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Sida Decentralised Evaluation

Lennart Ståhle
Ananda S. Millard

External evaluation of the Quality Assurance Systems of research and postgraduate training at Universidad Mayor de San Andrés (UMSA) and Universidad Mayor de San Simón (UMSS) in Bolivia, as well as the national system through Comité Ejecutivo de la Universidad Boliviana (CEUB)

Final Report

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Final Report
September 2017

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Authors: Lennart Ståhle and Ananda S. Millard

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SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY

Address: SE-105 25 Stockholm, Sweden. Office: Valhallavägen 199, Stockholm
Telephone: +46 (0)8-698 50 00. Telefax: +46 (0)8-20 88 64
E-mail: info@sida.se. Homepage: http://www.sida.se

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Abbreviations and Acronyms

ANUP	National Association of Private Universities (Asociación Nacional de Universidades Privadas)
APESU	Plurinational Agency for the Evaluation and Accreditation of Higher University Education
CEUB	Executive Committee of the Bolivian University (Comité Ejecutivo de la Universidad Boliviana).
CNACU	La Comision Nacional de Accreditación de Carreras Universitarias (The National Committee for Accreditation of University Education)
DICyT	Directorate for Scientific and Technological Research (Dirección de Investigación Científica y Tecnológica)
DIPGIS	Department for Research, postgraduate, and social interaction (Departamento de Investigación, Postgrado e Interacción Social)
ENQA	European Association for Quality Assurance in Higher Education
ESG	The Standards and guidelines for quality assurance in the European Higher Education Area
ESU	European Students' Union
EUA	European University Association
EURASHE	European Association of Institutions in Higher Education
MdE	Ministerio de Educatión (Ministry of Education)
PhD	Doctor of Philosophy
QA	Quality Assurance
RENACYT	National Meeting of Science and Technology (Reunión Nacional de Ciencia y Tecnología)
Sida	Swedish International Development Cooperation Agency
SINEP	National System for Postgraduate studies (Sistema Nacional de Estudio de Postgrado)
SINUCYT	The National Secretariat for Research Science and Technology (La Secretaría Nacional de Investigación, Ciencia y Tecnología)
SUB	Bolivian University System (Sistema Universitario Boliviano)
UEA	European University Association
UMSA	Universidad Mayor de San Andrés (University Mayor of San Andres)
UMSS	Universidad Mayor de San Simón (University Mayor of San Simon)
VESFP	Vice Ministry of Higher Education and Vocational Training (Viceministerio de Educación Superior y Formación Profesional)
VMCyT	Vice Ministry for Science and Technology (Viceministerio de Ciencia y Tecnología)

Glossary

ESG	The Standards and guidelines for quality assurance in the European Higher Education Area (ESG) were adopted by the Ministers responsible for higher education in Europe in 2005 following a proposal prepared by the European Association for Quality Assurance in Higher Education (ENQA) in cooperation with the European Students' Union (ESU), the European Association of Institutions in Higher Education (EURASHE) and the European University Association (EUA). The standards have as a main goal to contribute to a common understanding of quality assurance for learning and teaching across borders and among all stakeholders. The ESG are based on the following four principles: 1) Higher education institutions have primary responsibility for the quality of their provision and its assurance; 2) Quality assurance responds to the diversity of higher education systems, institutions, programmes and students; 3) Quality assurance supports the development of a quality culture; 4) Quality assurance takes into account the needs and expectations of students, all other stakeholders and society. The focus of the ESGs is on quality assurance as it relates to learning and teaching in higher education, including the learning environment and relevant links to research and innovation. Individual institutions may have additional policies and processes to ensure and improve the quality of their other activities.
Quality assessment	Is an evaluation of the quality of the operations. In the education context the emphasis is usually on the results of the educational processes. Analysis that focuses both on qualitative and quantitative results such as number of lectures per student, number of examination opportunities, forms for the examination, student completion rate, etc would likely be included in this type of assessment.
Quality audit	Is an evaluation of the quality assurance process.
Quality enhancement	Refers to both quality development and quality assurance.

Preface

This assignment was contracted by the Swedish International Development Cooperation Agency (Sida) through the Framework Agreement for Evaluation Services and conducted by the consortium led by FCG Sweden (formerly FCG SIPU International), with partners Itad and Sthlm Policy Group. FCG Sweden led this assignment.

The team that conducted the assignment consisted of the team leader, Ananda S. Millard, Ph.D., and team members Lennart Ståhle, PhD (Subject area expert) and Pamela Velasco (Bolivian consultant). The report was quality-assured internally and the project manager was Johanna Lindström in the Evaluation Unit at FCG Sweden.

The findings of the report are entirely the responsibility of the team and cannot be taken as expression of official Sida policies or viewpoints.

The team would like to thank stakeholders at Universidad Mayor de San Andrés, Universidad Mayor de San Simón, Comité de Ejecutivo de la Universidad Boliviana, Sida, and the Swedish Embassy in Bolivia for constructive and useful cooperation throughout the evaluation process.

Executive Summary

The focus of this report is in the quality assurance system for postgraduate education in Bolivia. The focus is on both the Universidad Mayor de San Andrés (UMSA) and Universidad Mayor de San Simón (UMSS).

