A_F	12.3%	10.5%	12.0%
	Total		Count	81	19	100

			% within A_F	100.0%	100.0%	100.0%
2.00	Use_Innov	1.00	Count	12	2	14
			% within A_F	41.4%	50.0%	42.4%
		2.00	Count	13	1	14
			% within A_F	44.8%	25.0%	42.4%
		3.00	Count	4	1	5
			% within A_F	13.8%	25.0%	15.2%
	Total		Count	29	4	33
			% within A_F	100.0%	100.0%	100.0%
Total	Use_Innov	1.00	Count	54	8	62
			% within A_F	49.1%	34.8%	46.6%
		2.00	Count	42	12	54
			% within A_F	38.2%	52.2%	40.6%
		3.00	Count	14	3	17
			% within A_F	12.7%	13.0%	12.8%
	Total		Count	110	23	133
			% within A_F	100.0%	100.0%	100.0%

DISCRIMINATION

Anyone discriminated against at AIMS: Self 12; Someone else 12; None 121. Total 145

Discriminated on basis of Gender 2; on basis of Race, Colour or Nationality 15; Age 1; Religion 3; Other 10

	Frequency
Valid	151

based on language difficulty, because I am from a french country. I had many difficulty in the beginning	1
Discrimination based on country of origin, and giving higher grades to those from their countries of origin	1
Discrimination basée sur l'alimentation	1
Discrimination basée sur la nationalité (A propos des offres de bourses étrangères)	1
En general et sur tout les plans, les anglophones etaient privilégiés et favorisés meme par rapport aux francophones. en resume, les francophones disent que AIMS Senegal est fait pour les anglophones	1
I was only one student from my country so at the begining it was not easy but at the end I got familiaried with everyone from all the countries.	1
Je suis parti à l' université de Ziguinchor pour faire mon projet de recherche avec mes propres moyens .AIMS a refusé de m' aider pour bien faire mes recherches .J' ai payé mon billet et ma chambre aussi ma subsistance sans l' aide de AIMS.Ce que je vois anormale .	1
like someone wanted to have more courses... and one of the tutor said even if he took more he will never get distinction	1
N/A	1
Please please think over the students stipend , it is the worst stipend when comparing with other institutions of the world. But every body knows the income of the institution is too much.	1
Si oui, quell type de discrimination? - veuillez expliquer	1
some groups are "naturally" better at maths than others which is a prejudice affecting scoring of assignments.	1
Some of the tutors likes some particular country. The,y therefore, assit them more.	1
Some problem between one of the staff and the student	1
The head tutor Titus Orwa always encouraged us to live as students from one family which was successful	1
The tutors prefer the students with the same nationality as them or treat the students based on the relation they have with them.	1
Total	167

Did you feel safe at AIMS: Fully 76; Largely 48; Somewhat 16; Not at All 3 Total 143

	Frequency
--	-----------

24/7 security, healthy insurance, resident permit were all provided to me. Which facilitated movement if required.

2

AIMS was just another home away from home . Everybody was one.

1

At aims I was feeling well in line with all facilitations.

1

At AIMS we were taught to be each other's keeper. To look after one another like siblings of the same family.

1

at some point the entrance had problems when opening and locking

1

because of the security provided and even the interaction with other people was good

1

Biggest problem was the walk way from and to the residence. It was really not safe for us given the make snakes that we used to see

1

By your stipend

1

Detailed whereabouts of students were taken at all times and security outfits were provided. The students also looked out each other

1

Est-ce que vous vous êtes senti sécurisé durant votre temps au centre AIMS? - Veuillez expliquer

1

Everything was good.

1

I center was very peaceful and well secured. Though very noisy because it was right besides the highway.

1

I feel safe when I was at AIMS

1

I feel the security at AIMS Cameroon can be improved a lot.

1

I got robbed in the first week. We were never warned about the community

1

I have been feeling safe at AIMS because no thefs, violence.

1

i was very secured all through in cape town.

1

Il y a eu des vols d'ordinateurs et de téléphones. Une frayeur régnait toujours vu que nous cohabitations avec Les serpents.

1

L'obscurité était remarquable, l'éclairage du campus la nuit était un problème.

In terms of academics, we were at the mercy of tutors who were not held accountable for the marks they gave out which you only see at the end of the program.

1

la présence d'un gardien aussi bien en journée que la nuit. Un bâtiment avec cloture qui ne laisse pas accès au grand public subsectible de faire du bruit.

1

La route qui mène à l'école est très dangereuse.

1

Toutes les résidences avec une boite à pharmacie, un virgile, des femmes de ménages et une connexion internet. Juste qu'on rencontrait parfois des reptiles sur le chemin qui mène aux résidences.	1
We always had security guards on the premises. The only insecurity I felt was from among fellow students, because stole money from my wallet in approximately the third week after my arrival at AIMS.	1
We had a strong security around. We could leave our properties anywhere around and get them safe even after two days.	1
we hade some officer... during parties we went out at night and we back with no danger	1
we lived happy and safe, no any threats	1
We were camped and provided with highly skilled security personnelsu	1
We were taken care of nicely and they kept track of our whereabouts so that we are not lost or exploited by other people in the foreign land.	1
Total	167

Study met Expectations: Fully 28; Largely 65; Somewhat 46; Not at all 4. Total 143

	Frequency
AIMS gave a chance to meet greet professor, curently I'm working with one	1
AIMS m' a formé et m' a laissé .Je ne fais rien	1
Because the knowledge I gained at Aims helped to be promoted to a new position in my kpb	1
cela ma permit de complèté mes compétence en programmation et l'apprentissage de certain outils de programmation tel que python qui n'était pas connu par avant.	1
Computer skills, English, presentations skill and I have gain a lot with the international lectures	1
En générale, est-ce votre étude au centre AIMS répond a vos attentes? - Veuillez expliquer	1
Even beyond what i imagined.	1
I am a statistician and the fact that statistics was one the requirement when applying I was disappointed when only one course in statistics was told. Again there was no tutor who had specialised in statistics and this was a challenge during the essay period.	1
I am applying the knowledge to my daily activities	1

I came to AIMS to study some courses related to Actuarial Sciences as I have seen AIMS provide such courses but surprisingly I had only one course "Financial Mathematics". There was another course but it has been removed and replaced by "Mathematical Modelling for Malaria" while in the previous block there was a same course.

1

I covered many concepts which were beneficial to my understanding of mathematics and sciences. maybe in future they could think of expanding into other sciences of Biology and Chemistry as well as Experimental Physics laboratories.

1

I ended up learning so many physics courses and very few applied maths courses, meanwhile my area of interest is actually applied maths.

1

I expected a center different from the normal African setting of pride and ego and I saw that AIMS is one of them.

1

I expected to have a more in depth study of my area(financial math)

1

I expected to study mathematics and do a bit of programming, but I got that and more. Plus my understanding of mathematics changed from just proofs to application of those proofs. I loved it because I was studying what I love and enjoy.

1

I gained good programming skills

1

I got more than I expected

1

I just learned skills there no physics there.

1

I learnt several new things during my program which are very useful for me now.

1

I really learnt how to use Maths to solve problems. Now I am very enthuse about Maths

1

I think AIMS built followers rather than leaders. It was not open to discussion about results in a very open and fluid manner. Also this closure of marks or lack of feedback does not give students information to pivot and build on their strengths and improve their weaknesses, feedback through effective communication is integral to progress.

1

I was expecting more Knowledge

1

I was expecting to be one of the greater reseacher. AIMS has given me light, now I'm struggling to meet this target.

1

I was looking forward to obtaining more mathematical and programing skills to be able to tackle a phd in Physics and I think I aquires those skills and in addition I was exposed to a good number of computational tools.

1

I was luck that the combination of courses was good for my field

1

I was somehow satisfied but I think if more time should is required for the courses other than just a period of 3 weeks

1

I went to AIMS to study and search for other opportunity of scholarship and my dreams was achieved for now I am in USA through AIMS

1

If you improve the stipend

1

It was a great experience. I expected a different style of teaching and I got it

1

it was good.

1

Je ne me sens pas du tout dans la façon dont les cours et évaluations se font à AIMS. Je pense qu'il faudrait que dès le début qu'on explique aux étudiants le système. L'importance de certains tuteurs ne se fait pas sentir dans l'enseignement. Pour le programme co-op il faudrait beaucoup de skills en programmation orienté objet et beaucoup de pratique dans l'analyse de données et de la statistique. Je le répète le programme co-op doit se démarquer du programme classique sinon les étudiants co-op iront en entreprise avec zéro compétence.

1

Je suis Data Scientiste aujourd'hui ceci en grande partie des cours de Machine Learning que j'ai reçu à AIMS

1

Je suis étudiante coop, et en suis le même programme que les régulier, ce qui cause un peu le déphase entre ce l'on fait et nos différents domaines

1

Je voulais à la fin de ma formation à AIMS d'être un expert en computer security mais malheureusement le système ne nous a pas permis d'atteindre nos objectifs de début.

1

la formation n'est pas spécifique et ne reflète pas la formation master universitaire

1

le curriculum et le programme académique est à revoir: très général pour un diplôme de master

1

Les cours ne sont pas adaptés à la formation. Par exemple je faisais le Master coopératif en Big Data et Machine Learning, mais j'ai jamais eu un cours de base de données à AIMS. Nous faisons beaucoup plus des cours qui n'entrent pas dans le cadre de notre formation tels que la Mécanique, la relativité, analyse fonctionnelle. Le système doit être revu de façon à former de vrais ingénieurs ou de vrais scientifiques.

1

Oui

1

Really wanted to be an Electrical Engineer but the study at AIMS has broaden my scope about in Mathematical Sciences

1

Recommendation enabled me get PhD opportunity

1

should add research on it. I dislike research masters

1

Some courses were irrelevant

1

some of the things I expected to achieve at AIMS were not achieve. things like going out of AIMS with full masters degree. I

1

suggest if possible to make a program for two years and become a full masters program.

The concept of going for another masters degree after aims pains me a lot its better to make the program 2 years with research.	1
However I gained a lot of knowledge which I cant gain in tradition universities like programming skills	
The nature of teaching, learning and assessing at AIMS is splendid	1
The quality of teaching was excellent as I expected	1
The time allowed for a given is very short so it was not possible to master every thing. An other issue is the period is very short I suggest that this time can be extended up to 12 or 16 months.	1
There were no enough modules/courses tailored in what I was aspiring to specialize in	1
To a large extent though we failed to get any statistics course	1
To some extent it met my expectation, though it is more in books than the reality. Probably we should focus on impacting the society that surrounds us more.	1
Yeah, before I expect aims to be like ordinary university but after reaching at aims I found some differences. I hope aims will be a bridge to my goals.	1
Total	167

Wold you recommend AIMS to someone else: Fully 78; Largely 37; Somewhat 26; Not at all 2. Total 143

Currently have a job? Yes, work for an employer 59; Slef-employed 2; No, continued with Study 46; Unemployed 35. Total 142

	Frequency
A student	1
After my study, I plan to apply for employment opportunity in the university.	1
Applications a des programmes, contact avec des entreprises, dépôts de CV. Applications a des bourses, prises de contact avec les professeurs	1
Applications to both academic and non-academic institutions.	1
Applications, followed by interviews, internship and graduate training programs	1
Applying	1

Applying for jobs. And beginning a start up with my colleagues but it was not successful

1

Applying to various universities as a tutor for now.

1

aucune

1

Aucune

1

became an entrepreneur

1

Bussiness

1

contact avec l'entreprise, auto formation

1

Enseibnement

1

enseignement

1

Entrepreneur

1

Find another opportunity to continue my studies

1

Formation et Certification sur des MOOC en Machine Learning et Bid Data, Recherche sur les nouvelles technologies de Data

1

Science et Travail sérieux et dur pendant ma période de Stage.

Free job

1

freelancing online

1

Got promoted at my earlier workplace

1

I am an assistant lecture candidate in my university

1

I am doing research masters and i have published two papers

1

I applied and did some follow up.

1

I concentrated in searching for an internship in the area that I specialized in at AIMS

1

I continued my study

1

I had a job already so after my study at AIMS, I went back to continue with my job

1

I had a teaching job befor comming to AIMS. I have continued with that Job while looking for a PhD position. I obtained a scholarship offer to this effect and hopefully I will start in July.

1

I haven't searched for a job since I left AIMS. I'm still doing my masters research at University of Dar es Salaam

1

I just applied.

1

I opened up a company. Current network of the company is about USD5000, and I have 3 full time employed staff.	1
I started working as an independent research before I went for my PhD program.	1
I used the internet to search for jobs. I also visited my university to follow lecturers classes hours	1
I usually search for jobs through internet.	1
I volunteered at my work place before AIMS; I was already assured of a volunteering placement before I finished my study at AIMS.	1
I was already working before I came to AIMS.	1
I went back to my former Job	1
I went to see my Manager for a Job.	1
I will be a researcher	1
I will contact some people and visit some services in order to find a job	1
Inscription au FNE, candidatures spontanées, enregistrement en ligne sur les plateformes de placements de personnel, réponse aux offres d'emploi	1
Internship and volunteer	1
IT and Telecommunication	1
J'ai fait des certifications en ligne pour augmenter mes chances vu que AIMS ne propose pas de certification à ses étudiants.	1
j'ai réussi un concours	1
j'enseigne dans un lycée bilingue de la place et entre temps je continue a faire de la recherche pour un phd en vu de l'inscription en septembre prochain.	1
Je dépose partout de l'emploi mais aussi nous envisageons avec des camarades de créer un start-up dans le domaine IT.	1
Je poursuis mes études	1
Je suis encore en stage, je n'est pas encore obtenu mon diplome.	1
les enseignements et les stages	1
Low level Development	1
NA	1
Neant	1

None	1
None but I would like to do business or work for NGO.	1
Part time job teacher	1
Part time lecturing in universities	1
part time university lecture	1
private sector	1
Quelles sont les activités entreprises de votre part dans vos efforts de recherche d'emploi/auto-emploi après l'obtention du diplôme ? - Open-Ended Response	1
research masters	1
rien	1
Rien dans le sens de recherche d'emploi	1
Stages et concours	1
Study french, learning programming languages	1
teaching	1
Teaching	2
Teaching and I have taken Online courses	1
Teaching position	1
Tender applications to university, awaiting reply. But I am currently self employed and also continued with my community development service.	1
The question is not clear to me.	1
travailler dans les entreprises	1
Travels, tests and interviews	1
university assistant	1
Uu7	1
Voluntary job for an IT organization.	1
Voluntary work	1

Volunteer job	1
Volunteer teaching	1
Volunteer work	1
writing of application letters to several organizations.	1
zéro effort. Je travaille là où j'étais en stage lors du programme co-op	1
Total	167

DISCRIMINATION DURING SEARCH FOR EMPLOYMENT

Experienced discrimination myself 8; Know someone who has experienced discrimination 1

Gender based? 4;

	Frequency
Demand for money by employer	1
Higher qualification	1
I have been denied a job in Tanzania because I am not a Tanzanian likewise many of my colleagues	1
I know of very many people who were denied jobs just because they never originated (not tribes) from the area where the organization is operating. Such discrimination are promoted by local politicians.	1
I was in an interview and the interviewer told me to be a lecturer base on the certificate I am having.	1
I was not given a job because of ethnic identity	1
It is almost like a norm for ladies in Nigeria for face some form of sexual harassment	1
toujours entre francophones et anglophones ou les stages et emplois etaient proposes aux anglophones et les francophones (quelque) reclamaient mais hélas	1
When the advisors select for the next degrees	1
Total	167

Did SDO help in search for (self)employment: Yes 35; No 117

	Frequency
En faisant des dépôts de candidature auprès des entreprises	1
Helping us write good CVs	1
HOW TO GET A JOB	1
I learnt English and it was helpfull for me	1
I never search for Job cos I have got PhD offer before I left AIMS	1
Je n'ai fait aucune recherche d'emploi	1
oui par ce que notre responsable co-op a toujours été là lorsque nous recherchions un stage. Exercice de rédaction de cv, entretien virtuel, accompagnement pour les entretiens etc ...	1
Posting available vacancies and helping with the application processes	1
Pour mon stage.	1
Préparation aux entretiens de stage, Comment faire un CV en fonction de l'offre de stage et de ses compétences. En des conseils et suivis pendant notre stage.	1
Preparation of CV and training on entrepreneurship skills	1
professional devlopement	1
Regular weekly meetings and workshops.	1
Sessions d'amélioration de CV, sur comment passer un interview	1
Taught practical skills on entrepreneurship as well as job search/interview skills, etc	1
The send mails about some jobs available	1
They absolutely taught us on how to write winning CVs, how to conduct ourselves in interviews and also how to conduct ourselves during the job/training in the work area.	1
They given us information for the institutions which needs employees	1
They helped me to achieve my dreams of searching for scholarship.	1
They helped us by showing us what to do and how to do it best	1

they helped us how to do an interview, a good c.v or how to take opportunities when you see it	1
They provided a training on how to do a successful interview for job.	1
They thought us to sell our skills to the employer. They also thought us how to provide solution to problem in our locality which may lead to employment.	1
Through career advice and counseling	1
through the professional development studies	1
verify what I am looking for	1
We had several review sessions on CV and motivation letter writing before leaving AIMS and this has been helpful. We also had an interesting course on Employability skills	1
Went for a session and he advised me to prioritize my goals and to give a timeline. Did a great job at aligning my thought process. I do however think he was not given much time to impact students which is what you need since 70% of all you do at work is learnt on the job and less that 20% you learn through school. It's these self development and self esteem building that produces endurance and success.	1
Total	167

Did anyone Else at AIMS help in finding Employment: NO 118; YES 24

	Frequency
Academic Director provided several recommendation letters.	1
Camarade de la promotion: Lionel tondji	1
Career development manager	1
Deputy rector academic	1
Khadidiatou Dramé, Chargé finance	1
le professeur Marco de paris.	1
many teaching assistants	1
Mark Heerden	1
My AIMS classmate who recommended me for an internship opportunity	1

My colleagues and Research supervisor	1
my students friends	1
My supervisor at AIMS remained my friend at AIMS forever. And so, I was able to use him as my referee for every job application.	1
Noluvuyo	1
One of my colleague.	1
Prof.Pawel from Michigan State University where I am currently studying.	1
The Academic director and the visiting lecturer, infact I am currently under the tutelage of one of my lecturers at AIMS.	1
The tutors	1
Tutors and academic director	1
Wilfred Ndifon, Prof Emmanuel Essel, Antoine Tambue	1
Total	167

Rating of SDO guidance: Good 35; Satisfactory 36; Average (including ‘Modest’ and Moyen/à peu près utile) 35; Poor 15; Nothing 2; N/A 19. Total 142

SDO_guidance * At which AIMS center did you study? * sex Crosstabulation

sex				At which AIMS center did you study?					Total
				Cameroon	Ghana	Senegal	South Africa	Tanzania	
1.00	SDO_guidance	1.00	Count	2	6	10	2	8	28
			% within At which AIMS center did you study?	15.4%	46.2%	47.6%	15.4%	27.6%	31.5%
		2.00	Count	6	4	1	5	8	24
			% within At which AIMS center did you study?	46.2%	30.8%	4.8%	38.5%	27.6%	27.0%
		3.00	Count	4	3	6	4	7	24
			% within At which AIMS center did you study?	30.8%	23.1%	28.6%	30.8%	24.1%	27.0%
		4.00	Count	1	0	4	2	6	13

				% within At which AIMS center did you study?	7.7%	0.0%	19.0%	15.4%	20.7%	14.6%		
Total		Count			13	13	21	13	29	89		
				% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%		
2.00	SDO_guidance	1.00	Count		2	1	1	0	3	7		
			% within At which AIMS center did you study?		50.0%	14.3%	25.0%	0.0%	23.1%	20.6%		
		2.00	Count		0	4	2	3	3	12		
			% within At which AIMS center did you study?		0.0%	57.1%	50.0%	50.0%	23.1%	35.3%		
		3.00	Count		2	1	1	2	5	11		
			% within At which AIMS center did you study?		50.0%	14.3%	25.0%	33.3%	38.5%	32.4%		
		4.00	Count		0	1	0	1	2	4		
			% within At which AIMS center did you study?		0.0%	14.3%	0.0%	16.7%	15.4%	11.8%		
		Total		Count			4	7	4	6	13	34
						% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	SDO_guidance	1.00	Count		4	7	11	2	11	35		
			% within At which AIMS center did you study?		23.5%	35.0%	44.0%	10.5%	26.2%	28.5%		
		2.00	Count		6	8	3	8	11	36		
			% within At which AIMS center did you study?		35.3%	40.0%	12.0%	42.1%	26.2%	29.3%		
		3.00	Count		6	4	7	6	12	35		
			% within At which AIMS center did you study?		35.3%	20.0%	28.0%	31.6%	28.6%	28.5%		
		4.00	Count		1	1	4	3	8	17		
			% within At which AIMS center did you study?		5.9%	5.0%	16.0%	15.8%	19.0%	13.8%		
		Total		Count			17	20	25	19	42	123
						% within At which AIMS center did you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SDO_guidance * agegroup * sex Crosstabulation

Sex	agegroup		
	1.00	2.00	
	Total		

1.00	SDO_guidance	1.00	Count	5	23	28
			% within agegroup	38.5%	30.7%	31.8%
		2.00	Count	5	18	23
			% within agegroup	38.5%	24.0%	26.1%
		3.00	Count	2	22	24
			% within agegroup	15.4%	29.3%	27.3%
		4.00	Count	1	12	13
			% within agegroup	7.7%	16.0%	14.8%
		Total	Count	13	75	88
			% within agegroup	100.0%	100.0%	100.0%
2.00	SDO_guidance	1.00	Count	4	3	7
			% within agegroup	36.4%	13.0%	20.6%
		2.00	Count	2	10	12
			% within agegroup	18.2%	43.5%	35.3%
		3.00	Count	4	7	11
			% within agegroup	36.4%	30.4%	32.4%
		4.00	Count	1	3	4
			% within agegroup	9.1%	13.0%	11.8%
		Total	Count	11	23	34
			% within agegroup	100.0%	100.0%	100.0%
Total	SDO_guidance	1.00	Count	9	26	35
			% within agegroup	37.5%	26.5%	28.7%
		2.00	Count	7	28	35
			% within agegroup	29.2%	28.6%	28.7%
		3.00	Count	6	29	35
			% within agegroup	25.0%	29.6%	28.7%

4.00		Count	2	15	17
		% within agegroup	8.3%	15.3%	13.9%
Total		Count	24	98	122
		% within agegroup	100.0%	100.0%	100.0%

SDO_guidance * A_F * sex Crosstabulation

sex				A_F		Total
				1.00	2.00	
1.00	SDO_guidance	1.00	Count	22	6	28
			% within A_F	31.0%	33.3%	31.5%
		2.00	Count	24	0	24
			% within A_F	33.8%	0.0%	27.0%
		3.00	Count	16	8	24
			% within A_F	22.5%	44.4%	27.0%
		4.00	Count	9	4	13
			% within A_F	12.7%	22.2%	14.6%
	Total		Count	71	18	89
			% within A_F	100.0%	100.0%	100.0%
2.00	SDO_guidance	1.00	Count	4	3	7
			% within A_F	13.3%	75.0%	20.6%
		2.00	Count	12	0	12
			% within A_F	40.0%	0.0%	35.3%
		3.00	Count	10	1	11
			% within A_F	33.3%	25.0%	32.4%
		4.00	Count	4	0	4
			% within A_F	13.3%	0.0%	11.8%
	Total		Count	30	4	34

				% within A_F	100.0%	100.0%	100.0%	
Total	SDO_guidance	1.00	Count	26	9	35		
					% within A_F	25.7%	40.9%	28.5%
		2.00	Count	36	0	36		
					% within A_F	35.6%	0.0%	29.3%
		3.00	Count	26	9	35		
					% within A_F	25.7%	40.9%	28.5%
		4.00	Count	13	4	17		
					% within A_F	12.9%	18.2%	13.8%
Total		Count	101	22	123			
			% within A_F	100.0%	100.0%	100.0%		

Sat_Rat_Aplication * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	Sat_Rat_Aplication	1.00	Count	3	28	31
			% within agegroup	23.1%	45.9%	41.9%
		2.00	Count	9	30	39
			% within agegroup	69.2%	49.2%	52.7%
		3.00	Count	1	2	3
			% within agegroup	7.7%	3.3%	4.1%
		4.00	Count	0	1	1
			% within agegroup	0.0%	1.6%	1.4%
	Total	Count	13	61	74	
		% within agegroup	100.0%	100.0%	100.0%	
2.00	Sat_Rat_Aplication	1.00	Count	5	9	14
			% within agegroup	27.8%	40.9%	35.0%
		2.00	Count	13	13	26
			% within agegroup	72.2%	59.1%	65.0%
	Total	Count	18	22	40	
		% within agegroup	100.0%	100.0%	100.0%	
Total	Sat_Rat_Aplication	1.00	Count	8	37	45
			% within agegroup	25.8%	44.6%	39.5%
		2.00	Count	22	43	65
			% within agegroup	71.0%	51.8%	57.0%
		3.00	Count	1	2	3
			% within agegroup	3.2%	2.4%	2.6%
		4.00	Count	0	1	1
			% within agegroup	0.0%	1.2%	0.9%
	Total	Count	31	83	114	
		% within agegroup	100.0%	100.0%	100.0%	

SatRat_TL * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_TL	1.00	Count	11	33	44
			% within agegroup	40.7%	37.1%	37.9%
		2.00	Count	15	46	61
			% within agegroup	55.6%	51.7%	52.6%
		3.00	Count	0	5	5
			% within agegroup	0.0%	5.6%	4.3%
		4.00	Count	1	5	6
			% within agegroup	3.7%	5.6%	5.2%
	Total	Count		27	89	116
		% within agegroup		100.0%	100.0%	100.0%
2.00	SatRat_TL	1.00	Count	8	6	14
			% within agegroup	26.7%	27.3%	26.9%
		2.00	Count	19	15	34
			% within agegroup	63.3%	68.2%	65.4%
		3.00	Count	2	1	3
			% within agegroup	6.7%	4.5%	5.8%
		4.00	Count	1	0	1
			% within agegroup	3.3%	0.0%	1.9%
	Total	Count		30	22	52
		% within agegroup		100.0%	100.0%	100.0%
Total	SatRat_TL	1.00	Count	19	39	58
			% within agegroup	33.3%	35.1%	34.5%
		2.00	Count	34	61	95
			% within agegroup	59.6%	55.0%	56.5%
		3.00	Count	2	6	8
			% within agegroup	3.5%	5.4%	4.8%
		4.00	Count	2	5	7
			% within agegroup	3.5%	4.5%	4.2%
	Total	Count		57	111	168
		% within agegroup		100.0%	100.0%	100.0%

TL_A Instructional Material etc

SatRat_TL_A * At which AIMS center do you study? * sex Crosstabulation									
Sex				At which AIMS center do you study?					
				Cameroon	Ghana	Rwanda	Senegal	South Africa	Tanzania
1.00	SatRat_TL_A	1.00	Count	4	11	5	12	2	7
			% within At which AIMS center do you study?	21.1%	45.8%	22.7%	33.3%	33.3%	77.8%
		2.00	Count	10	13	13	13	4	1
			% within At which AIMS center do you study?	52.6%	54.2%	59.1%	36.1%	66.7%	11.1%
		3.00	Count	4	0	1	9	0	1
			% within At which AIMS center do you study?	21.1%	0.0%	4.5%	25.0%	0.0%	11.1%
		4.00	Count	1	0	3	2	0	0
			% within At which AIMS center do you study?	5.3%	0.0%	13.6%	5.6%	0.0%	0.0%
		Total	Count	19	24	22	36	6	9
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SatRat_TL_A	1.00	Count	1	3	2	2	6	1
			% within At which AIMS center do you study?	14.3%	20.0%	33.3%	16.7%	75.0%	25.0%
		2.00	Count	4	9	1	7	2	3
			% within At which AIMS center do you study?	57.1%	60.0%	16.7%	58.3%	25.0%	75.0%
		3.00	Count	2	3	3	3	0	0
			% within At which AIMS center do you study?	28.6%	20.0%	50.0%	25.0%	0.0%	0.0%
		Total	Count	7	15	6	12	8	4
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	SatRat_TL_A	1.00	Count	5	14	7	14	8	8
			% within At which AIMS center do you study?	19.2%	35.9%	25.0%	29.2%	57.1%	61.5%
		2.00	Count	14	22	14	20	6	4
			% within At which AIMS center do you study?	53.8%	56.4%	50.0%	41.7%	42.9%	30.8%
		3.00	Count	6	3	4	12	0	1
			% within At which AIMS center do you study?	23.1%	7.7%	14.3%	25.0%	0.0%	7.7%
		4.00	Count	1	0	3	2	0	0
			% within At which AIMS center do you study?	3.8%	0.0%	10.7%	4.2%	0.0%	0.0%
		Total	Count	26	39	28	48	14	13
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SatRat_TL_A * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_TL_A	1.00	Count	11	30	41
			% within agegroup	40.7%	33.7%	35.3%
		2.00	Count	13	41	54
			% within agegroup	48.1%	46.1%	46.6%
		3.00	Count	3	12	15
			% within agegroup	11.1%	13.5%	12.9%
		4.00	Count	0	6	6
			% within agegroup	0.0%	6.7%	5.2%
		Total	Count	27	89	116
			% within agegroup	100.0%	100.0%	100.0%
2.00	SatRat_TL_A	1.00	Count	8	7	15
			% within agegroup	26.7%	31.8%	28.8%
		2.00	Count	14	12	26
			% within agegroup	46.7%	54.5%	50.0%
		3.00	Count	8	3	11
			% within agegroup	26.7%	13.6%	21.2%
		Total	Count	30	22	52
			% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_TL_A	1.00	Count	19	37	56
			% within agegroup	33.3%	33.3%	33.3%
		2.00	Count	27	53	80
			% within agegroup	47.4%	47.7%	47.6%
		3.00	Count	11	15	26
			% within agegroup	19.3%	13.5%	15.5%
		4.00	Count	0	6	6
			% within agegroup	0.0%	5.4%	3.6%
		Total	Count	57	111	168
			% within agegroup	100.0%	100.0%	100.0%

SatRAt_TL_B * agegroup * sex Crosstabulation						
sex				agegroup		Total
				1.00	2.00	
1.00	SatRAt_TL_B	1.00	Count	14	41	55
			% within agegroup	51.9%	46.1%	47.4%
		2.00	Count	9	41	50
			% within agegroup	33.3%	46.1%	43.1%
		3.00	Count	2	5	7
			% within agegroup	7.4%	5.6%	6.0%
		4.00	Count	2	2	4
			% within agegroup	7.4%	2.2%	3.4%
	Total	Count		27	89	116
		% within agegroup		100.0%	100.0%	100.0%
2.00	SatRAt_TL_B	1.00	Count	13	12	25
			% within agegroup	43.3%	54.5%	48.1%
		2.00	Count	14	10	24
			% within agegroup	46.7%	45.5%	46.2%
		3.00	Count	3	0	3
			% within agegroup	10.0%	0.0%	5.8%
	Total	Count		30	22	52
		% within agegroup		100.0%	100.0%	100.0%
Total	SatRAt_TL_B	1.00	Count	27	53	80
			% within agegroup	47.4%	47.7%	47.6%
		2.00	Count	23	51	74
			% within agegroup	40.4%	45.9%	44.0%
		3.00	Count	5	5	10
			% within agegroup	8.8%	4.5%	6.0%
		4.00	Count	2	2	4
			% within agegroup	3.5%	1.8%	2.4%
	Total	Count		57	111	168
		% within agegroup		100.0%	100.0%	100.0%

SatRat_TL_C * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_TL_C	1.00	Count	6	14	20
			% within agegroup	22.2%	15.7%	17.2%
		2.00	Count	14	40	54
			% within agegroup	51.9%	44.9%	46.6%
		3.00	Count	6	26	32
			% within agegroup	22.2%	29.2%	27.6%
		4.00	Count	1	9	10
			% within agegroup	3.7%	10.1%	8.6%
	Total	Count		27	89	116
		% within agegroup		100.0%	100.0%	100.0%
2.00	SatRat_TL_C	1.00	Count	3	1	4
			% within agegroup	10.0%	4.5%	7.7%
		2.00	Count	17	16	33
			% within agegroup	56.7%	72.7%	63.5%
		3.00	Count	7	4	11
			% within agegroup	23.3%	18.2%	21.2%
		4.00	Count	3	1	4
			% within agegroup	10.0%	4.5%	7.7%
	Total	Count		30	22	52
		% within agegroup		100.0%	100.0%	100.0%
Total	SatRat_TL_C	1.00	Count	9	15	24
			% within agegroup	15.8%	13.5%	14.3%
		2.00	Count	31	56	87
			% within agegroup	54.4%	50.5%	51.8%
		3.00	Count	13	30	43
			% within agegroup	22.8%	27.0%	25.6%
		4.00	Count	4	10	14
			% within agegroup	7.0%	9.0%	8.3%
	Total	Count		57	111	168
		% within agegroup		100.0%	100.0%	100.0%

STUDENT SKILLS

MathsSkills

MathSkills * At which AIMS center do you study? * sex Crosstabulation									
sex				At which AIMS center do you study?					
				Cameroon	Ghana	Rwanda	Senegal	South Africa	Tanzania
1.00	MathSkills	1.00	Count	3	8	4	5	2	1
			% within At which AIMS center do you study?	15.8%	33.3%	18.2%	13.9%	33.3%	11.1%
		2.00	Count	11	15	13	17	2	7
			% within At which AIMS center do you study?	57.9%	62.5%	59.1%	47.2%	33.3%	77.8%
		3.00	Count	4	1	5	10	2	1
			% within At which AIMS center do you study?	21.1%	4.2%	22.7%	27.8%	33.3%	11.1%
		4.00	Count	1	0	0	4	0	0
			% within At which AIMS center do you study?	5.3%	0.0%	0.0%	11.1%	0.0%	0.0%
		Total	Count	19	24	22	36	6	9
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	MathSkills	1.00	Count	1	0	1	2	2	0
			% within At which AIMS center do you study?	14.3%	0.0%	16.7%	16.7%	25.0%	0.0%
		2.00	Count	4	12	4	4	4	3
			% within At which AIMS center do you study?	57.1%	80.0%	66.7%	33.3%	50.0%	75.0%
		3.00	Count	1	3	1	6	2	1
			% within At which AIMS center do you study?	14.3%	20.0%	16.7%	50.0%	25.0%	25.0%
		4.00	Count	1	0	0	0	0	0
			% within At which AIMS center do you study?	14.3%	0.0%	0.0%	0.0%	0.0%	0.0%
		Total	Count	7	15	6	12	8	4
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	MathSkills	1.00	Count	4	8	5	7	4	1
			% within At which AIMS center do you study?	15.4%	20.5%	17.9%	14.6%	28.6%	7.7%
		2.00	Count	15	27	17	21	6	10
			% within At which AIMS center do you study?	57.7%	69.2%	60.7%	43.8%	42.9%	76.9%
		3.00	Count	5	4	6	16	4	2
			% within At which AIMS center do you study?	19.2%	10.3%	21.4%	33.3%	28.6%	15.4%
		4.00	Count	2	0	0	4	0	0
			% within At which AIMS center do you study?	7.7%	0.0%	0.0%	8.3%	0.0%	0.0%
		Total	Count	26	39	28	48	14	13
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

MathSkills * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	MathSkills	1.00	Count	4	19	23
			% within agegroup	14.8%	21.3%	19.8%
		2.00	Count	15	50	65
			% within agegroup	55.6%	56.2%	56.0%
		3.00	Count	8	15	23
			% within agegroup	29.6%	16.9%	19.8%
		4.00	Count	0	5	5
			% within agegroup	0.0%	5.6%	4.3%
	Total		Count	27	89	116
			% within agegroup	100.0%	100.0%	100.0%
2.00	MathSkills	1.00	Count	4	2	6
			% within agegroup	13.3%	9.1%	11.5%
		2.00	Count	15	16	31
			% within agegroup	50.0%	72.7%	59.6%
		3.00	Count	10	4	14
			% within agegroup	33.3%	18.2%	26.9%
		4.00	Count	1	0	1
			% within agegroup	3.3%	0.0%	1.9%
	Total		Count	30	22	52
			% within agegroup	100.0%	100.0%	100.0%
Total	MathSkills	1.00	Count	8	21	29
			% within agegroup	14.0%	18.9%	17.3%
		2.00	Count	30	66	96
			% within agegroup	52.6%	59.5%	57.1%
		3.00	Count	18	19	37
			% within agegroup	31.6%	17.1%	22.0%
		4.00	Count	1	5	6
			% within agegroup	1.8%	4.5%	3.6%
	Total		Count	57	111	168
			% within agegroup	100.0%	100.0%	100.0%

Tech Skills

TechSkills * At which AIMS center do you study? * sex Crosstabulation									
sex				At which AIMS center do you study?					
				Cameroon	Ghana	Rwanda	Senegal	South Africa	Tanzania
1.00	TechSkills	1.00	Count	3	9	4	8	2	0
			% within At which AIMS center do you study?	15.8%	37.5%	18.2%	22.2%	33.3%	0.0%
		2.00	Count	9	12	14	13	2	7
			% within At which AIMS center do you study?	47.4%	50.0%	63.6%	36.1%	33.3%	77.8%
		3.00	Count	4	2	4	13	2	1
			% within At which AIMS center do you study?	21.1%	8.3%	18.2%	36.1%	33.3%	11.1%
		4.00	Count	3	1	0	2	0	1
			% within At which AIMS center do you study?	15.8%	4.2%	0.0%	5.6%	0.0%	11.1%
		Total	Count	19	24	22	36	6	9
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	TechSkills	1.00	Count	0	1	2	2	4	0
			% within At which AIMS center do you study?	0.0%	6.7%	33.3%	16.7%	50.0%	0.0%
		2.00	Count	4	12	4	5	1	3
			% within At which AIMS center do you study?	57.1%	80.0%	66.7%	41.7%	12.5%	75.0%
		3.00	Count	2	2	0	5	3	1
			% within At which AIMS center do you study?	28.6%	13.3%	0.0%	41.7%	37.5%	25.0%
		4.00	Count	1	0	0	0	0	0
			% within At which AIMS center do you study?	14.3%	0.0%	0.0%	0.0%	0.0%	0.0%
		Total	Count	7	15	6	12	8	4
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	TechSkills	1.00	Count	3	10	6	10	6	0
			% within At which AIMS center do you study?	11.5%	25.6%	21.4%	20.8%	42.9%	0.0%
		2.00	Count	13	24	18	18	3	10
			% within At which AIMS center do you study?	50.0%	61.5%	64.3%	37.5%	21.4%	76.9%
		3.00	Count	6	4	4	18	5	2
			% within At which AIMS center do you study?	23.1%	10.3%	14.3%	37.5%	35.7%	15.4%
		4.00	Count	4	1	0	2	0	1
			% within At which AIMS center do you study?	15.4%	2.6%	0.0%	4.2%	0.0%	7.7%
		Total	Count	26	39	28	48	14	13
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