This study was conducted between October 2016 and June 2017 and included two weeks of data collection in Bolivia in February 2017. The study has relied primarily on a review of existing documentation and an extensive number of interviews.

The main findings of the study include:

- In Bolivia there is a well codified system for quality assurance and accreditation at the undergraduate level, but the details of how it should be implemented are less clear. The system appears to be largely voluntary and ad hoc. Indeed, low performance appears to not suffer any form of sanction. Still a large proportion of degrees have been accredited.
- At the postgraduate level the lack of a solid quality assurance system means that both universities may provide sub-standard services, and indeed develop programmes that are in no way quality assured.
- Neither university currently collects key statistics to enable even limited performance monitoring.
- Neither university counts with a critical mass of highly qualified staff. Indeed the level of qualifications of the majority of teaching staff appears low.
- In Bolivia there are two parallel systems of accreditation, one national and one international, but degrees are not systematically required to adhere to either.
- It is not possible to assess the quality of postgraduate courses at this time. Courses which are supported by Sida (UMSS, scientific programmes) seem to have in place the conditions necessary to secure good quality, however ensuring good quality will require proactive systematic implementation of the mechanism which are in place.

The following recommendations have emerged from an assessment of findings in specific relation to the Standards and guidelines for quality assurance in the European Higher Education Area (ESG), which have been used as the international benchmark against which performance in Bolivia has been measured (only relevant standards have been included).

Internal standards:

Standard 1.1 Policy and quality assurance: It is recommended that both UMSS and UMSA develop a quality assurance policy and detail a process to carry out quality assurance.

Standard 1.2 Design and approval of programmes: It may be of value to further detail the specific content requirement of the programme plans.

Standard 1.3 Student-centred learning, teaching and assessment: It is recommended that universities examine this standard carefully and if not currently applied (an element which could not be verified through this study), find mechanisms to apply its central tenets.

Standard 1.5 Teaching Staff: It is recommended that Sida ensure that future funding supporting PhD degrees conferred by Swedish universities leads to the automatic recognition of said degrees in Bolivia. It is also recommended that Bolivian universities both revise their recruitment and promotion policies and make a plan for how university academic, scientific and teaching capacity will be improved.

Standard 1.6 Learning resources and student support: It is recommended that the universities either reallocate funds from within their existing budgets or develop solid fund raising efforts in order to ensure that postgraduate education can be developed and is of high quality.

Standard 1.7 Information Management: Universities, in coordination with the CEUB should in future determine what type of data needs to be collected. Data collected should have a clear purpose and utility.

Standard 1.8 Public information: The homepages of both UMSA and UMSS should include information on programs and courses offered, including postgraduate programs. Up-to-date statistics, as well as information on self-evaluations and accreditations should also be published.

Standard 1.9 on-going monitoring and periodic review of programmes: Bolivian universities should consider ensuring that all programmes are subject to periodic self-evaluations.

Standard 1.10 Cyclical external quality assurance: Institutions should be required to undergo external quality assurance on a cyclical basis.

External standards:

Standard 2.1 Consideration of internal quality assurance: It is recommended that the internal system be well codified and systematically applied. In Bolivia this means that further detail may very well be required at the internal level.

Standard 2.2 Designing methodologies fit for purpose: Bolivian universities should, therefore, carefully evaluate the current systems and ensure an inclusive participatory process in future.

Standard 2.3 Implementation processes: Bolivian universities together with the CEUB should identify a cycle that suit the Bolivian system and that can be approved by all universities.

Standard 2.4 Peer-review experts: It is recommended that in future Bolivia more carefully reconsider the composition of evaluation teams.

Standard 2.5 Criteria for outcomes: It is recommended that information on outcomes be disseminated to all relevant parties.

Standard 2.6 Reporting: It is recommended that in future evaluation synthesis documents be made public.

1 Introduction

1.1 OVERVIEW

Higher education is growing rapidly all over the world, with both the public and private investments into higher education increasing. With this increased attention on higher education, the expectations of deliverables and of the institutions which provide higher education are also growing at multiple levels. Not least, the expectations from:

- The students and their parents who presume that an adequate education will facilitate future working opportunities
- The future employers, from both the public and private sectors, who expect well educated employees who are ready to meet the challenges they might face in the working environment
- The governments that invest considerable amounts of funds into the education sector
- The general public, the tax payers, who contribute to the education sector through the contribution made by the state to funding education.

In response to the aforementioned expectations, higher education institutions and higher education systems need to demonstrate the quality of the services they provide. Demonstrating that quality is addressed and that the services provided are of high calibre is important to the above mentioned stakeholders, and also necessary in order to meet the demands of international cooperation (donor support), international partners, as well as being/remaining competitive in the international market vis-a-vie the international student body.

In this context, **Quality Assurance (QA)** refers to all activities involved in the cycle of continuous improvement (i.e. assurance and enhancement activities) of higher education provision. A successfully implemented QA system aims to both provide a measure of accountability and support the enhancement of higher education, these two elements are clearly interrelated. Indeed, a QA system is expected to provide information that is able to demonstrate the level of quality of the education provided to both higher education systems as well as the public; and also be able to provide advice and recommendations on how education might be improved. Indeed, a successful QA system may also serve to develop a culture of quality that is embraced by the students, the academic staff, the institutional leadership, as well as management.