TechSkills * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	TechSkills	1.00	Count	4	22	26
			% within agegroup	14.8%	24.7%	22.4%
		2.00	Count	14	43	57
			% within agegroup	51.9%	48.3%	49.1%
		3.00	Count	8	18	26
			% within agegroup	29.6%	20.2%	22.4%
		4.00	Count	1	6	7
			% within agegroup	3.7%	6.7%	6.0%
		Total	Count	27	89	116
			% within agegroup	100.0%	100.0%	100.0%
2.00	TechSkills	1.00	Count	5	4	9
			% within agegroup	16.7%	18.2%	17.3%
		2.00	Count	16	13	29
			% within agegroup	53.3%	59.1%	55.8%
		3.00	Count	8	5	13
			% within agegroup	26.7%	22.7%	25.0%
		4.00	Count	1	0	1
			% within agegroup	3.3%	0.0%	1.9%
		Total	Count	30	22	52
			% within agegroup	100.0%	100.0%	100.0%
Total	TechSkills	1.00	Count	9	26	35
			% within agegroup	15.8%	23.4%	20.8%
		2.00	Count	30	56	86
			% within agegroup	52.6%	50.5%	51.2%
		3.00	Count	16	23	39
			% within agegroup	28.1%	20.7%	23.2%
		4.00	Count	2	6	8
			% within agegroup	3.5%	5.4%	4.8%
		Total	Count	57	111	168
			% within agegroup	100.0%	100.0%	100.0%

Social Skills

SocialSkills * At which AIMS center do you study? * sex Crosstabulation									
sex				At which AIMS center do you study?					
				Cameroon	Ghana	Rwanda	Senegal	South Africa	Total
1.00	SocialSkills	1.00	Count	8	10	11	9	3	46
			% within At which AIMS center do you study?	42.1%	41.7%	50.0%	25.0%	50.0%	39.7%
		2.00	Count	6	14	9	22	2	56
			% within At which AIMS center do you study?	31.6%	58.3%	40.9%	61.1%	33.3%	48.3%
		3.00	Count	2	0	1	4	1	9
			% within At which AIMS center do you study?	10.5%	0.0%	4.5%	11.1%	16.7%	7.8%
		4.00	Count	3	0	1	1	0	5
			% within At which AIMS center do you study?	15.8%	0.0%	4.5%	2.8%	0.0%	4.3%
		Total	Count	19	24	22	36	6	116
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	SocialSkills	1.00	Count	3	3	5	3	3	19
			% within At which AIMS center do you study?	42.9%	20.0%	83.3%	25.0%	37.5%	36.5%
		2.00	Count	2	9	1	5	3	21
			% within At which AIMS center do you study?	28.6%	60.0%	16.7%	41.7%	37.5%	40.4%
		3.00	Count	2	3	0	3	2	11
			% within At which AIMS center do you study?	28.6%	20.0%	0.0%	25.0%	25.0%	21.2%
		4.00	Count	0	0	0	1	0	1
			% within At which AIMS center do you study?	0.0%	0.0%	0.0%	8.3%	0.0%	1.9%
		Total	Count	7	15	6	12	8	52
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	SocialSkills	1.00	Count	11	13	16	12	6	65
			% within At which AIMS center do you study?	42.3%	33.3%	57.1%	25.0%	42.9%	38.7%
		2.00	Count	8	23	10	27	5	77
			% within At which AIMS center do you study?	30.8%	59.0%	35.7%	56.3%	35.7%	45.8%
		3.00	Count	4	3	1	7	3	20
			% within At which AIMS center do you study?	15.4%	7.7%	3.6%	14.6%	21.4%	11.9%
		4.00	Count	3	0	1	2	0	6
			% within At which AIMS center do you study?	11.5%	0.0%	3.6%	4.2%	0.0%	3.6%
		Total	Count	26	39	28	48	14	168
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

SocialSkills * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SocialSkills	1.00	Count	11	35	46
			% within agegroup	40.7%	39.3%	39.7%
		2.00	Count	12	44	56
			% within agegroup	44.4%	49.4%	48.3%
		3.00	Count	1	8	9
			% within agegroup	3.7%	9.0%	7.8%
		4.00	Count	3	2	5
			% within agegroup	11.1%	2.2%	4.3%
	Total		Count	27	89	116
			% within agegroup	100.0%	100.0%	100.0%
2.00	SocialSkills	1.00	Count	11	8	19
			% within agegroup	36.7%	36.4%	36.5%
		2.00	Count	11	10	21
			% within agegroup	36.7%	45.5%	40.4%
		3.00	Count	8	3	11
			% within agegroup	26.7%	13.6%	21.2%
		4.00	Count	0	1	1
			% within agegroup	0.0%	4.5%	1.9%
	Total		Count	30	22	52
			% within agegroup	100.0%	100.0%	100.0%
Total	SocialSkills	1.00	Count	22	43	65
			% within agegroup	38.6%	38.7%	38.7%
		2.00	Count	23	54	77
			% within agegroup	40.4%	48.6%	45.8%
		3.00	Count	9	11	20
			% within agegroup	15.8%	9.9%	11.9%
		4.00	Count	3	3	6
			% within agegroup	5.3%	2.7%	3.6%
	Total		Count	57	111	168
			% within agegroup	100.0%	100.0%	100.0%

Fits with Career Aspirations

FitCareerAspir * At which AIMS center do you study? * sex Crosstabulation									
sex				At which AIMS center do you study?					
				Cameroon	Ghana	Rwanda	Senegal	South Africa	Tanzania
1.00	FitCareerAspir	1.00	Count	4	8	4	2	1	4
			% within At which AIMS center do you study?	21.1%	33.3%	18.2%	5.6%	16.7%	44.4%
		2.00	Count	4	13	11	22	3	5
			% within At which AIMS center do you study?	21.1%	54.2%	50.0%	61.1%	50.0%	55.6%
		3.00	Count	8	3	7	7	2	0
			% within At which AIMS center do you study?	42.1%	12.5%	31.8%	19.4%	33.3%	0.0%
		4.00	Count	3	0	0	5	0	0
			% within At which AIMS center do you study?	15.8%	0.0%	0.0%	13.9%	0.0%	0.0%
		Total	Count	19	24	22	36	6	9
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
2.00	FitCareerAspir	1.00	Count	0	2	1	3	3	0
			% within At which AIMS center do you study?	0.0%	13.3%	16.7%	25.0%	37.5%	0.0%
		2.00	Count	4	7	3	3	3	3
			% within At which AIMS center do you study?	57.1%	46.7%	50.0%	25.0%	37.5%	75.0%
		3.00	Count	2	6	2	5	2	1
			% within At which AIMS center do you study?	28.6%	40.0%	33.3%	41.7%	25.0%	25.0%
		4.00	Count	1	0	0	1	0	0
			% within At which AIMS center do you study?	14.3%	0.0%	0.0%	8.3%	0.0%	0.0%
		Total	Count	7	15	6	12	8	4
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%
Total	FitCareerAspir	1.00	Count	4	10	5	5	4	4
			% within At which AIMS center do you study?	15.4%	25.6%	17.9%	10.4%	28.6%	30.8%
		2.00	Count	8	20	14	25	6	8
			% within At which AIMS center do you study?	30.8%	51.3%	50.0%	52.1%	42.9%	61.5%
		3.00	Count	10	9	9	12	4	1
			% within At which AIMS center do you study?	38.5%	23.1%	32.1%	25.0%	28.6%	7.7%
		4.00	Count	4	0	0	6	0	0
			% within At which AIMS center do you study?	15.4%	0.0%	0.0%	12.5%	0.0%	0.0%
		Total	Count	26	39	28	48	14	13
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

FitCareerAspir * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	FitCareerAspir	1.00	Count	2	21	23
			% within agegroup	7.4%	23.6%	19.8%
		2.00	Count	11	47	58
			% within agegroup	40.7%	52.8%	50.0%
		3.00	Count	13	14	27
			% within agegroup	48.1%	15.7%	23.3%
		4.00	Count	1	7	8
			% within agegroup	3.7%	7.9%	6.9%
	Total		Count	27	89	116
			% within agegroup	100.0%	100.0%	100.0%
2.00	FitCareerAspir	1.00	Count	5	4	9
			% within agegroup	16.7%	18.2%	17.3%
		2.00	Count	10	13	23
			% within agegroup	33.3%	59.1%	44.2%
		3.00	Count	13	5	18
			% within agegroup	43.3%	22.7%	34.6%
		4.00	Count	2	0	2
			% within agegroup	6.7%	0.0%	3.8%
	Total		Count	30	22	52
			% within agegroup	100.0%	100.0%	100.0%
Total	FitCareerAspir	1.00	Count	7	25	32
			% within agegroup	12.3%	22.5%	19.0%
		2.00	Count	21	60	81
			% within agegroup	36.8%	54.1%	48.2%
		3.00	Count	26	19	45
			% within agegroup	45.6%	17.1%	26.8%
		4.00	Count	3	7	10
			% within agegroup	5.3%	6.3%	6.0%
	Total		Count	57	111	168
			% within agegroup	100.0%	100.0%	100.0%

COURSES IN FIRST THREE MONTHS DIFFICULT

AnyCourseDifficult * At which AIMS center do you study? * sex Crosstabulation											
sex				At which AIMS center do you study?						Total	
				Cameroon	Ghana	Rwanda	Senegal	South Africa	Tanzania		
1.00	AnyCourseDifficult	1.00	Count	8	6	9	16	0	4	43	
			% within At which AIMS center do you study?	42.1%	25.0%	40.9%	44.4%	0.0%	44.4%	37.1%	
		2.00	Count	11	18	13	20	6	5	73	
			% within At which AIMS center do you study?	57.9%	75.0%	59.1%	55.6%	100.0%	55.6%	62.9%	
	Total		Count	19	24	22	36	6	9	116	
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	2.00	AnyCourseDifficult	1.00	Count	4	2	2	4	1	2	15
				% within At which AIMS center do you study?	57.1%	13.3%	33.3%	33.3%	12.5%	50.0%	28.8%
		2.00	Count	3	13	4	8	7	2	37	
			% within At which AIMS center do you study?	42.9%	86.7%	66.7%	66.7%	87.5%	50.0%	71.2%	
Total			Count	7	15	6	12	8	4	52	
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Total		AnyCourseDifficult	1.00	Count	12	8	11	20	1	6	58
				% within At which AIMS center do you study?	46.2%	20.5%	39.3%	41.7%	7.1%	46.2%	34.5%
		2.00	Count	14	31	17	28	13	7	110	
			% within At which AIMS center do you study?	53.8%	79.5%	60.7%	58.3%	92.9%	53.8%	65.5%	
	Total		Count	26	39	28	48	14	13	168	
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

AnyCourseDifficult * agegroup * sex Crosstabulation						
sex				agegroup		Total
				1.00	2.00	
1.00	AnyCourseDifficult	1.00	Count	13	30	43
			% within agegroup	48.1%	33.7%	37.1%
		2.00	Count	14	59	73
			% within agegroup	51.9%	66.3%	62.9%
	Total		Count	27	89	116
			% within agegroup	100.0%	100.0%	100.0%
2.00	AnyCourseDifficult	1.00	Count	9	6	15
			% within agegroup	30.0%	27.3%	28.8%
		2.00	Count	21	16	37
			% within agegroup	70.0%	72.7%	71.2%

Total			Count	30	22	52	
			% within agegroup	100.0%	100.0%	100.0%	
Total	AnyCourseDifficult	1.00	Count	22	36	58	
			% within agegroup	38.6%	32.4%	34.5%	
		2.00	Count	35	75	110	
			% within agegroup	61.4%	67.6%	65.5%	
	Total		Count	57	111	168	
			% within agegroup	100.0%	100.0%	100.0%	

LECTURER DOMINATED OR NONT (YES = 1 no = 2)

DominatedorNot * At which AIMS center do you study? * sex Crosstabulation											
sex				At which AIMS center do you study?						Total	
				Cameroon	Ghana	Rwanda	Senegal	South Africa	Tanzania		
1.00	DominatedorNot	1.00	Count	5	2	5	13	1	1	27	
			% within At which AIMS center do you study?	26.3%	8.3%	22.7%	36.1%	16.7%	11.1%	23.3%	
		2.00	Count	14	22	17	23	5	8	89	
			% within At which AIMS center do you study?	73.7%	91.7%	77.3%	63.9%	83.3%	88.9%	76.7%	
	Total		Count	19	24	22	36	6	9	116	
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
	2.00	DominatedorNot	1.00	Count	0	1	1	2	2	0	6
				% within At which AIMS center do you study?	0.0%	6.7%	16.7%	16.7%	25.0%	0.0%	11.5%
		2.00	Count	7	14	5	10	6	4	46	
			% within At which AIMS center do you study?	100.0%	93.3%	83.3%	83.3%	75.0%	100.0%	88.5%	
Total			Count	7	15	6	12	8	4	52	
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	
Total		DominatedorNot	1.00	Count	5	3	6	15	3	1	33
				% within At which AIMS center do you study?	19.2%	7.7%	21.4%	31.3%	21.4%	7.7%	19.6%
		2.00	Count	21	36	22	33	11	12	135	
			% within At which AIMS center do you study?	80.8%	92.3%	78.6%	68.8%	78.6%	92.3%	80.4%	
	Total		Count	26	39	28	48	14	13	168	
			% within At which AIMS center do you study?	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%	

DominatedorNot * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	DominatedorNot	1.00	Count	7	20	27
			% within agegroup	25.9%	22.5%	23.3%
		2.00	Count	20	69	89
			% within agegroup	74.1%	77.5%	76.7%
	Total		Count	27	89	116
			% within agegroup	100.0%	100.0%	100.0%
2.00	DominatedorNot	1.00	Count	3	3	6
			% within agegroup	10.0%	13.6%	11.5%
		2.00	Count	27	19	46
			% within agegroup	90.0%	86.4%	88.5%
	Total		Count	30	22	52
			% within agegroup	100.0%	100.0%	100.0%
Total	DominatedorNot	1.00	Count	10	23	33
			% within agegroup	17.5%	20.7%	19.6%
		2.00	Count	47	88	135
			% within agegroup	82.5%	79.3%	80.4%
	Total		Count	57	111	168
			% within agegroup	100.0%	100.0%	100.0%

Facilities

[illegible]

SatRat_Facilities * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_Facilities	1.00	Count	13	32	45
			% within agegroup	48.1%	36.0%	38.8%
		2.00	Count	9	42	51
			% within agegroup	33.3%	47.2%	44.0%
		3.00	Count	3	12	15
			% within agegroup	11.1%	13.5%	12.9%
		4.00	Count	2	3	5
			% within agegroup	7.4%	3.4%	4.3%
	Total	Count		27	89	116
		% within agegroup		100.0%	100.0%	100.0%
2.00	SatRat_Facilities	1.00	Count	7	6	13
			% within agegroup	23.3%	27.3%	25.0%
		2.00	Count	16	12	28
			% within agegroup	53.3%	54.5%	53.8%
		3.00	Count	7	4	11
			% within agegroup	23.3%	18.2%	21.2%
	Total	Count		30	22	52
		% within agegroup		100.0%	100.0%	100.0%
Total	SatRat_Facilities	1.00	Count	20	38	58
			% within agegroup	35.1%	34.2%	34.5%
		2.00	Count	25	54	79
			% within agegroup	43.9%	48.6%	47.0%
		3.00	Count	10	16	26
			% within agegroup	17.5%	14.4%	15.5%
		4.00	Count	2	3	5
			% within agegroup	3.5%	2.7%	3.0%
	Total	Count		57	111	168
		% within agegroup		100.0%	100.0%	100.0%

SatRat_Infrastructure * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_Infrastructure	1.00	Count	7	32	39
			% within agegroup	25.9%	36.0%	33.6%
		2.00	Count	15	41	56
			% within agegroup	55.6%	46.1%	48.3%
		3.00	Count	3	14	17
			% within agegroup	11.1%	15.7%	14.7%
		4.00	Count	2	2	4
			% within agegroup	7.4%	2.2%	3.4%
	Total		Count	27	89	116
			% within agegroup	100.0%	100.0%	100.0%
2.00	SatRat_Infrastructure	1.00	Count	5	10	15
			% within agegroup	16.7%	45.5%	28.8%
		2.00	Count	18	9	27
			% within agegroup	60.0%	40.9%	51.9%
		3.00	Count	7	3	10
			% within agegroup	23.3%	13.6%	19.2%
	Total		Count	30	22	52
			% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_Infrastructure	1.00	Count	12	42	54
			% within agegroup	21.1%	37.8%	32.1%
		2.00	Count	33	50	83
			% within agegroup	57.9%	45.0%	49.4%
		3.00	Count	10	17	27
			% within agegroup	17.5%	15.3%	16.1%
		4.00	Count	2	2	4
			% within agegroup	3.5%	1.8%	2.4%
	Total		Count	57	111	168
			% within agegroup	100.0%	100.0%	100.0%

SatRat_Accommodation * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_Accommodation	1.00	Count	7	35	42
			% within agegroup	25.9%	39.3%	36.2%
		2.00	Count	16	41	57
			% within agegroup	59.3%	46.1%	49.1%
		3.00	Count	3	10	13
			% within agegroup	11.1%	11.2%	11.2%
		4.00	Count	1	3	4
			% within agegroup	3.7%	3.4%	3.4%
		Total	Count	27	89	116
			% within agegroup	100.0%	100.0%	100.0%
2.00	SatRat_Accommodation	1.00	Count	5	8	13
			% within agegroup	16.7%	36.4%	25.0%
		2.00	Count	20	11	31
			% within agegroup	66.7%	50.0%	59.6%
		3.00	Count	4	3	7
			% within agegroup	13.3%	13.6%	13.5%
		4.00	Count	1	0	1
			% within agegroup	3.3%	0.0%	1.9%
		Total	Count	30	22	52
			% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_Accommodation	1.00	Count	12	43	55
			% within agegroup	21.1%	38.7%	32.7%
		2.00	Count	36	52	88
			% within agegroup	63.2%	46.8%	52.4%
		3.00	Count	7	13	20
			% within agegroup	12.3%	11.7%	11.9%
		4.00	Count	2	3	5
			% within agegroup	3.5%	2.7%	3.0%
		Total	Count	57	111	168
			% within agegroup	100.0%	100.0%	100.0%

Cleanliness

SatRat_Cleanliness * At which AIMS center do you study? * sex Crosstabulation

[illegible]

SatRat_Cleanliness * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_Cleanliness	1.00	Count	10	38	48
			% within agegroup	37.0%	42.7%	41.4%
		2.00	Count	15	42	57
			% within agegroup	55.6%	47.2%	49.1%
		3.00	Count	2	8	10
			% within agegroup	7.4%	9.0%	8.6%
		4.00	Count	0	1	1
			% within agegroup	0.0%	1.1%	0.9%
	Total		Count	27	89	116
			% within agegroup	100.0%	100.0%	100.0%
2.00	SatRat_Cleanliness	1.00	Count	5	7	12
			% within agegroup	16.7%	31.8%	23.1%
		2.00	Count	21	14	35
			% within agegroup	70.0%	63.6%	67.3%
		3.00	Count	4	1	5
			% within agegroup	13.3%	4.5%	9.6%
	Total		Count	30	22	52
			% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_Cleanliness	1.00	Count	15	45	60
			% within agegroup	26.3%	40.5%	35.7%
		2.00	Count	36	56	92
			% within agegroup	63.2%	50.5%	54.8%
		3.00	Count	6	9	15
			% within agegroup	10.5%	8.1%	8.9%
		4.00	Count	0	1	1
			% within agegroup	0.0%	0.9%	0.6%
	Total		Count	57	111	168
			% within agegroup	100.0%	100.0%	100.0%

SatRat_Helpfulness * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_Helpfulness	1.00	Count	6	34	40
			% within agegroup	22.2%	38.2%	34.5%
		2.00	Count	15	35	50
			% within agegroup	55.6%	39.3%	43.1%
		3.00	Count	4	13	17
			% within agegroup	14.8%	14.6%	14.7%
		4.00	Count	2	7	9
			% within agegroup	7.4%	7.9%	7.8%
	Total		Count	27	89	116
			% within agegroup	100.0%	100.0%	100.0%
2.00	SatRat_Helpfulness	1.00	Count	8	11	19
			% within agegroup	26.7%	50.0%	36.5%
		2.00	Count	19	9	28
			% within agegroup	63.3%	40.9%	53.8%
		3.00	Count	1	2	3
			% within agegroup	3.3%	9.1%	5.8%
		4.00	Count	2	0	2
			% within agegroup	6.7%	0.0%	3.8%
	Total		Count	30	22	52
			% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_Helpfulness	1.00	Count	14	45	59
			% within agegroup	24.6%	40.5%	35.1%
		2.00	Count	34	44	78
			% within agegroup	59.6%	39.6%	46.4%
		3.00	Count	5	15	20
			% within agegroup	8.8%	13.5%	11.9%
		4.00	Count	4	7	11
			% within agegroup	7.0%	6.3%	6.5%
	Total		Count	57	111	168
			% within agegroup	100.0%	100.0%	100.0%