The way quality is assured at Bolivian, universities, and particularly at the University Mayor San Andres (UMSA) and the University Mayor of San Simon (UMSS) is

important to Sweden because since 2000 Sida has supported the development of postgraduate and research capacity at both universities.

1.2 EVALUATION OBJECTIVES

The aim of this assignment has been to provide an overview of the existing quality assurance systems in Bolivia generally, and specifically the system(s) which govern the Sida supported postgraduate training programmes. Based on the information collected, this document provides recommendations which are intended to:

a) support the planning of future Sida - funded research cooperation with Bolivia, including support to partnerships between Bolivian and Swedish universities; and
b) provide tangible avenues for improvements of the quality assurance systems in Bolivia, the postgraduate programmes and research management systems.

In pursuit of the aforementioned end this evaluation has:

- Assessed the national QA system as expressed in the documents from CEUB and to compare the national system with principles expressed in the documents from El Mercado Común del Sur (MERCOSUR) and the European Network for Quality Assurance (ENQA).
- Assessed the QA system at university level (UMSS, UMSA) and analysed to what extent they have incorporated the rules and recommendations from CEUB.
- Assessed the quality of the postgraduate programs and research management at UMSS and UMSA.
- Based on the above-mentioned assessments, and a review of international standards, a series of observations and recommendations that can be used to tangibly improve the quality assurance process in Bolivia have been provided.

1.3 METHODOLOGY

This assignment has relied on two main data sources: literature and key interviews.

The review of literature has relied mainly on official Bolivian documents at the national and university level. A central source has been the Bolivian constitution and specifically Chapter 6, section 2, which gives the foundations of the Higher Education system in Bolivia. The rules and regulations that govern all aspects of Higher Education and the public institutions, as well as documentation from key government bodies that oversee higher education have also been reviewed. A list of documents consulted can be found in the list of documents (Annex 3).

In addition an extensive number of interviews were conducted both in Sweden and Bolivia. These included university, and other relevant organizations. At each of the universities management, academic staff, administrative staff and students were interviewed either individually or in group. A list of respondents is found in Annex 3.

The data collected was collated and analysed using the European Standard Guidelines for Quality Assurance in Higher Education (ESG) as a benchmark for what the Bolivian system should strive for. The analysed data was then organised to enable a presentation of the university system and current reality in Bolivia, followed by an examination of the quality assurance system which is currently in place. Based on the data collected and the analysis conducted, recommendations were developed. These fall into one of two categories, either general recommendations or ones that are specifically linked to an individual ESG.

1.4 EVALUATION QUESTIONS

The ToR contains 12 specific lines of inquiry for this assignment. These can be grouped into the university level or national level QA system (see Annex 1). The lines of query focus generally on procedural mechanism and system and aim to generate inquiries that can provide the reader with an overall understanding of the inner workings of the quality assurance and accreditation system in Bolivia. In addition, an aim of the assignment was to comment on the quality of the current system based on the material available. However, as noted in the section below, this has proved challenging.

1.5 LIMITATIONS

The main challenge faced in the conduct of this assignment resulted from a lack of clear and detailed information on the quality assurance systems and their implementation in Bolivia. While there were some documents, the level of detail is often limited, and in many cases respondents themselves were not fully aware of how systems are implemented. Indeed the very weakness of the quality assurance and accreditation system put in place in Bolivia, has been a limitation in the conduct of the study. Therefore little can be said of actual quality. Rather the report has focused primarily on an examination of systems.

1.6 HOW TO READ THIS REPORT

This report includes four chapters in total. In addition to this introduction, chapter 2 focuses on presenting the university undergraduate and postgraduate system generally and detailing an overview picture of both the undergraduate and postgraduate systems. Chapter 3 focuses on the QA mechanism that exist in Bolivia, or are available to Bolivian universities. The chapter ends by introducing the ESG. Although these are not applied in Bolivia they have been used as a benchmark for the observations and recommendations detailed in the last chapter of this report and therefore it was important to introduce them. Chapter four, the final chapter of this report, focuses on general conclusions and recommendations, and then turns its attention to the specific ESG and systematically addresses how these are or could be met in the Bolivian context.

2 Higher education in Bolivia

In this chapter, we provide an overview of the undergraduate and postgraduate systems and programmes in Bolivia. According to the Bolivian constitution (article 91.2) the higher education sector in Bolivia is comprised of universities, colleges, teacher education colleges, technical colleges and schools of art. In total, there are 54 universities in Bolivia, of which 15 are public autonomous or special regime universities. In addition there are private universities which uphold to regulations similar to state organizations, as well as private and indigenous universities which are not subject to the same institutional oversight (see table 1).

Table 1 Universities part of the Bolivian System Type

Type	Number	Subsidized by the State	Subscribed CEUB	Issue Professional Diplomas / Degrees
Autonomous Public	11	Yes, administered and organized according to Law 070	Yes	Yes
Private in the CEUB system	3	No	Yes	Yes
Private		No, its academic and institutional functioning is regulated by the Ministry of Education	No	Yes
Indigenous		No, governed at the territoriality level with policies defined by the Community Boards and regulated by the Ministry of Education	No	Yes
Special regime	4	Yes, military and police universities. In the institutional under tuition of the Ministry for each branch, and in the academic field subject to Ministry of Education oversight.	Yes	As approved by the Ministry of Education

Elaboration: own; Source: CEUB, 2017; see also http://www.minedu.gob.bo/files/GUIA-UNIVERSIDADES.pdf

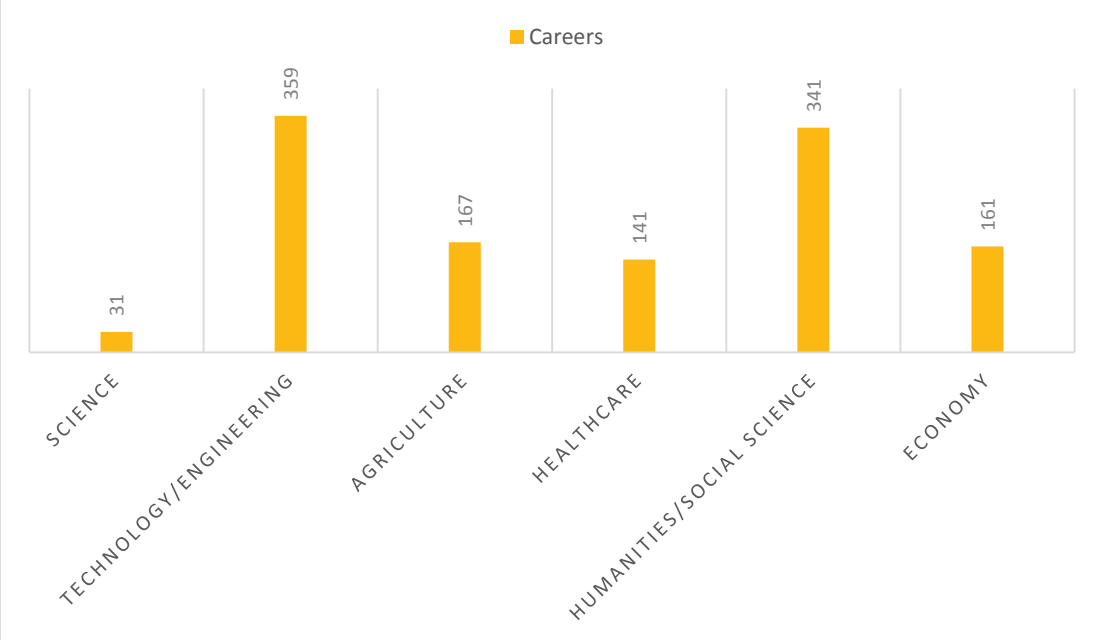
Under the Bolivian Constitution (Article 93) Autonomous (Public) Universities are entitled to state financing, but enjoy full academic and administrative freedom,

including as relates to the budget proportioned by the government.[1] This regulation is intended to enable universities to pursue academic processes independent of political inclinations and free of political pressure. According to article 94.3 of the Bolivian Constitution, both private and public universities can award degrees, but private universities, which do not receive government funding, must rely on public university examiners in order to confer accredited degrees.

2.1 UNDERGRADUATE EDUCATION

The undergraduate degree system in Bolivia is designed around the concept of "careers", meaning that an undergraduate degree may take between 4 and 5 years and earn the pupil a degree of "Licenciado". In addition to the 'full' undergraduate degree there are degrees which are shorter ranging between 1.5-2 and 3 years for University technician medium and superior respectively. Currently a total of 1200 careers degrees, which fall within six different fields (see Figure 1), are conferred by Bolivian universities.

Figure 1 Number of careers per academic field



[1] Constitucion Political del Estado See: Bolivian Political Constitution.

Most degrees are in the field of technology and engineering (30%, n=1200), followed closely by humanities/social science 28%; agriculture, economy and healthcare have 14%, 13%, and 12% respectively and science only accounts for 3% of the degrees offered (see Figure 1). While figure 1, and the information collected, did not shed light on how many students seek which degree, the information available does serve to highlight the amplitude of options within individual subject areas.

Of the 1200 degrees currently available, the majority enable pupils to reach the highest undergraduate qualification (licenciado/a). It has been noted, furthermore, that 200 of the degree options currently available have been developed in the last four years. This equals to a 1/5th growth rate in available degrees in the last 4 years. Given that many of the national universities, including those supported by Sida, have a long history that dates back to the 1800 (1830 for UMSA and 1832 for UMSS) the recent growth in degree options is notable.

The emphasis placed above on licenciados is important because Bolivian Universities focus primarily on undergraduate education. Moreover, recently, universities have had to respond to a continually growing undergraduate student body. Indeed, the undergraduate student body has almost doubled over the last 11 years. However, as the data shows this does not mean that the number of qualified graduates has increased drastically.

While in 2004, there were 256 834 registered students and by 2015 that number had increased to 440 918 registered students, the number of graduates has not increased proportionally. Overall there has been an annual increase in registrations, with a peak in registration reached in 2013 with 83 321 students registered as undergraduate candidates. In 2004, 54 476 new students registered to undertake undergraduate degrees, five years later, however, only 25 406 students were awarded degrees. Of the 25 406 students who were awarded degrees only 22 911 were awarded licenciados (see also figure 1). In short this means that the registration is high, but the output quite low. Indeed, the available statistics currently show a 34% successful examination rate.