SatRat_SocialLife * agegroup * sex Crosstabulation

sex				agegroup		Total
				1.00	2.00	
1.00	SatRat_SocialLife	1.00	Count	13	45	58
			% within agegroup	48.1%	50.6%	50.0%
		2.00	Count	9	38	47
			% within agegroup	33.3%	42.7%	40.5%
		3.00	Count	4	3	7
			% within agegroup	14.8%	3.4%	6.0%
		4.00	Count	1	3	4
			% within agegroup	3.7%	3.4%	3.4%
	Total		Count	27	89	116
			% within agegroup	100.0%	100.0%	100.0%
2.00	SatRat_SocialLife	1.00	Count	11	6	17
			% within agegroup	36.7%	27.3%	32.7%
		2.00	Count	15	15	30
			% within agegroup	50.0%	68.2%	57.7%
		3.00	Count	2	1	3
			% within agegroup	6.7%	4.5%	5.8%
		4.00	Count	2	0	2
			% within agegroup	6.7%	0.0%	3.8%
	Total		Count	30	22	52
			% within agegroup	100.0%	100.0%	100.0%
Total	SatRat_SocialLife	1.00	Count	24	51	75
			% within agegroup	42.1%	45.9%	44.6%
		2.00	Count	24	53	77
			% within agegroup	42.1%	47.7%	45.8%
		3.00	Count	6	4	10
			% within agegroup	10.5%	3.6%	6.0%
		4.00	Count	3	3	6
			% within agegroup	5.3%	2.7%	3.6%
	Total		Count	57	111	168
			% within agegroup	100.0%	100.0%	100.0%

STUDENT ONLINE SURVEY CROSS TABULATION FRANCO-ANGLOPHONES

APPLICATION PRCESS

Sat_Rat_Aplication * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	Sat_Rat_Aplication	1.00	Count	31	12	43
			% within A_F	41.9%	26.1%	35.8%
		2.00	Count	39	31	70
			% within A_F	52.7%	67.4%	58.3%
		3.00	Count	3	3	6
			% within A_F	4.1%	6.5%	5.0%
		4.00	Count	1	0	1
			% within A_F	1.4%	0.0%	0.8%
	Total		Count	74	46	120
			% within A_F	100.0%	100.0%	100.0%
2.00	Sat_Rat_Aplication	1.00	Count	14	3	17
			% within A_F	35.0%	16.7%	29.3%
		2.00	Count	26	15	41
			% within A_F	65.0%	83.3%	70.7%
	Total		Count	40	18	58
			% within A_F	100.0%	100.0%	100.0%
Total	Sat_Rat_Aplication	1.00	Count	45	15	60
			% within A_F	39.5%	23.4%	33.7%
		2.00	Count	65	46	111
			% within A_F	57.0%	71.9%	62.4%
		3.00	Count	3	3	6
			% within A_F	2.6%	4.7%	3.4%
		4.00	Count	1	0	1
			% within A_F	0.9%	0.0%	0.6%
	Total		Count	114	64	178
			% within A_F	100.0%	100.0%	100.0%

TEACHING AND LEARNING

SatRat_TL * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	SatRat_TL	1.00	Count	32	12	44
			% within A_F	45.1%	26.7%	37.9%
		2.00	Count	35	26	61
			% within A_F	49.3%	57.8%	52.6%
		3.00	Count	0	5	5
			% within A_F	0.0%	11.1%	4.3%
		4.00	Count	4	2	6
			% within A_F	5.6%	4.4%	5.2%
	Total		Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_TL	1.00	Count	12	2	14
			% within A_F	32.4%	13.3%	26.9%
		2.00	Count	23	11	34
			% within A_F	62.2%	73.3%	65.4%
		3.00	Count	1	2	3
			% within A_F	2.7%	13.3%	5.8%
		4.00	Count	1	0	1
			% within A_F	2.7%	0.0%	1.9%
	Total		Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_TL	1.00	Count	44	14	58
			% within A_F	40.7%	23.3%	34.5%
		2.00	Count	58	37	95
			% within A_F	53.7%	61.7%	56.5%
		3.00	Count	1	7	8
			% within A_F	0.9%	11.7%	4.8%
		4.00	Count	5	2	7
			% within A_F	4.6%	3.3%	4.2%
	Total		Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

T_I_A: INTRUCTIONAL FACILITEIS

SatRat_TL_A * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	SatRat_TL_A	1.00	Count	26	15	41
			% within A_F	36.6%	33.3%	35.3%
		2.00	Count	35	19	54
			% within A_F	49.3%	42.2%	46.6%
		3.00	Count	5	10	15
			% within A_F	7.0%	22.2%	12.9%
		4.00	Count	5	1	6
			% within A_F	7.0%	2.2%	5.2%
		Total	Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_TL_A	1.00	Count	12	3	15
			% within A_F	32.4%	20.0%	28.8%
		2.00	Count	18	8	26
			% within A_F	48.6%	53.3%	50.0%
		3.00	Count	7	4	11
			% within A_F	18.9%	26.7%	21.2%
		Total	Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_TL_A	1.00	Count	38	18	56
			% within A_F	35.2%	30.0%	33.3%
		2.00	Count	53	27	80
			% within A_F	49.1%	45.0%	47.6%
		3.00	Count	12	14	26
			% within A_F	11.1%	23.3%	15.5%
		4.00	Count	5	1	6
			% within A_F	4.6%	1.7%	3.6%
		Total	Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

T_L_B: LECURER HELPFUL OUTIDE CLASSROOM

SatRAt_TL_B * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	SatRAt_TL_B	1.00	Count	40	15	55
			% within A_F	56.3%	33.3%	47.4%
		2.00	Count	24	26	50
			% within A_F	33.8%	57.8%	43.1%
		3.00	Count	3	4	7
			% within A_F	4.2%	8.9%	6.0%
		4.00	Count	4	0	4
			% within A_F	5.6%	0.0%	3.4%
		Total	Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRAt_TL_B	1.00	Count	20	5	25
			% within A_F	54.1%	33.3%	48.1%
		2.00	Count	15	9	24
			% within A_F	40.5%	60.0%	46.2%
		3.00	Count	2	1	3
			% within A_F	5.4%	6.7%	5.8%
		Total	Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	SatRAt_TL_B	1.00	Count	60	20	80
			% within A_F	55.6%	33.3%	47.6%
		2.00	Count	39	35	74
			% within A_F	36.1%	58.3%	44.0%
		3.00	Count	5	5	10
			% within A_F	4.6%	8.3%	6.0%
		4.00	Count	4	0	4
			% within A_F	3.7%	0.0%	2.4%
		Total	Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

T_L_C: ASSESMENT AND EXAMINATION PROCESS

SatRat_TL_C * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	SatRat_TL_C	1.00	Count	16	4	20
			% within A_F	22.5%	8.9%	17.2%
		2.00	Count	30	24	54
			% within A_F	42.3%	53.3%	46.6%
		3.00	Count	19	13	32
			% within A_F	26.8%	28.9%	27.6%
		4.00	Count	6	4	10
			% within A_F	8.5%	8.9%	8.6%
		Total	Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_TL_C	1.00	Count	3	1	4
			% within A_F	8.1%	6.7%	7.7%
		2.00	Count	23	10	33
			% within A_F	62.2%	66.7%	63.5%
		3.00	Count	10	1	11
			% within A_F	27.0%	6.7%	21.2%
		4.00	Count	1	3	4
			% within A_F	2.7%	20.0%	7.7%
		Total	Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_TL_C	1.00	Count	19	5	24
			% within A_F	17.6%	8.3%	14.3%
		2.00	Count	53	34	87
			% within A_F	49.1%	56.7%	51.8%
		3.00	Count	29	14	43
			% within A_F	26.9%	23.3%	25.6%
		4.00	Count	7	7	14
			% within A_F	6.5%	11.7%	8.3%
		Total	Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

SKILLS

MATH SKILLS

MathSkills * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	MathSkills	1.00	Count	16	7	23
			% within A_F	22.5%	15.6%	19.8%
		2.00	Count	41	24	65
			% within A_F	57.7%	53.3%	56.0%
		3.00	Count	12	11	23
			% within A_F	16.9%	24.4%	19.8%
		4.00	Count	2	3	5
			% within A_F	2.8%	6.7%	4.3%
		Total	Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	MathSkills	1.00	Count	4	2	6
			% within A_F	10.8%	13.3%	11.5%
		2.00	Count	24	7	31
			% within A_F	64.9%	46.7%	59.6%
		3.00	Count	9	5	14
			% within A_F	24.3%	33.3%	26.9%
		4.00	Count	0	1	1
			% within A_F	0.0%	6.7%	1.9%
		Total	Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	MathSkills	1.00	Count	20	9	29
			% within A_F	18.5%	15.0%	17.3%
		2.00	Count	65	31	96
			% within A_F	60.2%	51.7%	57.1%
		3.00	Count	21	16	37
			% within A_F	19.4%	26.7%	22.0%
		4.00	Count	2	4	6
			% within A_F	1.9%	6.7%	3.6%
		Total	Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

TECH SKILLS

TechSkills * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	TechSkills	1.00	Count	17	9	26
			% within A_F	23.9%	20.0%	22.4%
		2.00	Count	37	20	57
			% within A_F	52.1%	44.4%	49.1%
		3.00	Count	13	13	26
			% within A_F	18.3%	28.9%	22.4%
		4.00	Count	4	3	7
			% within A_F	5.6%	6.7%	6.0%
	Total		Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	TechSkills	1.00	Count	8	1	9
			% within A_F	21.6%	6.7%	17.3%
		2.00	Count	21	8	29
			% within A_F	56.8%	53.3%	55.8%
		3.00	Count	8	5	13
			% within A_F	21.6%	33.3%	25.0%
		4.00	Count	0	1	1
			% within A_F	0.0%	6.7%	1.9%
	Total		Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	TechSkills	1.00	Count	25	10	35
			% within A_F	23.1%	16.7%	20.8%
		2.00	Count	58	28	86
			% within A_F	53.7%	46.7%	51.2%
		3.00	Count	21	18	39
			% within A_F	19.4%	30.0%	23.2%
		4.00	Count	4	4	8
			% within A_F	3.7%	6.7%	4.8%
	Total		Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

SOCIAL SKILLS

SocialSkills * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	SocialSkills	1.00	Count	29	17	46
			% within A_F	40.8%	37.8%	39.7%
		2.00	Count	33	23	56
			% within A_F	46.5%	51.1%	48.3%
		3.00	Count	5	4	9
			% within A_F	7.0%	8.9%	7.8%
		4.00	Count	4	1	5
			% within A_F	5.6%	2.2%	4.3%
		Total	Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	SocialSkills	1.00	Count	14	5	19
			% within A_F	37.8%	33.3%	36.5%
		2.00	Count	15	6	21
			% within A_F	40.5%	40.0%	40.4%
		3.00	Count	7	4	11
			% within A_F	18.9%	26.7%	21.2%
		4.00	Count	1	0	1
			% within A_F	2.7%	0.0%	1.9%
		Total	Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	SocialSkills	1.00	Count	43	22	65
			% within A_F	39.8%	36.7%	38.7%
		2.00	Count	48	29	77
			% within A_F	44.4%	48.3%	45.8%
		3.00	Count	12	8	20
			% within A_F	11.1%	13.3%	11.9%
		4.00	Count	5	1	6
			% within A_F	4.6%	1.7%	3.6%
		Total	Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

FIT WITH CAREER ASPIRAION

FitCareerAspir * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	FitCareerAspir	1.00	Count	19	4	23
			% within A_F	26.8%	8.9%	19.8%
		2.00	Count	35	23	58
			% within A_F	49.3%	51.1%	50.0%
		3.00	Count	14	13	27
			% within A_F	19.7%	28.9%	23.3%
		4.00	Count	3	5	8
			% within A_F	4.2%	11.1%	6.9%
	Total	Count		71	45	116
		% within A_F		100.0%	100.0%	100.0%
2.00	FitCareerAspir	1.00	Count	7	2	9
			% within A_F	18.9%	13.3%	17.3%
		2.00	Count	16	7	23
			% within A_F	43.2%	46.7%	44.2%
		3.00	Count	14	4	18
			% within A_F	37.8%	26.7%	34.6%
		4.00	Count	0	2	2
			% within A_F	0.0%	13.3%	3.8%
	Total	Count		37	15	52
		% within A_F		100.0%	100.0%	100.0%
Total	FitCareerAspir	1.00	Count	26	6	32
			% within A_F	24.1%	10.0%	19.0%
		2.00	Count	51	30	81
			% within A_F	47.2%	50.0%	48.2%
		3.00	Count	28	17	45
			% within A_F	25.9%	28.3%	26.8%
		4.00	Count	3	7	10
			% within A_F	2.8%	11.7%	6.0%
	Total	Count		108	60	168
		% within A_F		100.0%	100.0%	100.0%

ANY COURSE TOO DIFFICULT

AnyCourseDifficult * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	AnyCourseDifficult	1.00	Count	23	20	43
			% within A_F	32.4%	44.4%	37.1%
		2.00	Count	48	25	73
			% within A_F	67.6%	55.6%	62.9%
	Total		Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	AnyCourseDifficult	1.00	Count	10	5	15
			% within A_F	27.0%	33.3%	28.8%
		2.00	Count	27	10	37
			% within A_F	73.0%	66.7%	71.2%
	Total		Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	AnyCourseDifficult	1.00	Count	33	25	58
			% within A_F	30.6%	41.7%	34.5%
		2.00	Count	75	35	110
			% within A_F	69.4%	58.3%	65.5%
	Total		Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

FET DOMINATED OR NOT

DominatedorNot * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	DominatedorNot	1.00	Count	10	17	27
			% within A_F	14.1%	37.8%	23.3%
		2.00	Count	61	28	89
			% within A_F	85.9%	62.2%	76.7%
	Total		Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	DominatedorNot	1.00	Count	5	1	6
			% within A_F	13.5%	6.7%	11.5%
		2.00	Count	32	14	46
			% within A_F	86.5%	93.3%	88.5%
	Total		Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	DominatedorNot	1.00	Count	15	18	33
			% within A_F	13.9%	30.0%	19.6%
		2.00	Count	93	42	135

		% within A_F	86.1%	70.0%	80.4%
Total		Count	108	60	168
		% within A_F	100.0%	100.0%	100.0%

SATISFACTION WITH

FACILITEIS

SatRat_Facilities * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	SatRat_Facilities	1.00	Count	30	15	45
			% within A_F	42.3%	33.3%	38.8%
		2.00	Count	33	18	51
			% within A_F	46.5%	40.0%	44.0%
		3.00	Count	4	11	15
			% within A_F	5.6%	24.4%	12.9%
		4.00	Count	4	1	5
			% within A_F	5.6%	2.2%	4.3%
	Total		Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_Facilities	1.00	Count	9	4	13
			% within A_F	24.3%	26.7%	25.0%
		2.00	Count	19	9	28
			% within A_F	51.4%	60.0%	53.8%
		3.00	Count	9	2	11
			% within A_F	24.3%	13.3%	21.2%
	Total		Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_Facilities	1.00	Count	39	19	58
			% within A_F	36.1%	31.7%	34.5%
		2.00	Count	52	27	79
			% within A_F	48.1%	45.0%	47.0%
		3.00	Count	13	13	26
			% within A_F	12.0%	21.7%	15.5%
		4.00	Count	4	1	5
			% within A_F	3.7%	1.7%	3.0%
	Total		Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

INFRASTRUCTURE

SatRat_Infrastructure * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	SatRat_Infrastructure	1.00	Count	29	10	39
			% within A_F	40.8%	22.2%	33.6%
		2.00	Count	31	25	56
			% within A_F	43.7%	55.6%	48.3%
		3.00	Count	9	8	17
			% within A_F	12.7%	17.8%	14.7%
		4.00	Count	2	2	4
			% within A_F	2.8%	4.4%	3.4%
		Total	Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_Infrastructure	1.00	Count	12	3	15
			% within A_F	32.4%	20.0%	28.8%
		2.00	Count	19	8	27
			% within A_F	51.4%	53.3%	51.9%
		3.00	Count	6	4	10
			% within A_F	16.2%	26.7%	19.2%
		Total	Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_Infrastructure	1.00	Count	41	13	54
			% within A_F	38.0%	21.7%	32.1%
		2.00	Count	50	33	83
			% within A_F	46.3%	55.0%	49.4%
		3.00	Count	15	12	27
			% within A_F	13.9%	20.0%	16.1%
		4.00	Count	2	2	4
			% within A_F	1.9%	3.3%	2.4%
		Total	Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

ACCOMMODATION

SatRat_Accommodation * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	SatRat_Accommodation	1.00	Count	27	15	42
			% within A_F	38.0%	33.3%	36.2%
		2.00	Count	34	23	57
			% within A_F	47.9%	51.1%	49.1%
		3.00	Count	6	7	13
			% within A_F	8.5%	15.6%	11.2%
		4.00	Count	4	0	4
			% within A_F	5.6%	0.0%	3.4%
		Total	Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_Accommodation	1.00	Count	11	2	13
			% within A_F	29.7%	13.3%	25.0%
		2.00	Count	19	12	31
			% within A_F	51.4%	80.0%	59.6%
		3.00	Count	6	1	7
			% within A_F	16.2%	6.7%	13.5%
		4.00	Count	1	0	1
			% within A_F	2.7%	0.0%	1.9%
		Total	Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_Accommodation	1.00	Count	38	17	55
			% within A_F	35.2%	28.3%	32.7%
		2.00	Count	53	35	88
			% within A_F	49.1%	58.3%	52.4%
		3.00	Count	12	8	20
			% within A_F	11.1%	13.3%	11.9%
		4.00	Count	5	0	5
			% within A_F	4.6%	0.0%	3.0%
		Total	Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

CLEANLINESS

SatRat_Cleanliness * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	SatRat_Cleanliness	1.00	Count	31	17	48
			% within A_F	43.7%	37.8%	41.4%
		2.00	Count	34	23	57
			% within A_F	47.9%	51.1%	49.1%
		3.00	Count	5	5	10
			% within A_F	7.0%	11.1%	8.6%
		4.00	Count	1	0	1
			% within A_F	1.4%	0.0%	0.9%
	Total		Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_Cleanliness	1.00	Count	10	2	12
			% within A_F	27.0%	13.3%	23.1%
		2.00	Count	24	11	35
			% within A_F	64.9%	73.3%	67.3%
		3.00	Count	3	2	5
			% within A_F	8.1%	13.3%	9.6%
	Total		Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_Cleanliness	1.00	Count	41	19	60
			% within A_F	38.0%	31.7%	35.7%
		2.00	Count	58	34	92
			% within A_F	53.7%	56.7%	54.8%
		3.00	Count	8	7	15
			% within A_F	7.4%	11.7%	8.9%
		4.00	Count	1	0	1
			% within A_F	0.9%	0.0%	0.6%
	Total		Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

HELFUNESS OF STAFF

SatRat_Helpfulness * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	SatRat_Helpfulness	1.00	Count	34	6	40
			% within A_F	47.9%	13.3%	34.5%
		2.00	Count	30	20	50
			% within A_F	42.3%	44.4%	43.1%
		3.00	Count	4	13	17
			% within A_F	5.6%	28.9%	14.7%
		4.00	Count	3	6	9
			% within A_F	4.2%	13.3%	7.8%
	Total		Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_Helpfulness	1.00	Count	16	3	19
			% within A_F	43.2%	20.0%	36.5%
		2.00	Count	18	10	28
			% within A_F	48.6%	66.7%	53.8%
		3.00	Count	3	0	3
			% within A_F	8.1%	0.0%	5.8%
		4.00	Count	0	2	2
			% within A_F	0.0%	13.3%	3.8%
	Total		Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_Helpfulness	1.00	Count	50	9	59
			% within A_F	46.3%	15.0%	35.1%
		2.00	Count	48	30	78
			% within A_F	44.4%	50.0%	46.4%
		3.00	Count	7	13	20
			% within A_F	6.5%	21.7%	11.9%
		4.00	Count	3	8	11
			% within A_F	2.8%	13.3%	6.5%
	Total		Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

SOCIAL LIFE

SatRat_SocialLife * A_F * sex Crosstabulation						
sex				A_F		Total
				1.00	2.00	
1.00	SatRat_SocialLife	1.00	Count	41	17	58
			% within A_F	57.7%	37.8%	50.0%
		2.00	Count	22	25	47
			% within A_F	31.0%	55.6%	40.5%
		3.00	Count	5	2	7
			% within A_F	7.0%	4.4%	6.0%
		4.00	Count	3	1	4
			% within A_F	4.2%	2.2%	3.4%
	Total		Count	71	45	116
			% within A_F	100.0%	100.0%	100.0%
2.00	SatRat_SocialLife	1.00	Count	10	7	17
			% within A_F	27.0%	46.7%	32.7%
		2.00	Count	23	7	30
			% within A_F	62.2%	46.7%	57.7%
		3.00	Count	3	0	3
			% within A_F	8.1%	0.0%	5.8%
		4.00	Count	1	1	2
			% within A_F	2.7%	6.7%	3.8%
	Total		Count	37	15	52
			% within A_F	100.0%	100.0%	100.0%
Total	SatRat_SocialLife	1.00	Count	51	24	75
			% within A_F	47.2%	40.0%	44.6%
		2.00	Count	45	32	77
			% within A_F	41.7%	53.3%	45.8%
		3.00	Count	8	2	10
			% within A_F	7.4%	3.3%	6.0%
		4.00	Count	4	2	6
			% within A_F	3.7%	3.3%	3.6%
	Total		Count	108	60	168
			% within A_F	100.0%	100.0%	100.0%

ANNEX O-3: Cross tabulation Alumni and Student Survey on Discrimination

STUDENT SURVEY

ONLY VARIABLES WHICH HAD 3 OR MORE VALID RESPONSES WERE AS FOLLOWS

FIRST SET OF DISCRIMINATION QUESTIONS

Have you or do you know anyone who has experienced some form of discrimination at AIMS? * A_F Crosstabulation

Count

		A_F			Total
		1.00	2.00	3.00	
Have you or do you know anyone		8	10	6	24
who has experienced some form of	Avez-vous connu ou connaissez-vous				
discrimination at AIMS?	quelqu'un qui a connu une forme de	0	0	1	1
	discrimination au centre AIMS ?				
	No I have not experienced and don't				
	know anyone who has experienced	96	0	0	96
	any form of discrimination				
	Non, je n'ai pas expérimenté ou je				
	ne connais pas quelqu'un qui a été	0	46	0	46
	victime de discrimination				
	Oui j'ai été victime de discrimination				
	au centre AIMS moi-même	0	8	0	8
	Oui je connais quelqu'un qui a été				
	victime de discrimination au centre	0	6	0	6
	AIMS				
	Yes I have experienced				
	discrimination at AIMS myself	8	0	0	8
	Yes I know someone who				
	experienced discrimination	4	0	0	4
Total		116	70	7	193

8/ 116 Anglophones and 8 /70 Francophones cited discrimination of themselves; and 4/116 Anglophones and 6/ 70 Francophone cited discrimination of someone else

If yes, what type of discrimination was this? - Discrimination based on gender * A_F Crosstabulation

Count

		A_F			Total
		1.00	2.00	3.00	
If yes, what type of discrimination was this? - Discrimination based on gender		115	69	6	190
Discrimination based on gender	Discrimination based on gender	1	0	0	1
	Discrimination basée sur le genre	0	1	0	1
	Si oui, quell type de discrimination? - Discrimination basée sur le genre	0	0	1	1
Total		116	70	7	193

One Anglophone and one Francophone cited discrimination based on gender

SECOND SET OF DISCRIMINATION QUESTIONS

Have you or do you know anyone who has experienced some form of discrimination at AIMS? * A_F Crosstabulation

		A_F			Total
		1.00	2.00	3.00	
Have you or do you know anyone who has experienced some form of discrimination at AIMS?		8	10	6	24
Avez-vous connu ou connaissez-vous quelqu'un qui a connu une forme de discrimination au centre AIMS ? No I have not experienced and don't know anyone who has experienced any form of discrimination Non, je n'ai pas expérimenté ou je ne connais pas quelqu'un qui a été victime de discrimination Oui j'ai été victime de discrimination au centre AIMS moi-même Oui je connais quelqu'un qui a été victime de discrimination au centre AIMS Yes I have experienced discrimination at AIMS myself Yes I know someone who experienced discrimination		0	0	1	1
		96	0	0	96
		0	46	0	46
		0	8	0	8
		0	6	0	6
		8	0	0	8
		4	0	0	4
Total		116	70	7	193

Eight /116 Anglophones and Eight/ 70 Francophones cite discrimination against themselves; and 4 Anglophones / 116 and 6 /70 Francophones

		A_F			Total
		1.00	2.00	3.00	
If yes, what type of discrimination was this? - Discrimination based on race, colour, nationality or minority/tribal/ethnic group	Discrimination based on race, colour, nationality or minority/tribal/ethnic group	109	63	6	178
	Discrimination basée sur la race, la couleur de peau, nationalité ou groupement minoritaire, ethnicité	7	0	0	7
	Si oui, quell type de discrimination? - Discrimination basée sur la race, la couleur de peau, nationalité ou groupement minoritaire, ethnicité	0	7	0	7
		0	0	1	1
Total		116	70	7	193

7 / 116 Anglophones and 7/ 70 Francophones reported discrimination based on race, colour, and nationality on minority groups

Two Anglophones, no Francophones reported discrimination on basis of age

One Francophone cites discrimination on basis of religion; and four Francophones cited discrimination for other reasons.

FRANCOPHONE STUDNETS CERTAINLY REPORT MORE DISCIMINATION

ALUMNI SURVEY

ONLY VARIABLES WHICH HAD 3 OR MORE VALID RESPONSES WERE AS FOLLOWS

WHILST AT AIMS

Have you or do you know anyone who has experienced some form of discrimination at AIMS? remember this survey if completely confidential. * A_F Crosstabulation

Count

		A_F		Total
		1.00	2.00	
Have you or do you know anyone		12	7	19
who has experienced some form	No, I have not experienced and			
of discrimination at AIMS?	don't know anyone who has			
remember this survey if	experienced any form of	103	0	103
completely confidential.	discrimination			
	Non, je n'â€™ai pas			
	expérimé© ou je ne connais	0	18	18
	pas quelqu'â€™un qui a été victime			
	de discrimination			
	Oui j'ai été victime de			
	discrimination au centre AIMS moi-	0	1	1
	même			
	Oui je connais quelqu'un qui a été			
	victime de discrimination au centre	0	4	4
	AIMS			
	Yes, I have experienced	11	0	11
	discrimination at AIMS myself			
	Yes, I know someone who	8	0	8
	experienced discrimination			
Total		134	30	164

11/134 Anglophones (8%) and 1 /30 (3%) Francophone experienced themselves whilst at AIMS; and 8 / 134 Anglophones (6%) and 4/ 30 Francophones (13%) said they knew someone who had experienced discrimination

2 Anglophones and 0 Francophones reported discrimination based on gender

12 Anglophones and 3 Francophones reported discrimination based on gender

1 Anglophone and 0 Francophones reported discrimination based on gender

2 Anglophones and 1 Francophone reported discrimination based on gender

6 Anglophones and 4 Francophones reported discrimination based on gender

ON THE WHOLE ANGLOPHONE AND FRANCOPHONE ALUMNI ARE REPORTING APPROXIMATELY THE SAME PERCENTAGE LEVEL OF DISCRIMINATION

DURING SEARCH FOR EMPLOYMENT

Have you or do you know anyone who has experienced some form of discrimination during the search for employment related to gender or ethnic identity? - remember this survey is confidential

 - Yes, I have experienced discrimination myself * A_F Crosstabulation

Count

	A_F		Total
	1.00	2.00	
Have you or do you know anyone who has experienced some form of discrimination during the search for employment related to gender or ethnic identity? - remember this survey is confidential - Yes, I have experienced discrimination myself	127	8	135
Non, je n'ai pas vécu et je ne connais personne qui a été victime de discrimination	0	20	20
Oui, j'ai connu une discrimination moi-même	0	1	1
Oui, je connais quelqu'un qui a été victime de discrimination	0	1	1
Yes, I have experienced discrimination myself	7	0	7
Total	134	30	164

All 7 / 134 who say they have experienced discrimination were Anglophone

Have you or do you know anyone who has experienced some form of discrimination during the search for employment related to gender or ethnic identity? - remember this survey is confidential

 - Yes I know someone who has experience discrimination * A_F Crosstabulation

Count

	A_F		Total
	1.00	2.00	
Have you or do you know anyone who has experienced some form of discrimination during the search for employment related to gender or ethnic identity? - remember this survey is confidential - Yes I know someone who has experience discrimination	130	30	160
Yes I know someone who has experience discrimination	4	0	4
Total	134	30	164

All 4 /134 who say they know someone who has experienced discrimination were Anglophone.

SO THESE RESULTS FOR DISCRIMINATION FOR ALUMNI DURING THE SEARCH FOR EMPLOYMENT ARE VERY DIFFERENT THAT THEIR RESPONSES ABOUT DISCRIMINATION WHEN AT AIMS FOR ALUMNI; BUT THESE DISCRIMINATION QUESTIONS ARE ABOUT DISCRIMINATION DURING THE SEARCH FOR EMPLOYMENT.

WE HAVE THEREFORE TESTED HOW MANY WERE IN EMPLOYMENT

Do you currently have a job? * A_F Crosstabulation

Count

		A_F		Total
		1.00	2.00	
Do you currently have a job?		14	8	22
	No, I am currently not employed	25	0	25
	No, I continued with another study programme	38	0	38
	Non, je continue avec un autre programme d'étude	0	8	8
	Non, je ne suis pas actuellement employé	0	10	10
	Oui, je travaille pour un employeur	0	4	4
	Yes, I am self-employed	2	0	2
	Yes, I work for an employer	55	0	55
Total		134	30	164

57/ 134 Anglophones (43%) and 4/ 30 Francophones (13%) were employed so that only the Anglophones were

Did anyone else at AIMS help you in your search for employment? * A_F

Crosstabulation

Count

		A_F		Total
		1.00	2.00	
Did anyone else at AIMS help you in your search for employment?		14	8	22
	No	100	0	100
	Non	0	18	18
	Oui	0	4	4
	Yes	20	0	20
Total		134	30	164

Twenty /134 of Anglophones said that someone else at AIMS helped them in their search for employment, and 4 /30 Francophones. English students did better

Following two examples are interesting contrast between Anglophones and Francophones.

Have you or do you know anyone who has experienced some form of discrimination by the Student Development Office related to gender or ethnic identity? - remember this survey is confidential

- If yes, please give an example

	Frequency	Percent	Valid Percent	Cumulative Percent
Valid	164	98.2	98.2	98.2
Question	1	.6	.6	98.8
I go to church with one of our staffs back then and other staff termed it a love affair which made me feel very bad nd uncomfortable during mi stay because i Was wrongly accused.	1	.6	.6	99.4
toujours entre francophones et anglophones ou les stages et emplois etaient proposes aux anglophones et les francophones (quelque) reclamaient mais helas	1	.6	.6	100.0
Total	167	100.0	100.0	

BASICALLY THE REASON FOR THE HIGHER LEVEL OF DISCRIMINATION REPORTED BY ANGLOPHONES DURING THE SEARCH FOR EMPLOYMENT IS THAT MANY, MANY MORE ANGLOPHONES PROPORTIONATELY ARE IN EMPLOYMENT AND WERE THEREFORE SEARCHING FOR EMPLOYMENT AND OPEN TO DISCRIMINATION

ANNEX P : Graduates & Dropouts 2011-2017

		2010		2011		2012		2013		2014		2015		2016		2017		Total Graduated	Total Dropped out
		Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male		
South Africa	Graduated			15	39	23	38	21	37	18	38	25	31	24	41	20	30	400	
	Dropped out								1						1				2
Senegal	Graduated					10	20	5	29	13	34	16	36	10	31	7	41	252	
	Dropped out						2				1								3
Ghana	Graduated							8	18	12	28	12	28	18	30	18	29	201	
	Dropped out																		0
Cameroon	Graduated									12	24	8	32	17	30	15	32	170	
	Dropped out											1							1
Tanzania	Graduated											12	25	14	34	22	33	140	
	Dropped out												2	1					3
Rwanda	Graduated															15	29	44	
	Dropped out																		0
Total																		1207	9
	Graduated			15	39	33	58	34	84	55	124	73	152	83	166	97	194	1207	

Total Male	817	67.7%
Total Female	390	32.3%
		100.0%

	2011	2012	2013	2014	2015	2016	2017	Total grads
South Africa	54	61	58	56	56	65	50	400
Senegal		30	34	47	52	41	48	252
Ghana			26	40	40	48	47	201
Cameroon				36	40	47	47	170
Tanzania					37	48	55	140
Rwanda							44	44
Total	54	91	118	49	225	249	291	1207
Average	54	46	39	45	45	249	49	201

2017	F	M	Total
South Africa	20	30	50
Senegal	7	41	48
Cameroon	15	32	47
Ghana	18	29	47
Tanzania	22	33	55
Rwanda	15	29	44
Total	97	194	291

Annex Q Tutor Database Analysis

Centre	Year	Gender (M/F)	Country of Origin	Qualification	Was the tutor an AIMS Alumni? (Yes/No)	If was an Alumni (from which centre?)	If was an Alumni (which was his/her year of graduation)
Cameroon	2017	Male	Cameroon	PhD	No		
Cameroon	2014	Male	Cameroon	Masters	Yes	South Africa	2004
Cameroon	2014	Male	Madagascar	Masters	Yes	Senegal	2012
Cameroon	2014	Female	Ethiopia	Masters	No		
Cameroon	2014	Male	Cameroon	Masters	No		
Cameroon	2014	Male	Cameroon	Masters	Yes	South Africa	2012
Cameroon	2014	Male	Cameroon	Masters	No		
Cameroon	2014	Male	Cameroon	Masters	No		
Cameroon	2015	Male	Cameroon	Masters	No		
Cameroon	2015	Male	Cameroon	Masters	No		
Cameroon	2015	Male	Swedish	Masters	No		
Cameroon	2015	Male	Cameroon	Masters	Yes	South Africa	2012
Cameroon	2015	Male	Cameroon	Masters	Yes	Cameroon	2014
Cameroon	2015	Female	Madagascar	Masters	No		
Cameroon	2015	Female	Cameroon	Masters	No		
Cameroon	2015	Male	Cameroon	PhD	No		
Cameroon	2015	Male	Ethiopian	Masters	Yes	Cameroon	2014
Cameroon	2016	Female	Cameroon	Masters	Yes	South Africa	2012
Cameroon	2016	Male	Cameroon	Masters	Yes	Cameroon	2015
Cameroon	2016	Male	Cameroon	Masters	Yes	Cameroon	2015
Cameroon	2016	Male	Cameroon	PhD	Yes	Cameroon	2014
Cameroon	2016	Male	Ethiopia	Masters	Yes	Cameroon	2014
Cameroon	2016	Male	Cameroon	Masters	Yes	Cameroon	2015
Cameroon	2016	Male	Cameroon	PhD	No		
Cameroon	2016	Male	Senegal	PhD	No		
Cameroon	2016	Male	Nigeria	PhD	No		
Cameroon	2017	Male	Cameroon	Masters	Yes	South Africa	2012
Cameroon	2017	Female	Cameroon	Masters	Yes	Cameroon	2015
Cameroon	2017	Male	Cameroon	Masters	Yes	Cameroon	2015
Cameroon	2017	Male	Cameroon	PhD	Yes	South Africa	2012
Cameroon	2017	Male	Ethiopia	Masters	Yes	Cameroon	2014
Cameroon	2017	Male	Cameroon	Masters	Yes	Cameroon	2014
Cameroon	2017	Female	Ghana	Masters	Yes	South Africa	2015
Cameroon	2017	Male	Cameroon	PhD	No		
Cameroon	2017	Male	Ethiopia				
Cameroon	2017	Female	Cameroon				
Cameroon	2017	Male	Cameroon				

Cameroon	2017	Female	Cameroon				
Cameroon	2017	Female	Cameroon				
Ghana	2012	Male	Ghana		Yes	AIMS South Africa	2010
Ghana	2012	Female	Swaziland		Yes	South Africa	2011
Ghana	2013	Male	Ghana	Masters	No		
Ghana	2013	Female	Swaziland	Masters	Yes	AIMS South Africa	2011
Ghana	2013	Male	Ghana	Masters	Yes	AIMS South Africa	2010
Ghana	2013	Male	Ghana	PhD	No		
Ghana	2013	Male	Madagascar	Masters	Yes	AIMS South Africa	
Ghana	2014	Male	Ghana	Masters	No		
Ghana	2014	Male	Scotland	PhD	No		
Ghana	2014	Female	Nigeria	Masters	Yes	AIMS Ghana	2013
Ghana	2014	Male	Nigeria	Masters	Yes	AIMS South Africa	2011
Ghana	2014	Male	Ghana	Masters	No		
Ghana	2014	Female	Slovakia	Masters	No		
Ghana	2014	Female	Ghana	Masters	Yes	AIMS South Africa	2012
Ghana	2015	Male	Nigeria	Masters	Yes	AIMS South Africa	2013
Ghana	2015	Male	Germany	Masters			
Ghana	2015	Female	Kenya	Masters	Yes	AIMS Ghana	2013
Ghana	2015	Male	Ghana	Masters	Yes	AIMS Ghana	2013
Ghana	2015	Female	Ethiopia	Masters			
Ghana	2015	Female	Ghana	Masters	Yes	AIMS South Africa	2013
Ghana	2015	Male	Slovakia	Masters			
Ghana	2016	Male	Ghana	Masters	Yes	AIMS Ghana	2014
Ghana	2016	Male	Ghana	Masters	Yes	AIMS Ghana	2014
Ghana	2016	Female	Togo	PhD	Yes	South Africa	2008
Ghana	2016	Female	Nigeria	Masters	Yes	AIMS Ghana	2015
Ghana	2016	Female	Uganda	Masters	Yes	AIMS Ghana	2013
Ghana	2016	Male	Cameroon	PhD	No		
Ghana	2016	Female	Nigeria	Masters	Yes	AIMS South Africa	2013
Ghana	2016	Female	Cameroon	Masters	No		
Ghana	2017	Female	Nigeria	Masters	Yes	AIMS South Africa	2013
Ghana	2017	Female	Ghana	Masters	Yes	AIMS South Africa	2014
Ghana	2017	Male	Ghana	Masters	Yes	AIMS Ghana	2014
Ghana	2017	Male	Ghana	Masters	Yes	AIMS Ghana	2015
Ghana	2017	Male	Cameroon	PhD	No	-	-
Ghana	2017	Female	Ghana	Masters	Yes	AIMS Ghana	2014
Ghana	2017	Male	Ethiopia		Yes	AIMS Tanzania	2015
Rwanda	2016	Female	Rwanda	Masters	Yes	AIMS South Africa	2013
Rwanda	2016	Female	Rwanda	Masters	Yes	AIMS Ghana	2014
Rwanda	2016	Female	Uganda	Masters	Yes	AIMS Ghana	2013