The increase in number of students has been met with an increase in number of teachers. Indeed, between 2004 and 2015 there was a 76% increase in teachers working at Bolivian public universities. However, the ratio of students and lecturers/instructors has remained unchanged over the same period. Moreover, given the available data, the age, credentials or ability (quality of teaching), of teachers cannot be assessed. Certainly, an increase in numbers alone does not necessarily mean the quality is appropriate or indeed attests to the investment that individual staff make to teaching since a large proportion of lecturers are contracted as part time staff. What is known from available information is that the majority of lecturers/instructors hold undergraduate degree only (licenciado/a), and that since retirement is not obligatory, teaching demands favourable, and retirement packages not particularly high, most lecturers do not retire. Additionally, aside from the required growth to meet the demands of a growing student body, neither university is actively engaged in hiring qualified staff. Permanent positions are only filled when they become vacant.

This means that existing staff must retire or voluntarily leave before new permanent staff is hired. There are a number of consequences to this: first that many of the new hires do not enjoy full time positions, and secondly that the staff with the most seniority, permanent post, and influence are likely to be older. The age factor is particularly important since many of the staff do not engage in research activities, which may also mean that their teaching material, as well as style is antiquated and not the best possible.

2.2 POSTGRADUATE EDUCATION

According to the Bolivian constitution's article 97 post-graduate education has as its central mission to provide professional qualifications in different areas. This is to be achieved through the conduct of scientific research and generation of knowledge that is directly tied to real life needs. Overall, postgraduate education aims to support the integral development of society. The responsibility to oversee university degrees, including postgraduate education fall upon universities.[2] By extension the responsibility for regulating post-graduate degrees falls upon the National Congress of Universities and the CEUB.

More specifically, the regulation governing the postgraduate degree system in Bolivian Universities (*Regalmentos del Sistema Nacional de Estudios de Posgrado de la Universidad Boliviana)* was decided upon during the XII National University Congress in 2014. The regulation details that postgraduate education includes degrees that are conferred to students who have successfully obtained undergraduate university degrees either in Bolivia or in a foreign country. This implies that foreign degrees are recognized. The regulation goes on to echo the objectives noted in the Bolivian constitution, but adds that postgraduate training should be cognizant of changes in science and technology and reflect these consistently.

Under the Bolivian system there are four postgraduate course options that do not conclude with the conferring of an academic degree and a further four that do. The former include: diplomas, actualization, and continues education for either extension of expansion of knowledge. The latter include non-medical specialization, medical specialization, Masters and doctorate degrees. The provision of shorter 'post-graduate' courses is seen as a compromise whereby students can engage in courses

[2] Constitution, article 97

after completing their licenciatura, but which are less expensive and less demanding in time investment than a full Masters degree.

As pertains to Masters specifically there are two types: a professional master and a scientific master. The professional master degrees appear to be the most common, while the development of the scientific Masters has been limited in number. The principal difference between the two is that the professional master is based on coursework only and does not include a thesis, while the scientific Masters includes a thesis[3]. The most notable differences between the two Masters programmes are detailed in table 2. The existence of two Masters systems is not supported by the central regulations governing the development of degrees as such. The existence of the two degrees is justified by noting that the professional degree is not intended as a preparation for further research and hence does not include research elements, while the scientific Masters does. Interviews conducted suggested that the former is a popular degree amongst those wishing to further their education, but who are not pursuing an academic career. In response to queries on the need for a two tear Masters programme interviewees in Bolivia highlighted that since the government does not require that universities subsidise postgraduate education, pupils must secure their own funding. This in turn means that some are able to secure support from their employers, who in turn want a professionalization of their staff rather than staff with stronger research skills. Along the same vain, UMSA representatives noted that scientific Masters are ones where students are more likely to have a scholarship as these are intended to lead to a research position or to further education (i.e., PhD).

At a broad national level, from a regulatory standpoint, however, both Masters programmes are considered the same. Indeed, the regulations on what must be included in a Masters programme for it to be accredited are very sweeping. The UMSS regulation notes that a master can include a variety of classes, modules or activities within a specific area which intend to deepen knowledge in a subject area and provide methodological skills to enable research.

While the intent of a postgraduate degree is detailed, it is not possible, with the available data, to get an overview of the postgraduate capacity nationwide. Indeed, the Executive Committee of the Bolivian University (Comité Ejecutivo de la Universidad Boliviana – CEUB) statistics focus exclusively on undergraduate level degrees. Postgraduate degrees, their number and format, or indeed the overall fields to which they belong is

[3] See Regulation from UMSS –Reglamento escuela universitaria de postgrado, 2015

not data that is currently compiled in any manner. Therefore, from the data collected arriving at a conclusive overview was not possible.

Still there is some data worth highlighting. Currently the CEUB has 1334 registered degrees in its databases. These degrees have been registered at some point between 2002 and the end of 2016. However, the registration does not specify the type of degree or indeed if it falls under the undergraduate or postgraduate category. In fact, the actual purpose of registering degrees with the CEUB is unclear. Moreover, it is important to note that in Bolivia, individual Masters programmes, and in fact any postgraduate degree, may be offered only once or twice. Therefore registration of a degree does not necessarily mean that there is a consistent or solid capacity available in a specific field. These findings do not suggest that quality is poor automatically, but rather that given the limited data available, the lack of clear markers of quality; it is difficult to know what kind of postgraduate capacity has been built thus far.