Rwanda	2016	Male	Ghana	Masters	Yes	AIMS Ghana	2014
Rwanda	2016	Male	Madagascar	PhD	Yes	South Africa	2010
Rwanda	2016	Male	Poland	PhD			
Rwanda	2016	Male	Rwanda	PhD			
Rwanda	2017	Female	Rwanda	Masters	Yes	AIMS South Africa	2013
Rwanda	2017	Female	Rwanda	Masters	Yes	AIMS Ghana	2014
Rwanda	2017	Female	Rwanda	Masters	Yes	AIMS Ghana	2013
Rwanda	2017	Male	Ghana	Masters	Yes	AIMS Ghana	2014
Rwanda	2017	Female	Uganda	Masters	Yes	AIMS South Africa	2013
Rwanda	2017	Male	Madagascar	PhD	Yes	South Africa	2010
Rwanda	2017	Male	Poland	PhD	No		
Rwanda	2017	Male	Ghana	PhD	Yes	AIMS Ghana	
Rwanda	2017	Male	Madagascar	Masters	Yes	AIMS South Africa	
Senegal	2017	Male	Benin	PhD	No		
Senegal	2017	Male	Cameroon	PhD	Yes		
Senegal	2017	Male	Rwanda	Masters	Yes		
Senegal	2017	Male	Morocco	Masters	Yes		
Senegal	2017	Male	Senegal	Masters	No		
Senegal	2017	Male	Senegal	Masters	No		
Senegal	2017	Male	Senegal	PhD	No		
Senegal	2017	Male	Senegal	PhD	No		
Senegal	2017	Male	Senegal	PhD	No		
Senegal	2017	Female	Senegal	Masters	No		
Senegal	2017	Female	Senegal	Masters	No		
Senegal	2016	Male	Benin	PhD	No		
Senegal	2016	Male	Marocco	Masters	Yes		
Senegal	2016	Male	Madagascar	Masters	Yes		
Senegal	2016	Female	Senegal	Masters	No		
Senegal	2016	Female	Senegal	Masters	No		
Senegal	2016	Male	Senegal	Phd	No		
Senegal	2016	Male	Senegal	Phd	No		
South Africa	2017	Male	Austria	Masters	No		
South Africa	2017	Male	Italy	Masters	No		
South Africa	2017	Female	Sudan	Masters	YES	AIMS South Africa	2008
South Africa	2017	Male	Ethiopia	Masters	Yes	AIMS South Africa	2010
South Africa	2017	Male	Benin	Masters	Yes	AIMS South Africa	
South Africa	2017	Male	Madagascar	Masters	Yes	AIMS South Africa	2012
South Africa	2017	Female	Madagascar	Masters	YES	AIMS South Africa	
South Africa	2017	Male	Madagascar	Masters	Yes	AIMS Senegal	2013
South Africa	2017	Male	Madagascar	Masters	No		
South Africa	2017	Female	Rwanda	Masters	YES	AIMS South Africa	2013
South Africa	2016	Male	Italy		No		
South Africa	2016		Benin		YES	South Africa	

South Africa	2016	Female	Namibia		NO	
South Africa	2016		Austria		NO	South Africa
South Africa	2016	Female	Rwanda		YES	South Africa 2013
South Africa	2016		Ethiopia		YES	South Africa
South Africa	2016	Male	Switzerland		No	South Africa
South Africa	2016				YES	AIMS Senegal
South Africa	2016		Madagascar		YES	
South Africa	2016		Democratic Republic of Congo		Yes	AIMS South Africa
South Africa	2016		Poland		NO	
South Africa	2016		Sudan		YES	AIMS South Africa
South Africa	2016		Egypt		YES	AIMS South Africa
South Africa	2015	Male	Benin		Yes	AIMS South Africa
South Africa	2015	Female	South Africa		NO	
South Africa	2015	Male	Lesotho		Yes	AIMS South Africa
South Africa	2015	Male	USA		No	
South Africa	2015	Female	Namibia		NO	
South Africa	2015	Male	Madagascar		Yes	AIMS South Africa
South Africa	2015	Female	Australian		NO	
South Africa	2015	Male	Democratic Republic of Congo		Yes	AIMS South Africa
South Africa	2015	Male	South Africa		No	
South Africa	2015	Male	Ghana		Yes	AIMS South Africa
South Africa	2015	Male	Madagascar		Yes	AIMS South Africa
South Africa	2015	Male	Canada		No	
South Africa	2015	Female	Morocco		YES	South Africa
South Africa	2014	Female		Masters	YES	AIMS South Africa
South Africa	2014	Male	South Africa	PhD	No	
South Africa	2014	Male	South Africa	Masters	No	
South Africa	2014	Male	Ghana	Masters	Yes	AIMS South Africa
South Africa	2014	Male	Madagascar	Masters	Yes	AIMS South Africa
South Africa	2014	Female	Rwanda	Masters	YES	AIMS South Africa
South Africa	2014	Female	Namibia	Masters	YES	AIMS South Africa
South Africa	2014	Male	Democratic Republic of Congo	Masters	Yes	AIMS South Africa
South Africa	2014	Male	Portugal	Masters	No	
South Africa	2014	Male	Madagascar	Masters	Yes	AIMS South Africa
South Africa	2014	Male	Cameroon	Masters	Yes	AIMS South Africa
South Africa	2013	Male	Uganda	Masters	Yes	AIMS South Africa
South Africa	2013	Male	South Africa		No	
South Africa	2013	Male	South Africa	Masters	No	

South Africa	2013	Female	Iran		NO	
South Africa	2013	Female	Madagascar	Masters	YES	AIMS South Africa
South Africa	2013	Male	Congo	Masters	Yes	AIMS South Africa
South Africa	2013	Female	Ethiopia	Masters	YES	AIMS South Africa
South Africa	2013	Female	United Kingdom	PhD	NO	
South Africa	2013	Female	Brazil	PhD	NO	
South Africa	2013	Female	Morocco	Masters	YES	AIMS South Africa
South Africa	2013	Male	USA		No	
South Africa	2012	Male	Ghana		No	
South Africa	2012	Female	United Kingdom	PhD	NO	
South Africa	2012	Female	Morocco	Masters	YES	AIMS South Africa
South Africa	2012	Female	Morocco	Masters	YES	AIMS South Africa
South Africa	2012	Male	Canada	PhD	No	
South Africa	2012	Male	South Africa	Masters	No	
South Africa	2012	Male	Congo	PhD	Yes	South Africa
South Africa	2012	Male	Nigeria	Masters	Yes	AIMS South Africa
South Africa	2012	Male	Gabon	Masters	No	
South Africa	2012	Male	Kenya	Masters	No	
South Africa	2012	Male	Madagascar	Masters	Yes	AIMS South Africa
South Africa	2012	Male	Madagascar	Masters	Yes	AIMS South Africa
South Africa	2012	Male	Congo	Masters	Yes	AIMS South Africa
South Africa	2012	Female	Germany		NO	
South Africa	2011	Male	Ghana		No	
South Africa	2011	Male	Zimbabwe		Yes	AIMS South Africa
South Africa	2011	Female	Nigeria		yes	South Africa
South Africa	2011	Male	Canada		No	
South Africa	2011	Male	Sudan		No	
South Africa	2011	Male	France		No	
South Africa	2011	Male	Democratic Republic of Congo		Yes	AIMS South Africa
South Africa	2011	Male	Nigeria		Yes	AIMS South Africa
South Africa	2011	Male	Kenya		No	
South Africa	2011	Male	Madagascar		No	
South Africa	2011	Female	Madagascar		yes	AIMS South Africa
South Africa	2011	Male	Canada		No	
South Africa	2010	Male	Zimbabwe		Yes	AIMS South Africa
South Africa	2010	Male	Madagascar		No	
South Africa	2010	Female	Madagascar		yes	AIMS South Africa
South Africa	2010	Male	Ethiopia		Yes	AIMS South Africa
South Africa	2010	Female	Madagascar		yes	AIMS South

						Africa	
South Africa	2010	Female	Nigeria		yes	AIMS South Africa	
South Africa	2010	Male	Democratic Republic of Congo		Yes	AIMS South Africa	
South Africa	2010	Female	United Kingdom		no		
South Africa	2010	Male	Nigeria		Yes	AIMS South Africa	
Tanzania	2015	Male	France	PhD	No		
Tanzania	2015	Male	Kenya	Masters	Yes	AIMS South Africa	2013
Tanzania	2015	Male	Madagascar	Masters	Yes	AIMS South Africa	2012
Tanzania	2015	Male	Tanzania	Masters	No		
Tanzania	2015	Female	Madagascar	Masters	Yes	AIMS South Africa	2013
Tanzania	2016	Male	Cameroon	Masters	Yes	AIMS Tanzania	2015
Tanzania	2016	Female	Madagascar	Masters	Yes	AIMS South Africa	2013
Tanzania	2016	Male	Cameroon	Masters	Yes	AIMS Tanzania	2015
Tanzania	2016	Male	Kenya	Masters	Yes	AIMS South Africa	2013
Tanzania	2016	Male	United Kingdom	PhD			
Tanzania	2016	Male	Kenya	Masters	Yes	AIMS Tanzania	2015
Tanzania	2016	Male	Kenya	Masters	Yes	AIMS Ghana	2015
Tanzania	2016	Male	Ghana	Masters	Yes	AIMS Tanzania	2015
Tanzania	2017	Male	Cameroon	Masters	Yes	AIMS Tanzania	2015
Tanzania	2017	Female	Madagascar	Masters	Yes	AIMS South Africa	2013
Tanzania	2017	Male	Uganda	Masters	Yes	AIMS Tanzania	2015
Tanzania	2017	Female	Ethiopia	Masters	Yes	AIMS Ghana	2013
Tanzania	2017	Male	France	PhD	No		
Tanzania	2017	Male	Cameroon	PhD			
Tanzania	2017	Female	Cameroon	Masters			
Tanzania	2017	Female	Uganda	Masters			
Tanzania	2017	Female	France	Masters			
Tanzania	2017	Female	Germany	PhD			
Tanzania	2017	Female	Canada	PhD			

ANNEX R: ASSUMPTIONS/ PRESUMPTIONS OF AIMS MODEL

I. Motivation of students to enter into AIMS

From 2010 to 2017, the number of AIMS students responding to the Pre-Assessment survey who do **not** see themselves pursuing a PhD program has grown from 16 (24%) in 2012-2013 (including 7 women and 9 men) to 78 (40%) in 2015-16 (including 35 women and 43 men), with a relative decline to 100 (36%) in 2016-17 (46 women and 54 men). There has therefore been a substantial increase from 2012-13 to 2015-16, in students (especially women) wanting to do something other than study for a PhD. Of the 100 in 2016-17 who see themselves not in a PhD program, 68 (25% of the total intake of 276) wanted to be in employment (31 women and 37 men), including 57 (21% of the total intake of 276) who wanted to be employed somewhere where they could use their skills in mathematical sciences (25 women, 32 men).¹

The majority of students (64% including 60 women (57%) and 116 men (68%)) wanted to do a PhD. The table below shows the numbers who are still doing a PhD at first and second occupations (engagement after AIMS), for classes graduating after 2011 only (as this evaluation looks at the DFID-IDRC grant period).

	First occupation	Second occupation
Graduates doing PhD	129	57
Graduates completed PhD	33	4
Graduates with PhD End Date	18	2
N Males: N Females	16:2	2:0
Graduates PhD less than 3 years	9	0

Table 1 Number of graduates in PhD programs after first or subsequent occupation (after 2011)²

According to AIMS reports at first occupation 26% of graduates who entered a PhD program completed; at second occupation/engagement 7%.³ The penultimate row responded to the original guiding question number 4 on quality in the ToR p.7⁴, about the relative numbers of men and women but at the same time is hardly sensible since it only compares a small fraction of those reporting in the AIMS tracer study data that they are doing a PhD.

Comparing the 2013-14 Pre-Assessment with the 2016 Tracer Study there were only 126 matches⁵: 98 (78%) of those AIMS admitted students hoped to have a scholarship to continue studying for a PhD before they started the AIMS course. 14 each (22%) wanted to be employed or a researcher. Although there were 126 matches, only 78 had more or less complete and useable data from both the 2013-14 Pre- assessment and Tracer Study files; and they are the only ones this evaluation can compare 2013-14 aspirations with the most recent job in the December 2016 Tracer Study database.

Among those 78, 60 (77%) aspired to have a PhD scholarship. Three years later 35 (58%) were still a student and 14 (23%) were in research or teaching, 4 were in the private or public sector and 5 were unemployed or in

¹ Potentially to address Africa's Developmental Challenges – although that phrase was not apparently in questionnaire statement.

² Source Tracer Study December 2016.

³ The challenge for the evaluation regarding this finding is that more than half of the tracer study surveys have not entered the end dates for the completion of their PhD; and, for at least half of those which do have end dates, the elapsed time between start and end dates of the PhD engagement is less than 3 years (the evaluators purposefully giving an absolute minimum of 3 years so as to explain that the evaluators couldn't accept some of the declared End Dates in the tracer study). This means that the dates in the tracer study are incorrect as PhDs cannot be completed within 3 years of starting to study.

⁴ Assess rates of graduation, employment within six months after graduation, and employment five years after graduation, and further post-graduate study - at the network and single centre level.

⁵ The same person appearing as student and graduate in both files. In this way the evaluation is able to track progress of particular individuals over time and not only aggregated data and averages of all students and graduates.

unpaid voluntary work (2 with No Record). This implies that about two years after graduation 23% (if we include those teaching) of AIMS graduates who wanted to do a PhD were able to move on towards their intended career, while 58% were a student (with 13 on a PhD program, 21 on a Master's program).

MCF student aspirations

In the 2015-16 Pre-Assessment, out of the 197, 17/69 (25%) women wanted to be in employment compared to 24/128 men (19%). This is partly explained by the fact that of the 61 MCF scholars, 9 of the women and none of the men wanted to be in employment. Looking at the 2015-17 pre-assessment files, out of the 276, the 68 who wanted to be employed included 36/101 MCF scholars (36%), including 27/87 women and 9/14 men; and 32/175 non MCF scholars (18%) including 4/19 women and 28/156 men. Clearly MCF scholars are thereby more likely to *want* to be employed. This partly explains why there has been a substantial-change between the 2012-2013-2014 intakes and the 2015 intake (22% to 40%) regarding the wish for employment.

II. Labour market issues⁶⁷⁸⁹

Higher education is booming in Sub-Saharan Africa; between 2000 and 2010, enrolments increased from 2.3 million to 5.2 million. Enrolment in tertiary education grew faster in Sub-Saharan Africa than any other region in the world over the last four decades. The Gross Enrolment Rate (GER) grew at an average rate of 8.6%/year between 1970 and 2008, compared to a global average of 4.6%¹⁰.

However, while women have been the first to benefit from the expansion of tertiary education worldwide, Africa has remained an exception to this trend, and therefore African women have not benefited from this growth. In 2014, the GER for African women was 6.78% compared to 9.66% for men. Since 2000, the regional Gender Parity Index has almost stagnated, increasing from 0.66 to 0.7 in 2014.¹¹ Women are therefore only 40% of undergraduate students and this percentage may well be smaller both for STEM subjects and at the post-graduate level. The AIMS commitment and achievement, of having a minimum of 30% women students, towards gender equality in the tertiary education landscape in Africa is therefore difficult to evaluate. Nonetheless, a 30% target within STEM in Africa is most likely rather unique although no data on this in relation to SSA can be found.

Transition to (self) employment

Looking at the outcomes of tertiary education, the rate of unemployment among graduates is still high and, in many countries, growing in Africa. Africa's graduate unemployment is 16% in low income countries and 46% in middle income countries. Comparing gender, young women with tertiary education are more likely to be unemployed (over 30%) than young men with the same level of education (less than 20%)¹²

Literature is clear that there is a mismatch between skills acquired at University and those needed in jobs^{13 14}. In Nigeria, nearly a quarter of graduates are said to be unemployed; and one of the reasons is that many graduates, especially in Kenya as another example of a middle income country, want to see themselves as self-employed¹⁵.

⁶ World Bank (2014) Africa's Pulse: an analysis of issues shaping Africa's economic future. Volume 9 (April). http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG?order=wbapi_data_value_2012+wbapi_data_value+wbapi_data_value-last&sort=desc

⁷ World Bank (2014) Youth employment in Sub-Saharan Africa: Africa Development Forum. Washington: World Bank.

⁸ The Report of the High Level Panel of Eminent Persons on the Post 2015 Development Agenda (Digital Report) <http://report.post2015hlp.org/digital-report-executive-summary.html>

⁹ UNESCO Institute for Statistics (UIS) (2009) Global Education Digest 2009: Comparing Education Statistics Across the World Montreal: UIS.

¹⁰ UNESCO, 2010. Trends in Tertiary Education: SSA, p.1-2

¹¹ UNESCO, 2015, EFA GMR— Gender and EFA 2000–2015—Achievements and Challenges, p. 17

¹² ILO, 2016. Young and Female—a double strike? Gender Analysis of School-to-Work Transition Surveys, p. 24

¹³ The Economist Education in South Africa: still dysfunctional, (21 January 2012)

¹⁴ Kraak, A. (2010) The collapse of the graduate labour market in South Africa, Research in post Compulsory Education, Vol 15, No 1

¹⁵ Cowan, T. (2015) How employable are African graduates in their countries?

It is important to note that the field of study and occupation are important factors in determining the levels of graduate unemployment. Compared to other regions, African graduates with secondary and tertiary-level skills are highly skewed towards the humanities and social sciences. Less than 25% of African students graduate in science, technology, engineering, and mathematics¹⁶. Often, this concentration of young women in non-technical specializations, such as humanities and social science or business studies, within the education system works to their disadvantage when it comes to finding work. Data from Uganda shows that both young men and women specializing in STEM subjects make a quick and easy transition into employment.¹⁷

In addition to the limited availability and demand for more technical skills among job seekers, a lack of “managerial capital” could also be constraining the competitiveness of African firms¹⁸. This will involve making critical thinking and employability skills an integral part of learning and teaching, providing courses linked to industry needs and introducing quality assurance schemes¹⁹.

Combining what is said above it is clear from the literature that a mismatch exists between the supplied competencies and specific skill demands from the labour market, and that graduation from a tertiary education (including AIMS) does not automatically mean that graduates are absorbed into the labour market. Therefore specific alignment with labour market demands and targeted activities and partnerships with private sector are needed in order to become more effective in the transition from education to the world of work.

As mentioned above the AIMS academic program is in itself primarily not geared towards specific labour market demand, and no labour market study has been carried out before the grant or before setting-up new centres. The rationale for AIMS is therefore mostly based on its own ideals, mission, vision and innovative model.

Nonetheless, AIMS acknowledges the problem of youth and graduate unemployment and therefore, with support of its donors, set-up the AIMS industry initiative which is very relevant towards the employment challenges of youth. In addition, over the years, AIMS has broadened its academic curricula with additional skill related courses, such as communication and entrepreneurship. Both points are widely acknowledged above, as well as in other sources,²⁰ as being important and AIMS intentions to reach out and remain relevant thereby are clearly noted.

The success and quality of these intentions and transition of graduates to the world of work are presented in the following chapters (4, 5 and 7).

III. Research into Practice

The third presumption of AIMS is focussed around the argument that excellent research leads to improvements in policy and practice²¹. The grant contract and general support to academic institutions revolves around the principle that better use of research and evidence in policy and practice can help save lives, reduce poverty and improve quality of life, so to contribute in 2010 to MDG’s and now in 2017 to the SDG’s.

Yet, applying research and science so to guide and inform the policy agenda and the many actors in the (education) development sector (from donors and researchers to NGOs and policy makers) in Africa is a difficult task and therefore requires particular thinking about how this could be done best. The linkages

16 PASET. 2016. The PASET Regional Benchmarking Initiative to Strengthen African Universities, p.1; but that is also true in ‘developed countries: for example, in the UK, STEM graduates are less than 17% of the total and, even including biological sciences, no more than 26%. (<https://www.hesa.ac.uk/data-and-analysis/students/courses>)

17 ILO, 2016. Young and Female—a double strike? Gender Analysis of School-to-Work Transition Surveys, p. 24

18 World Bank (2005) Building Effective States: Forging Engaged Societies

19 See also Knight and Yorke

20 Blog by Prof Goolam Mohamedbhai, Transforming African higher education for graduate employability Association of African Universities, 29/009/2013

21 AIMS Institutional Model And Programs: A Value for Money Assessment (2016), p.xii

between the academic work of AIMS, its academic program (and other initiatives) and the broader development objectives need to be made more explicit. This is often done via the development of a Theory of Change that visualises how in this case AIMS and its graduates contribute to broader development challenges.