In 2016, UMSA published a document detailing its currently available postgraduate programmes.[4] The document listed 151 postgraduate degrees which included 2 doctoral programmes, 49 Masters programmes, 40 specializations and 60 diplomas. The document does not specify if the Masters provided are scientific or professional degrees. UMSS has also published a similar document where scientific Masters[5] are listed. The document lists 12 scientific Masters programmes currently imparted to 75 pupils. These statistics, compared with the number of undergraduate degrees reported (see previous section) suggests that there are multiple courses which are not registered with the CEUB.

The chart below shows how UMSS understand the difference between the two Masters programmes.

[4] Programas de Posgraddo UMSA 2016

[5] This Masters programme is more akin to what is considered a Masters degree in the European context. The development of the programme is a direct result of the work with Swedish universities funded by Sida.

Table 2 A comparison between the two master programme types

	Scientific Masters	Professional Masters
Suffix	MSc.	Mgr.
	Training of researchers	Professional training
Selection of pupils	Open call for proposals	Financial ability to cover costs of degree
	Competition / Merit	Undergraduate degree
	Interview	No interview
	Proficient English	No English requirement
Research theme	Identified prior to the call for tenders	Identified after the training modules
	Must follow the research interest of the section	Open to be identified from a wide range of subjects
	Defined by the supervisor	Defined by the Masters student
	Control of progress	No control over progress
	Field work is funded	Field work is self-funded
	Thesis or article (desired)	Thesis or project report. The emphasis on the thesis is lower.
Tutors	Paid by the hour worked	Volunteer (intern) in an industry related task. The objective is gaining real world capacity.
	Must provide follow up during the whole degree	Support during thesis/research project writing
	Must have academic degree and publications	Must have academic degree Masters level or equivalent.
	Must be part of a research team	Does not matter if they are part of a research team or not
Lecturers/ instructors	Researchers	External consultants
	Experts in cooperation	international consultants
	Have relevant academic degree	have relevant academic degree
	Dossier of scientific articles	Dossier
Modality	Research to attain the postgraduate degree	Professional update/levelling training
	Restricted group	Large group to cover costs
	Enables the possibility of following a doctoral degree in science	Enables the possibility of following a professional doctoral degree
	Has a contract for studies/product	Scholarship or self-funded
Time investment	2.400 hours	2.400 hours
	600 hours of classes	1.200 hours of classes
	600 Specialist hours	No mention
	Working and in-person schedule/time	Only partially in-person schedule time required
	120 number of hours per month over two years (Research unit)	50/60 hours per month in the classroom over 1 year
	1.200 hours for thesis research	Thesis is the responsibility of the pupil
	Field work in situ	No field work in situ required

As suggested above, unlike undergraduate education, postgraduate education in Bolivia is not free of charge. Indeed, each university is at liberty to decide if and how it funds its postgraduate programmes. One option is for students to self-finance their postgraduate studies. However, public universities recognize that this is very

unlikely, therefore they invest considerable resources into trying to identify scholarship opportunities for their pupils. Given that funding is such a considerable challenge for students pursuing post-graduate work in Bolivia this is a matter of central importance. Still, as of May 2017 UMSS and the Ministry of Economy concluded that some funds from the hydrocarbon tax can be used for research, but not to fund degrees per se. UMSA representatives highlighted that the current university Norms do not reflect the funding requirements of post graduate programmes and noted that the issue is currently being discussed internally within the University.

2.3 THE QUALITY OF THE MASTERS PROGRAMMES

In Bolivia Sida has supported Masters students in two ways. At UMSA Sida has provided scholarships for students to participate in existing Masters programmes, at UMSS Sida has, through funding, supported the development of new master programmes.

At UMSS the programmes of Sida funded Masters has been running just for a year. UMSS appears to have worked very hard to reform their education system for Masters level. As a result of this effort, six new "scientific" Masters-programmes/courses have been developed at UMSS (UMSS 2015); these six are part of a total of 46 Masters offered. The document shows how research (50%), specialisation (25%) and "basic" training (25%) are integrated into a two year curricula supporting post graduate students.

The UMSA there are 162 postgraduate programmes of which 45 are Masters programmes, the rest are PhD, specializations and diplomas.[6] UMSA has only one type of Masters, not a scientific and a regular one as is the case at UMSS. All Masters are governed by the same regulatory system; however there are plans to distinguish Masters programmes by type in the future. Mainly focus on maters which have a "scientific" focus and ones that do not as is currently the case at UMSS.

In order to make a fair judgement on quality, the quality assessment would need to include self-evaluation, peer-review and assessment reporting. This process has not been yet done for the Sida funded Masters programme at UMSS and falls outside of the scope of this assignment. An additional approach to exploring quality is to

[6] See http://dipgis.umsa.bo/?ofertas=ofertas-de-postgrado-gestion-2017. See also Guia de Postgrado UMSA 2017.

examine relevant study plans. However, with one exception, these documents were not made available. UMSS presented one study plan for Chemical technology, food and bioprocesses (Tecnología químmica, alimentos y bioprocesos, UMSS 2016). This plain is very comprehensive. The structure follows the internal rules at UMSS[7]. It includes motivation and goals of the programme, structure and organisation, list of the participating teachers/supervisors, evaluation of the students learning, requirements for the thesis and the admission rules and process. The structure and content of the plan imply that the conditions for good quality are there. However, this does not mean that other programmes at UMSS or at UMSA are of equal calibre.