This is needed (as well as difficult) as in practice academic research typically has little influence on policy and therefore the link is not directly clear to outsiders the least. At the same time it needs to be noted that education and research impact is a long process and cannot be easily captured in seven years.

Moreover, when research does have policy impact, the process is far more complex than the implicit linear model of research-informing-policy-leading-to-change-on-the-ground. Why this is has multiple reasons relating to, among others, the incentives for and pressures on academics to publish articles and the gap between these articles and the direct applicability for policy and implementation. In addition, the communication modalities of research to policy and decision makers are largely one-way knowledge sharing (via presentations) without much attention on the required steps in capacity development in which the steps of awareness creation, acceptance and adoption is promoted²². Further elaboration nonetheless goes beyond the purpose of this evaluation report.

²² Green, L., and Seifert, C (2005). Translation of Research Into Practice: Why We Can't "Just Do It."

ANNEX S: OVERVIEW DFID/IDRC LOGICAL FRAMEWORK RESULTS

This annex compares the targeted result indicators on outcome and output level with the achievements thereby responding to sub-objective 3.8 of the ToR.

Only those results that are related to the academic program and industry initiative are presented. Result areas related to research for example are beyond the scope of this evaluation.

A brief narrative is provided where useful. The broader analysis of the different outputs is provided in the previous chapters, whilst outcome and impact level results are presented in the next.

The outcome (specific objective) of the DFID/IDRC logical framework reads: *"Increased number of well-qualified AIMS graduates engaged in private and public sectors, academia, business and civil society."*

Data is presented for all years 2010-2017 if available. The AIMS logical framework and specific indicators were added or adapted in 2014. Therefore, for these indicators data is only available from 2014 onwards.

Outcome Indicators

1. - Cumulative number of AIMS alumni in a position to contribute to government policies or wider socio-economic impact on Africa (disaggregated by sex)

Finding: Four (4) alumni are identified by AIMS to have achieved this indicator post 2010¹. In both 2015 and 2016, AIMS did not meet their respective targets of 3 and 5, although coming very close, as instead 2 and 4 alumni were identified.

2. - Percentage of employers reporting that they are satisfied with the quality of the AIMS interns

Finding: No data to systematically track this outcome is available.

However, the small number of interviews in the evaluation with employers shows that they are on the whole satisfied with and/or interested in AIMS graduates for internships (see chapter 5). The interviews with four AIMS employers in Senegal were also on the whole positive: partly because one of the companies had taken the initiative to 'pre-train' the Co-Op students in Big Data in order that they did not spend half the internship 'learning-on-the-job'. In fact at ATOS, they have employed one of the three in the first cohort and may potentially employ the other two.

On the other hand, one of the employers in Senegal saw that their intern needed training and sent him on a course at their own expense.

In Tanzania, the three employers interviewed in financial and healthcare sectors were very satisfied; and the interest was great that they would all be open to internship programs in the future.

In addition to private sector employers, University supervisors of AIMS graduates conducting a PhD or teaching at a University mention, via the online survey, that they are very satisfied (39%) or satisfied (46%) with the overall performance of AIMS graduates. 54% mention that AIMS graduates perform on a similar level as graduates from other universities while 31% mention that they perform better than others. University lecturers overseeing Masters Students in Tanzania said the candidates were stronger technically (computer skills), adapted faster to tough demands of education despite starting on a lower base for mathematical theory and are strong at articulating their view points. These are all competencies that are emphasised in the AIMS model and therefore good signs.

¹ DFID Annual Review 2016.docx (p. 3)

In sum; the output was met based on a relatively small number of self-selected interviewees (they were asked if they wanted to take part) and not quantifiable indicators.

Output 1 - Increased access to quality mathematical science education

1.1 - Number of AIMS centres operational and accepting students

Finding: The output was met with 6 centres being operational and accepting students. In 2012 three centres were operational (South-Africa, Senegal, and Ghana); in 2014 four centres (plus Cameroon and Tanzania); and in 2016 six centres (plus Rwanda).

1.2 - Ratio of women to men involved in AIMS management and staff, including staff, board members, lecturers and tutors

Finding²: The finding is split up between AIMS decision makers and AIMS staff (management, board, members, lecturers and tutors).

Regarding decision makers the percentage of women dropped from 35.5% in 2014 to 23.9% in 2016 thereby not achieving its target of 33%. Strong differences are observed especially between Secretariat (38% and 63% in 2014 and 2016 respectively) and the centres of which Cameroon and Senegal reach the desired target. The percentage of women in all centres, except Senegal, dropped between 2014 and 2016. Senegal increased with 13.4%.³

2 Data is from DFID annual review reports 2014, 2015, 2016. Data is not consistent over the years regarding division between decision makers and not. Pre 2014 no data is reported on.

3 "Decision-making positions" are persons in director positions or higher in the AIMS Network or members of the AIMS Board (DFID logframe revised July 2014)

Output 1.2 - Decision makers comparison in female:male per year in %



Figure 1 Output 1.2 Gender balance decision makers

Including all AIMS staff (incl. decision makers) at the centres for 2015 and 2016 (2014 report did not present detailed results) the percentage of women has increased from 26.3% in 2015 to 39.5% in 2016. The secretariat and centres in Senegal and South-Africa have met the target for both years presented. No women at the centres in Cameroon and Tanzania were working in 2015 and this increased to 22% and 36% respectively in 2016.⁴

Output 1.2 - All staff comparison in female:male per year in %



Figure 2 Output 1.2 Gender balance staff

4 Ratios based off of number of AIMS managers, staff, board members, tutors and lecturers.

Analysing both figures it can be concluded that overall the percentage of women at AIMS centres and Secretariat increased although the percentage of women in decision making powers decreased.

Output 1.3 - Total number of bursaries in all centres per year



Figure 3 Output 1.3 Number of Bursaries

1.3 - Number of bursaries available for AIMS Masters program (disaggregated by sex and centre)

Finding: Overall, AIMS did not meet the targeted disbursement targets for this output. Based on the planned figures on the Log frame, there were small deficits in each year from 2013-2016.

Total Targeted Bursaries (In all Centres): Planned and Achieved by Year

Year	2014	2015	2016	2017
Planned	185	240	265	310
Achieved	180	226	250	298
Surplus /Deficit	-5	-14	-15	-12

South Africa and Ghana met the gender targets in all

years. Senegal struggled to meet targets of 30% students being female between 2013 and 2016. Cameroon and Tanzania also had years that they

did not meet the gender targets on student bursaries.

The 30% target on Master's bursaries for women was met in all but two years (2011 and 2013). The other countries range from 32% (2014; 2015) to 38% (2010). Senegal is the lowest performing centre in this respect with 25% overall across the years and only exceeding 30% in 2012.

Output 2 - Enhanced quality and relevance of the AIMS education

2.1 - Internal curriculum review processes conducted and recommendations taken forward

Finding: Based on the progress reports, this indicator was met although the evaluation although the only documentation was for the internal review for AIMS Tanzania (dated April 2017).

2.2 - External curriculum review processes conducted and recommendations taken forward (external review process occurs every 5 years)

Finding: In 2015, the progress reports states that the reviews were undertaken for South Africa only. Two were to take place however due to the mid-term review, one was postponed. Current evaluation is 80% focused on the academic program and thus serves to meet this output

2.3 - Cumulative number of graduates employed in positions using AIMS training 6 months after AIMS (disaggregated by sex)

Finding: Levels of first employment 6 months after AIMS (both in teaching and jobs) among graduates averaged 32% across all years since 2011; with a modest but steady growth from 21% in 2012 to 36% in 2015, then a fall back to 30% in 2016. Across all years, although men are more likely to be in an academic occupation (24% compared to 16% for women), women were more likely to be employed outside academia (14% vs. 9% for men)

Output 2.3 - Number of graduates employed per year per gender

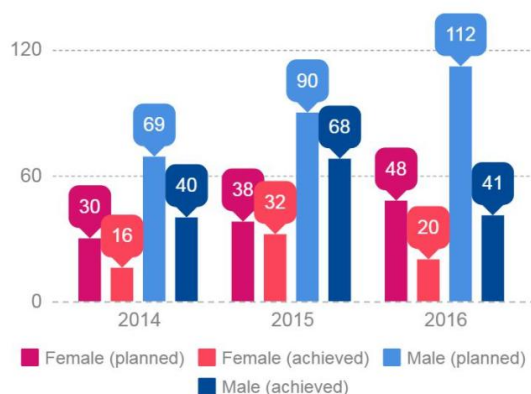


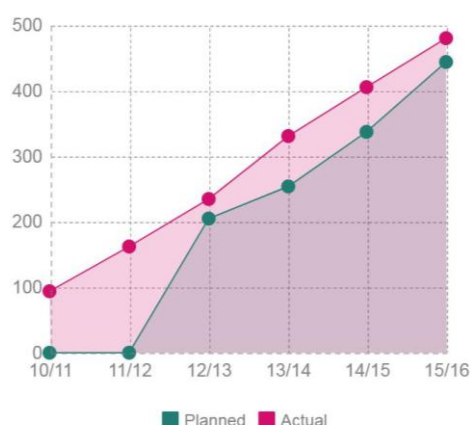
Figure 4 Output 2.3 Number of graduates employed

2.4 - Cumulative number of graduates in post-AIMS study programs 6 months after AIMS (disaggregated by sex)

Finding: According to the data provided in the tracer data analysis, this output was met and surpassed in each year. See outcome level chapter for targets and results between Anglophone and Francophone.

The progress reports highlight that 21% of these graduates in post AIMS study programs were women in 2015; and 31% in 2016⁵.

Output 2.4 Cumulative number of graduates in post-AIMS study programs 6 months after graduation



⁵ Tracer Study 2013

2.5 - Percentage of AIMS Alumni offered internships facilitated by AIMS (disaggregated by field of internship, centre and sector (private, public, academia, civil society or self-employment)

Finding: Based on the AIMS monitoring reports this target was achieved prior to 2015 and has grown over the years. Especially the Co-Op program in Senegal contributed to this as numbers grew sharply from 2017 onwards. From 2010 to 2013 there were 18 internships (6.8% of 263) while no targets were set. During the time of the industry initiative between 2014 and July 2017, a target of about 5% of graduates was set. During this period 99 internships⁶ were organised reaching a total of percentage of $99 / 944^7 = 10.5\%$ for all centres from 2010 including the Co-Op program (increase of 3.7%). Excluding the 32 Co-Op students (2015-2017) who all conduct an internship the total number is $67 / 912 = 7.3\%$ of total graduates (increase of 0.5%).

23% of 2015-16 alumni reported being helped by SDO and 24% by someone else at the centre in their search for employment.

Output 3 - Increased demand in mathematical science

3.1 - Number of attendees or participants at public lectures or teacher training courses (disaggregated by centre, by public lecture and teacher training course)

Finding: Indirectly, in terms of appreciation of mathematical sciences, this output was generally achieved. It has to be noted that at centre level; most of the achievements are disproportionately attributable to South Africa regarding its public lectures. Target on attendees and participants on public lectures were surpassed. At the same time the data is not disaggregated by country. Target on attendees on public lectures surpassed significantly

⁶ Bi-annual report jul-dec 2016 and jan-jun report 2017 providing cumulative numbers.

⁷ Total number of graduates 2014-2017.

however over half were in South Africa. From the centres South Africa, Cameroon, and Ghana met their targets. The other centres did not.

Output 3.1 Outreach: Number of attendees at public lectures - per centre

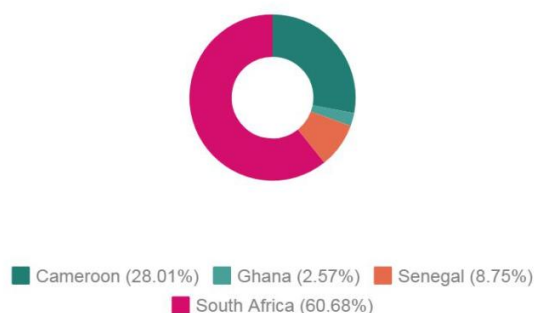


Figure 5 Output 3.1 Number of attendees – per year and percentage per centre

Output 3.1 Outreach: Number of attendees at public lectures



3.2 - Number of AIMS applications, disaggregated by gender, socio-economic status, and quality of applications (A vs. B)

Finding: This target was met and surpassed in 2015 and 2016 (in total numbers). Regarding female applications the target is not met and stood at 19% of all applications in 2016. This figure was up from 16% in 2014. See paragraph on Applications in chapter 4.

Output 4 - Increased efficiency and sustainability of the AIMS network

4.1 - Percentage of recommendations from Organisational balanced scorecard implemented

Finding: This target (25% in 2015; 50% in 2016; 75% in 2017) has underperformed throughout the program (0% in 2015/16) according to the DFID 2016 annual review report. The last semi-annual report, which provides a different view from the annual progress report states that “the process is 100% underway.” A reason or description of this change is not documented or explained.

4.2 - USD amount and diversity of funding sources acquired through the AIMS Secretariat

Finding: This target overall was not met for the following reasons:

a) The target was four new major donors and a minimum of \$52 Million. Till date one new major funder (MCF) was acquired in the 2013-2017 period that earmarked funds of \$24,859,088 to the academic programme for the period November 2014 to July 2016. Besides this two other earmarked grants are acquired by IDRC/GAC. One in relation to skills for employability (\$ 5,240,850⁸ ; 2016-2021) specifically targeting 200 AIMS co-op program graduates and 2250 other students in Francophone African countries. The second grant (± \$ 16,500,000; 2017-2022) is earmarked towards finding mathematical solutions of climate change related challenges in Africa. This grant intends to scale-up research and gender equality via climate change training, research grants and chairs, and fellowships.

While these three grants total an amount of about \$46.6 Million, the IDRC/GAC grants are not specifically geared towards the current academic programme. They do include elements of the industry initiative while at the same time they target education as well as research within (Francophone) AIMS centres and other graduate students.

b) Two out of six governments (South Africa and Rwanda) met or continued to meet their obligations as per commitment with AIMS.

⁸ A total of \$ 1,718,670 is to be added by AIMS itself.

c) Based on the cash flow status from the last financial statement for 2017, AIMS cannot afford to recruit a new batch of students as on average annually AIMS spends USD 7-9 million.⁹ As of 31/12/2016 AIMS has about USD 2.2 Million in hand. This amount is way below what the fund has been supporting for the last five years.

d) Host Country Governments transferred by June 2017¹⁰ 33% of total funding pledged (\$10,696,489 of \$32,362,483) from 2012-2017.

The latest AIMS report¹¹ shows that from the \$10,696,489 that has been received only Tanzania did not contribute till date. From the total contribution \$6,903,349 (65%) is from South Africa; and \$1,699,776 (16%) from Cameroon. The graph below highlights the analysis of each individual country's percentage contribution against its pledge.

% of Host Country Contribution against pledged

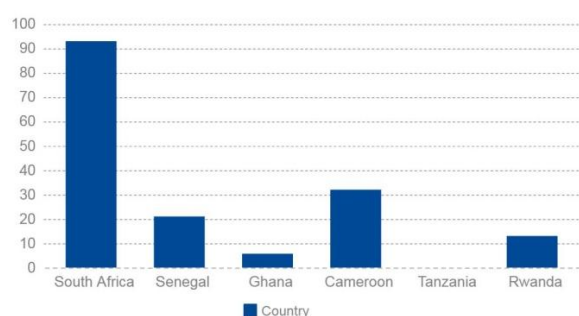


Figure 6 Percentage of host country contribution against pledged

The relative low contribution of host countries has led to high dependence on donor funding and consequent lower financial sustainability. As at December 2016, 71% of the networks funding came from donors whilst 29% came from the host governments. Specifically, 80% of the networks financing came from four major

⁹ Figures are manually calculated yearly from the comprehensive and cumulative financials. There might be small discrepancies in the annual figures but this does not affect the overall picture. The evaluation team believes that these figures are strongly indicative of how much they spend per year from this grant.

¹⁰ Draft bi-annual jan - june 2017IDRC/DFID report.

¹¹ Draft bi-annual jan - june 2017IDRC/DFID report.

funders: DFID, IDRC, MCF, and the Government of South Africa.

4.3 - Number of partnerships that contribute to AIMS achieving results and opportunities to influence policy at country and pan-African level

Finding: During the 2011-2016 period, AIMS developed four (4) new partners in academics and industry.

The cumulative number of AIMS partners confirmed and under negotiation is 79 (Progress Report Jul – Dec 2016). From these, 60 (77%) are academic partners of which majority are universities in Africa and the others are Universities in Europe, USA, Canada and other developed countries. While 17 (22%) are Industry Partners who include a couple of national companies as well as big international companies.

The extent to which the partnership(s) of the centres¹² (beyond the Co-Op in Senegal) are 'alive' and translated into specific activities and achieved outputs is unknown.

% contribution to AIMS Academic Programme by donor type

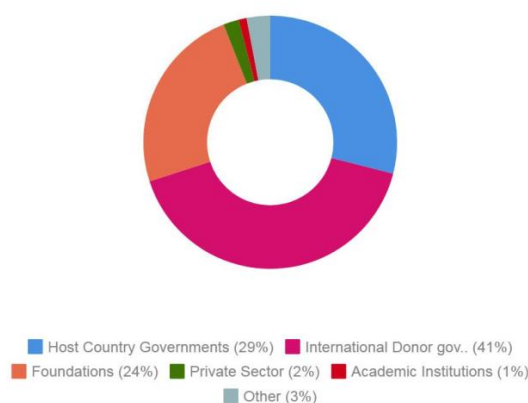


Figure 7 Percentage contribution to AIMS Academic Programme per donor type

¹² Partnerships of the centres in relation to the academic program and/or Industry Initiative are referred to here. The evaluation is hereby explicitly not referring to AIMS network partnerships with such as FAWE.

Output 5 - Comprehensive M&E and alumni survey

5.1 - Major lessons learned and best practices incorporated across the network

Finding: There were no targets for this indicator however the following was achieved: 2015, two (2) progress reports and 1 MTE. 2016, two (2) major areas implemented were a) allocating right personnel and documentation for communication, information and induction of new students, b) using staff from other centres for ICT and facilities management (for example, during the opening of AIMS Rwanda in 2016).

5.2 - Percentage of AIMS alumni completing the alumni survey

Finding: If referring to the post-assessment surveys of AIMS, this output was achieved (target of 75%) and surpassed. Response rates since 2012 are close to or even above 100%.¹³.

¹³ The latter is odd as no more responses than alumni could be received, indicating that double counting occurred.



Training & Consultancy

Introduction, Methodology and Scope

AIMS Learning Event, Kigali 2nd-3rd August 2017



Objectives and outcomes

Workshop Objectives:

- Communicate the key findings, conclusions and recommendations from the evaluation
- Provide feedback to MDF to revise the final report, as needed
- Reflect and discuss how the proposed recommendations might be relevant to improving the AIMS model
- Identify key internal AIMS leads to take forward specific recommendations

Expected Outcomes:

- Input to the draft management response to the evaluation findings and recommendations
- An action plan with timeline (by department & unit) for taking forward the most pertinent recommendations



Agenda Wednesday 2nd August

Today is about making sense of the findings and conclusions of the Academic Programme and the Industry Initiative including what happens to AIMS students after graduation.