When talking with the representatives of the master students most of them seemed to be satisfied with the education. However, some of them expressed that supervision could be better at some departments. Notably user satisfaction is not a good quality guarantee. Overall it is important to underscore that the mechanism appear to be in place, but that there is a need for consistent and systematic follow up to ensure that quality achieved is indeed high.

2.4 GENERAL OBSERVATIONS

Teaching capacity: Securing an accurate picture of the composition of the teaching staff including their competence, age and gender is not possible at this time. The main impression gained through interviews is that the general competence level is relatively low. It appears that the majority of instructors hold a licenciado degree, and have teaching experience, but do not hold a Master or PhD. Furthermore there appears to be a high degree of variation between faculties, but due to the lack of statistical data it is not possible to analyse the current situation in any detail or to provide detailed recommendations based on findings. Still it appears evident that there is a need for further investment in teaching capacity. This would require a much stronger focus and attention on qualifications, and the recognition of the value of qualifications (MA, PhD), which is not so today. Seniority rather than qualification plays a fundamental role currently. At UMSA 6% of the current staff have PhDs, while at UMSS 8% of teaching staff hold a PhD.

Postgraduate courses: In Bolivia postgraduate education includes numerous courses and certifications that are not part of a degree process, that do not include research of

[7] Guia Elaboración de Programas de Posgrado. Universidad Mayor de San Simón, Vicerrectorado, Cochabamba 2015

any kind, and which thus should not be considered postgraduate education. In the European system postgraduate education is generally considered a preparatory phase for research. In this sense a Masters, while a degree in its own right intended to improve capacity in the work environment, is also intended as a preparatory step for a PhD and hence should include research. Therefore the professionalization master does not meet the basic standards for a master's degree, indeed the Swedish Council for Higher Education, which is responsible for assessing foreign qualifications, has evaluated the Bolivian professional master and concluded it is equal to a bachelor degree. How many students engage in each type of Masters at this time in Bolivia is unclear from the data available. It is not possible to assess the quality of all postgraduate courses. But those which are supported by Sida (UMSS, scientific programmes) seem to have in place the conditions necessary to secure good quality. However, in order ensure the quality the courses must be evaluated and accredited according the ordinary process used at the universities. Sida is recommended to support this.

Statistical data: It is not possible, from currently available data, to in any way assess the degree to which postgraduate education has been effective based on examination rates. This is so because the statistics of enrolled pupils' vs those who took their exams are not available. This shortcoming was brought to the attention of both UMSA and UMSS. UMSA noted that the university is currently exploring the development of a policy, which will be led by the vice-rectors office, and which will require the systematic collection and management of relevant statistics. UMSS noted that they count with a number of policies that detail what data should be collected and managed, but that this is done by the different university departments and that at this time a position that is required to compile and consolidate the data transversally across the university is lacking. They noted that the value of research and human resource data university wide is not yet recognized as critical. Indeed, in order to create a good and reliable quality assurance system, for both undergraduate and postgraduate education, is it necessary to first develop a set of statistical indicators. There are some statistics for undergraduate education and for staff, included earlier in this document, but these are limited and insufficient to enable proper assessment. The data for postgraduate education is lacking almost entirely. In fact, at this time the quality of the current degrees cannot be assessed at all because key statistical data is not consistently and systematically collected, and analysed.

3 Accreditation and quality assurance

In the Bolivian system multiple entities play a role both in the quality assurance of degrees as well as the accreditation process. In this chapter each entity is presented and their role discussed. The chapter also presents the regional accreditation options and ends with a brief overview of the ESG as these are used in the next chapter as benchmarks for the recommendations provided.

3.1 THE ROLE OF THE UNIVERSITIES

The universities have plays a central role in the evaluation and accreditation process. Indeed, it is the responsibility of the university to ensure that all programmes conduct a self-evaluation, which then influences the decision of continuing (or not) the degree offer. The general regulation for evaluation and accreditation of degrees and programmes[8] stipulates that the university must facilitate, support and administer a series of elements related to the accreditation process. For this purpose, both UMSA and UMSS have departments that focus on the evaluation and accreditation of degrees. At UMSS a power point published in 2014[9] showed that 73 of the programs/careers have been evaluated in some way. At that time 8 have been accredited by ARCU-SUR, and a further 20 has received national accreditation. The rest of the careers had either begun a self-evaluation process or were planning to do so. At UMSA between 1991 and 2015, 52 programs/careers were self-evaluated. This accounts for 93% of all careers conferred by the university. Of the 52 careers that conducted self-evaluations 41 were externally accredited, which means they underwent a full external evaluation. This would suggest a 73% rate of accreditation.