Objective 1 and 2

0800-0930	Welcome, introductions, registration	Dorothy Nyambi, AIMS
0930-1000	Overview presentation on the evaluation's objectives	Maurits Spoelder and Roy Carr-Hill, MDF
1000-1100	Evaluation methodology and findings	Maurits Spoelder and Roy Carr-Hill, MDF
1100-1145	Q&A for clarification on Academic Programme	Maurits Spoelder and Roy Carr-Hill, MDF
1145-1200	Q&A for clarification on Academic Programme	Maurits Spoelder and Roy Carr-Hill, MDF
1200-1300	LUNCH	
1400-1600	Seminar of findings on academic programme & industry initiative	Maurits Spoelder
1600-1630	Evaluation findings: Outcomes and Impact of Alumni (on Development in Africa)	Maurits Spoelder and Roy Carr-Hill, MDF
1630-1700	Breakout group discussion + Q&A + plenary discussion	Group representatives
1700-1730	Summary of today's discussion and looking forward to tomorrow	Dorothy Nyambi, AIMS
1900-2100	Dinner	



Agenda Thursday 3rd August

Tomorrow is about strategic dilemma's and forward looking. Looking ahead based on Tuesday's insights and discussions

Objective 3 and 4

0900-0930	Recap of yesterday	Maurits Spoelder
0930-1015	Strategic dilemma's and forward looking	Maurits Spoelder and Roy Carr-Hill, MDF
1015-1100	Strategic dilemma's and forward looking	Maurits Spoelder and Roy Carr-Hill, MDF
1100-1300	Strategic dilemma's and forward looking	Maurits Spoelder and Roy Carr-Hill, MDF
1300-1400	Strategic dilemma's and forward looking	Maurits Spoelder and Roy Carr-Hill, MDF
1400-1430	Report back and plenary discussion on exercise	Group representatives
1430-1515	Exercise: develop recommendations	All participants in groups
1515-1545	BREAK	
1600-1630	Report back and plenary discussion	Group representatives
1630-1700	Overview of findings and conclusions	Romeo Essou & Karen Sutherland, AIMS
	Conclusion	Barry Green & Dorothy Nyambi, AIMS
	Workshop evaluation	Ese Uhetwabo, AIMS



Scope of work (!)

- Academic Programme, Industry Initiative and Development Impact
 - Although links are present NO focus on outreach, teacher training, research
- DFID/IDRC grant (targets) from 2010-2017
- Consistency and quality across 6 Centres (not individual centres, secretariat, charters etc.)
- Focus on learning & assessment of 5 evaluation criteria and VfM



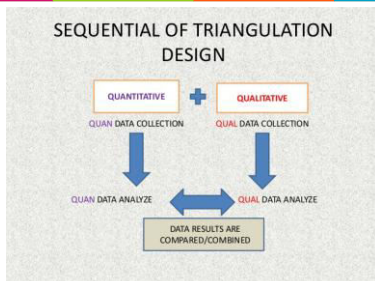
Process of evaluation so far

	March	May	June	July	August	September
Phase A: Scoping						
A.1. Scoping: initial programme, desk review						
A.2. Consultation with key internal stakeholders						
A.3. Final inception meeting - Kigali Rwanda						
A.4. Planning for field work logistics						
Inception Report						
Phase B: Data Collection						
B.1. Undertake country and in-depth document review						
B.2. Undertake rapid findings into final methodology and tools						
B.3. Undertake online survey						
B.4. Stage 1: Data collection						
B.5. Stage 2: Data collection						
B.6. Stage 3: Data collection						
B.7. Drafting final reports						
Phase C: Reporting						
C.1. Collection of Draft Report						
C.2. Review by Expert Panel						
C.3. Incorporate Revisions by Expert Panel						
C.4. Finalise Learning Workshop						
C.5. Final report						

- Team of 5 (2 women) based in Nairobi, UK, and Accra.
- Feedback on first draft received and (largely) incorporated.



Methodology: mixed method



- Learning oriented and utility focussed
- Outcome and impact oriented



Overview of Methods (1)

- Field Visits to each of Centres (101 interviews)
- Analysis of AIMS Pre-Assessment and Post Assessment Surveys from 2011 onwards
- Online Surveys of 2016-17 Students (168, 32% female) and 2015-16 Alumni (148, 29% female).
- Focussed Group Discussions with Students (55, 47% women), Alumni (26, 27% women) and Tutors (36, 50% female).
- Skype telephone Interviews with International/ National Lecturers (16/14)
- Interviews with Secretariat (16), members of IAC (4) and IBD (2), and Donors (4)



Overview of Methods (2)

- Analysis of December 2016 AIMS Tracer Study
- Observations of video's from lecturers in SA pre 2010 (5) as a proxy
- Independent Expert panel of 7 & two independent reviewers
- Most Significant Change Stories to sample of graduates (45, 24% female)



Analysis of Pre & Post Assessment Surveys

Whilst there are a large number of questions in each survey, most of them are rather subjective and vague and so not much use for our evaluation.

What we have been able to use:

- In Pre-Assessment report of household or individual income and of education of parents, whether or not house was rented, and whether or not owned land
- In Post Assessment the planned location of the graduates.



Analysis of Tracer Study Dec 2016 (1)

- The Tracer study is a compilation of responses of Alumni to regular surveys about their current status and, in particular their current occupation. It is the main source for our findings about outcome and impact.
- The Dec 2016 database contained 2,249 lines partly because it contained information on those prior to 2011 (when the Senegal Centre opened) but mainly because of multiple entries potentially for all those graduating prior to 2016.



Analysis of Tracer Study Dec 2016 (2)

- Moreover, although the evaluation team could identify the most recent occupation – in most cases – because there are fields for Start and End Dates of each occupation (although these are often not completed), these are only really interpretable as part of an occupational career
- Database after 2010 has been transformed by creating occupational careers from the multiple entries for each person

Academic Programme Findings and Conclusions

Chapter 4.1, 4.2 and 7.1



- The academic programme is relevant towards the need for mathematical science capacity development in Africa, especially taking into consideration the skills required for broader social economic development and to tackle unemployment.
- Confusing evidence of employability of graduates and absolutely no evidence of the demand for graduates in the mathematical sciences.
- A significant majority of graduates want and go on to further studies (usually a Research Masters whether or not prior to a PhD) the external cost-effectiveness of the model in the context of African Higher Education is in doubt.

- AIMS academic model presumes that excellent research contributes to broader development. The challenges of translating research into practice is worldwide.
- The presumptions for implementing the AIMS model are not clearly supported by evidence and a careful analysis. A Theory of Change on how the Academic Programme is contributing/linked to addressing Africa's Development Challenges (SDG's) is missing.

- The curricula content of the AIMS courses reached the desired level equivalent to that of an international qualification of Mmath, and cater for a broad range of students interest in the Mathematical Science.
- The courses show ingenuity on the part of the international lecturers and require strong dedication on the part of the students who often describe the programme as 'intense', 'challenging', and 'hard-work' across all centres visited.
- AIMS review courses and research phase together is providing the required credits under an international Masters level requirement. Together with the Skills courses the programme is providing (and exceeding) the remaining credit requirement. The curricula in its current form and duration is too compact/ dense for the majority of students, given the time at hand.

- The model of AIMS is innovative. It can be described as a 'greenhouse' whereby students are introduced to a broad variety of subject matter across five formative areas. Students grow in their own pace and direction, while AIMS provides the key conditions to do so.
- Significant variation in content of the review courses across the AIMS centres and across the years is observed. This makes it difficult to describe and accredit the course content to any outside organisation.

To conclude:

The continuous changing (content, lecturers, tutors, Centre staff) set-up and limited framework, the current (and future) challenge is that centres are diverging from each other whereby *the value of an AIMS degree differs strongly between centres, and specifically between South Africa and the rest, limiting its consistency.*



Effectiveness and efficiency (4)

Besides the contextual differences in each country, the following Centre characteristics are critical towards a centre's success:

- A. Presence of a full-time in-country academic director that sets-up the curriculum; recruits and supports international lecturers and tutors; and monitors academic quality and innovation.
- B. A clear partnership with a national public and/or private university that is able to absorb AIMS graduates into further studies, set and control organisational finance and administration, and most importantly assures certification of degree's and accreditation of the institute within the NQF of the country.
- C. Full-time in-country leadership team of the centre via a centre president/director, academic director, chief operating officer, and facilities manager is to be in place.



Application process and admission requirements

- The current centralised on-line application and selection process is efficient and effective (in selecting the desired quality of students across the continent).
- It does however lack the quality of admission processes internationally. A short oral distance interview and, if deemed qualified after this stage, passing a TOEFL/IELTS/AF language test (which could be paid for by the programme) is absent resulting into diverse language abilities in classrooms affecting progress of courses.
- Less than 1% could be classified as 'poor' even according to a liberal definition of neither parent having any post-secondary education, renting their house and owning own land.



Teaching, Learning and Assessment (1)

- Lecturing is performed by motivated, credible, and committed international lecturers from renowned Universities largely. They use a more student led and participatory approach compared to their home universities.
- Generally, students, lecturers, and centre staff are satisfied about the performance of tutors over the years. The quality of tutoring and the diversity of the annual tutor pool differ between centres.
- Two centres are below the targeted 30% of women tutors; in half of centres AIMS graduate tutors are recruited within two years of graduation; and in half of the centres between 60% to 75% of tutors are from the centre country often leading to favouritism of tutors to 'home' students.



Teaching, Learning and Assessment (2)

- While tutors meet the desired qualifications, improvements into the induction period and performance monitoring regarding expected roles, responsibilities and authority levels towards students is requested.
- Current continuous assessment process is geared towards improved learning of subject matter and not to formal examination geared to standardisation or meeting minimum criteria. It is a challenge for tutors to be objective. No threshold is set, and nearly all students (eventually) pass the courses.



Gender, inclusivity and discrimination

- Gender and inclusivity seen as important by the centres (their tutors and students) and AIMS network as a whole, but no systematically organised response observed at the Centres; and activities are geared towards female support.
- Key recommendations from the 2013 gender audit about setting-up of a gender policy framework and strategy, as well as capacity development to apply gender equality interventions not been systematically followed up.
 - The framework lacked a coordinated strategy/approach with timeline, budgets, roles and responsibilities, and reporting guidance for centres.
 - No targeted capacity development efforts have taken place nor have gender focal persons been functioning or supported at any centre.
- Gender discrimination is not apparent and Centres are open to diversity;
- About 16% to 20% of students and alumni have experienced favouritism at 3 centres in relation to reimbursements, facilitation towards internships, search for employment, and marking of course work by tutors.



Management (1)

Current monitoring data is not providing the required information to learn, be accountable towards results, or inform evidence based decisions.

Databases make arbitrary changes in the names of the same fields from year to year, duplicate records, errors in the AIMS Centre attended, country of origin and, in some ways, more serious, missing data in response to the questions asked.

Relation between the centres and the secretariat is a concern. Centres feel that they should receive better and demand driven support, while currently experiencing it as directive and controlling.

This because of:

- a) The secretariats roles and responsibilities vis-à-vis the centres are unclear for the Centres.
- b) In the absence of a standard annual operating plan, reporting from centres to secretariat becomes haphazard based on immediate needs of Secretariat/ Network.
- c) The secretariat is still dispersed over the (Western) world with some of the Directors not being in Rwanda which makes it a challenge to work as a team; and
- d) No clear organisational structure with job functions, hierarchy and titles seems present at the secretariat making reporting and management a challenge internally.
- e) Centres furthermore express strong concerns about the absence of a clear salary scaling linked to positions throughout the organisation.

Industry Initiative Findings and Conclusions

Chapter 5 and 7.2



The Industry Initiative of AIMS has several areas it focuses on:

- Creation of **linkages with industry** in order to **set-up partnerships**.
- **Internships and job placement creation**
- **Skill development of students** towards innovation and entrepreneurship so to contribute to African solutions.
- Applied research with industries

- Over the years, **AIMS centres have become more committed** and see the value of preparing students for the world of work.
- Apart from Senegal, industry initiative is narrow and **supply driven based on setting-up internship/work placements for students**; and does not effectively prepare students for world of work.
- Majority of **SDO's also see their role as establishing internships** for AIMS students; largely because of the academic focus and mindset of centres and AIMS NEI, and the related competencies of staffing and councils.
- **The transfer of the secretariat** from South-Africa to Rwanda in 2015 had a negative effect on the energy of the industry initiative, leading to set-backs and delays.

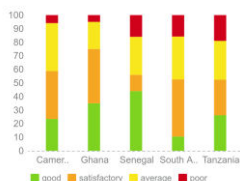
- **Centres have broadened their curricula** in order to provide students with the required skills, resulting into less specialisation.
- **Leadership** in centres see the value of these broader 'soft' skills and the **commitment** from the secretariat and international board of advisors is high.
- The challenge is that the **centres do not have the required skills-set**, and the leadership does not bring in the required background, network or expertise to reach out and work with private sector representatives.

The **SDO role has not been operational** (apart from the South Africa centre) often leaving the tasks to the academic director who do not have the time or the capability to perform this role.

About 25% of Alumni receives support from an SDO largely in relation development of CV or job interviewing.

70% of those are satisfied with support given. 30% find it average or poor.

Alumni satisfaction of SDO: per centre



- AIMS centres as a whole have **not systematically nor strategically reached out and established sustainable partnerships** with the world of work and or labour market representatives.
- The initiatives undertaken have been aimed at creating of internship placements rather than demand driven, such as joint research on market problems faced by the companies, or guest lecturers by market representatives to promote the company and educate contemporary skill development (with the exception of Senegal). However, these are insufficient in creating a win-win situation for both AIMS and the potential employers.



Is there market demand?

Yes



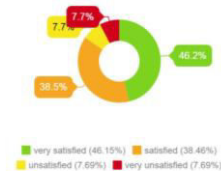
Employers perspective on AIMS graduates

AIMS graduates largely perform on a similar satisfactory or higher level compared to other graduates in similar positions.

Comparing AIMS graduates quality of assignments with others employees



Level of Satisfaction Employers with overall performance of AIMS graduates



Making sense of findings (part 1).

- Self-organise in 5/6 groups (4/5 people per group) on either **academic programme or industry initiative** (join the group of your choice, but try make groups of more or less similar size).
- Shortly share most **striking findings** (on cards) and prioritise the 2 or 3 most important or common findings.
- Analyse findings by jointly reflecting on:
 - What explains / causes the finding?
 - Why is this finding relevant for AIMS future?
 - What lesson do you draw from this in terms of “what to keep” or “what to change”?
- Please summarise lessons for 10 minutes **presentation** in plenary.



Recommendations

AIMS learning event



Split the academic programme into an academic stream and employment stream as the labour market and academic field demand more specialisation (A).

- After skills phase so students make informed decision.
- Specific courses in each stream + joint courses.
- Employment stream courses are largely demand driven + completed with “solving” a market based problem.
- Partnerships with labour market players are to be build in order to teach.
- Not necessarily each Centre.



It is advised to prioritise consistency in quality and financial sustainability of each centre, so to become more coherent. This next to the focus on expansion (B).

Enhance coherency of course programme via a basic set of core skills/courses (C) + common set of course descriptions/objectives (D).



Assure that the leadership positions at each centre are filled full-time and in-country. To enhance consistency across centres, explore willingness of leadership for a rotation scheme (E).

Prioritise affiliation with partner University/ies so to assure accreditation of Centre and certification of degree as this strongly enhances opportunities for Centre sustainability and access to national funds + chances for graduates progression (F).



Add an oral and a language test towards the end of the student selection process & provide pre-course classes to cater for language deficits (G).

If AIMS wishes to select the marginalised, consider those criteria in the selection next to the grades and reviews (H).



A 1-2 week introduction on the roles, responsibilities, and authority levels of tutors combined with systemic performance management and mentoring of tutors by the academic director is required to enhance consistency of quality between tutors for students (I).

Share an introductory package for first time intl. lecturers on the st. background, academic environment, and employment opportunities for AIMS graduates. This so that intl. lecturers can tailor courses (K).



Recommendations management and organisation

Be in control of/steer your Monitoring by setting the framework and analyse data so to turn it into information for relevant reporting and evidence based decision making (O).

Within this framework:

- Review the utility and validity of data collection process and questions.
- Develop a procedure to check for data accuracy.
- Set-up clear procedures for systematic monitoring & analysis.
- Invest in training of staff so to maintain the system and steer monitoring.
- Re-consider the roles/responsibilities with suppliers.



Recommendations Academic Programme

Develop a gender and inclusivity strategy and related action plan which has an implementation schedule with the purpose for AIMS to become responsive to the diverse needs of AIMS students and its pan-African multicultural nature.

Monitor and support the implementation at each centre via appointing a part-time gender and inclusivity coordinator stationed at the secretariat in Kigali, and a part-time gender inclusivity focal person at each centre (L).



Recommendations Industry Initiative

Develop an industry initiative strategy that is demand driven and geared towards setting-up partnerships in the identified skills-sectors.

Adapt, per centre, the review courses in the employability stream (A) based on this demand.

Reach out and learn from existing partners such as the ESMT Berlin currently establishing its course in South Africa. (M)



Recommendations Industry Initiative

Put in place a full-time SDO with a background and network in the industry, located at each centre, in order to proactively approach the industry and support in-country AIMS graduates.

Go beyond the notion of internships and develop equal partnerships that could lead to collaborative research on problems faced by companies and/or lucrative consultancy and research services by the Centres so to become financially self-sustainable. (N)



Recommendations management and organisation

The role of the secretariat is advised to be changed from a current steering position towards a supportive body to its centres and broader network partners. Not as a spider in the web but as a supportive body that facilitates (P):

- Financial resource mobilisation and grant management.
- Learning, exchange, and knowledge management between centres.
- Partnership management and visibility of the centres and network.
- Monitoring & evaluation.
- Developing/updating organisational standards and procedures regarding HR, finance, administration as based on centre best practices.



Recommendations management and organisation

It is strongly advised that the entire leadership and management of the secretariat is centralised under 'one roof' including HR, Gender, M&E, finance etc. (Q)

Centres and secretariat staff set-up a clear organisational structure with job positions and consequently align enumeration and benefit packages for all positions (R)



The recently established sustainability committee is urgently advised to develop a financial sustainability strategy and business case for the academic programme (T).

Hereby:

- International donor support for skills development is more likely available compared to higher academic education.
- Learn from the experiences with national governments and do not take lip service or pledges as actual received funds.
- Nurture the relationship with national governments, look for and explore scholarship funding from regional committees such as EAC, SADC, and ECOWAS and continental bodies such as ADB as a regional approach might give access to new funding schemes.



Forward looking exercise

Strategic Dilemmas



Making sense of findings (part 2).

You are part of a **strategic task force** tasked with shaping the future of AIMS by finding the best possible response to AIMS its **key strategic questions / dilemmas**.

- What do we consider to be the most **important strategic questions / dilemmas** (next slide) for AIMS future?
- Divide in 4/5 groups, each deals with **one** of the most important questions / dilemmas.
- Appoint time-keeper and go through following three steps: **Dreaming, Grounding, Challenging**.



Strategic questions / dilemmas

1. Intensity and density (greenhouse effect) of academic programme vs. market & academic demands.
2. How do you build equal partnerships with industry in each country and what are the consequences for AIMS its operations?
3. Regionalism & linguistic focus or current set-up.
4. As unemployment is rising among AIMS graduates, what can and should AIMS do to facilitate the transition and integration of AIMS graduates into the workforce?
5. Sustainable relationship, roles and division between centres and secretariat.
6. Relying on external funding or making the academic model self-sufficient?



Step 1: Dreaming (20 minutes)

- **Brainstorm ideas** in response to your question / dilemma.
- Come up with as many ideas as you can.
- No arguing, just ideas! Let your mind roam freely. Only questions for clarification. No matter how crazy or expensive.
- **Write on white cards** on flip-chart.
- **Cluster** similar or connected ideas.



Step 2: Grounding (45 minutes)

- **Select the best ideas** (top 3) in terms of desirability and feasibility.
- Discuss how to make these happen?
 - What preconditions are to be in place?
 - What action needed to get and keep going?
- Capture results (pre-conditions and actions) on **Green cards** and link these to the related idea.



Step 3: Challenging (15 min)

Stand back and **reflect on your ideas/plans** thinking on what is going on so far by asking:

- What are the risks?
- Why would it not work?
- What could possibly go wrong?
- What forces oppose or hinder?

What can we do about this? (*manage, adapt or drop*)



Synthesis

Shortly (10 minutes) present your main ideas / action plans to plenary.

Q&A

Develop an action plan with timeline (by department and unit) for taking forward the dilemma.