As pertains to the establishment of postgraduate degrees. The UMSS Post-graduate School regulation details, following the guidelines of the CEUB, that the following requirements must be met before a proposal for a new post-graduate degree option can be considered. Clearly a degree option must be first considered and accepted by

[8] See Regalmento General de Evaluación y Acreditación de Carreras y/o Programas

[9] *Informe Preliminar ed Evalación y Accreditación de las Carreras y Programas*

the university before any effort to accredit said degree can be pursued. The basic requirements for any postgraduate degree proposal to be considered include the provision of a degree plan. The degree plan document must, at a minimum, include the following items:

- Introduction (Background and Justification)
- General Objective of the Program
- Program Features
  - Admission criteria
  - Academic Regime
  - Duration
  - Self-evaluation process.
- Profile of the graduate
- Curricular structure
  - General Thematic Plan
  - Teaching Administration
  - Time investment
  - Methods of Teaching
  - Teaching Approach
  - Program Research Lines
  - Evaluation System
  - Resources (Human, Materials and Technicians)
  - Schedule
  - Bibliographic Reference
- Schedule of activities
- Lecturer of Teachers
- Budget structure

Notably the above criteria is not described in detail in the relevant regulations, therefore what degree of detail constitutes meeting the criteria adequately is unclear. It is reasonable to assume that the quality of the degree plan can vary extensively and that the evaluation of the plan is quite subjective. This notwithstanding, if these criteria are fulfilled the university can then decide if the programme should be allowed to commence. The initial approval by the university can be understood as an initial accreditation. Interviews with university representatives in Bolivia consistently confirmed that if the above criteria are not met the programme will not be allowed to commence, but again what level of detail or conceptual development qualifies for having met the criteria is unclear.

In addition, to having a developed programme plan, the program must count with financial backing in order to be initiated. Financial support can be from multiple sources, including the central graduate budget (state funding), fees paid by students, donor support and/or other sources. Ultimately the university must determine if the funding sources are sufficient, reliable and able to cover the programmes running costs, including the salaries of lecturers, before the program can be approved.

The number of postgraduate degrees have been thus far accredited is currently unknown, and could not be determined during data collection. Furthermore, both lecturers and researchers interviewed during the data collection for this assignment agreed that the evaluation process of the master programs is currently very slow, and further noted that the self-evaluation for so-called scientific Masters have not yet begun.

Despite these challenges, it is important to underscore that at UMSA and UMSS respectively the DIPGIS and DICyT are the two entities which are most preoccupied with ensuring the quality of postgraduate education and research. While their respective mandates do not include quality assurance, on interview, it was highlighted that these two university entities are well placed to play a more central role in the formal quality assurance and control processes. As chapter 4 indicates in relation to the selection of both PhD candidates and research subjects both entities have established clear mechanism that focus considerable attention on quality.

3.2 EXECUTIVE COMMITTEE OF THE BOLIVIAN UNIVERSITY (CEUB)

The CEUB was founded in 1978 and consists of 9 secretariats, each with separate responsibilities within the Bolivian university system. The National Secretariat for Evaluation and Accreditation and the National Secretariat for Postgraduate and Continues Education are two of the 9 CEUB Secretariats. According to the university representatives at UMSS interviewed each university allocates 1% of its budget to administer the CEUB. However UMSA respondents thought the CEUB was funded directly by the national budget, which shows there is limited collective knowledge on the issue.

The CEUB's role, as detailed in article 92 of the Bolivian constitution, and includes the coordination of Bolivian public universities in all matters that are relevant to multiple universities, or where the actions of a single government university have broader implications. The issues that are to be coordinated by the CEUB are determined at the Bolivian University Congress, an event that takes place every 6 years, and brings together all 15 (autonomous and special regime) public universities.

At each university congress, a wide range of issues may be discussed and agreed upon. It is then up to the CEUB to coordinate that the agreements made become actionable activities at the university level. However, it is key to underscore that the CEUB has no sanctioning authority, and therefore individual universities may or may not actually act upon the agreements made during the congress. If a single, or multiple, universities do not follow through with agreements made during the congress, it appears there are no actions that can be taken by anybody. While it was highlighted by both UMSS and UMSA that each university part of the CEUB does follow the agreements made, the lack of sanction for not following or doing so very slowly is an important element worth highlighting.

Amongst the activities that the CEUB coordinates are quality assurance processes. However, it is crucial to highlight that the CEUB's quality assurance procedure is determined by the universities themselves during the university congress and it is a system that is not imposed upon Bolivian universities. In fact, universities may confer degrees that are not accredited at all, or may confer degrees that have been accredited through systems other than the CEUB. In short the CEUB quality assurance and accreditation process is utilized by Bolivian universities on a voluntary basis.

Furthermore, during interviews with both UMSS and UMSA it was highlighted that staff at both universities were unclear of the role played by either secretariat, and highlighted that those interviewed (academic staff and researchers) had not had any direct contact with either secretariat, nor were they clear on the roles of the different secretariats. Still it was noted that each of the universities did participate in meetings. UMSA specifically further noted that they have their own quality assurance and accreditation department. In effect the responses appear to suggest that the reach of the secretariats as well as the impact that they have in reality is limited at best. Still presenting their expected role is important as their reach and influence could change in future if the role they played was valued differently.

Although not tasked to address questions of quality assurance, the National Secretariat for Research Science and technology is also presented below. This inclusion has been made because although formally their responsibilities fall outside quality assurance, practically, their role in supporting the quality of research is important.

3.2.1 National Secretariat for Evaluation and Accreditation

The secretariat was founded during the 1999 University Congress, and is one of the 9 secretariats which form part of the CEUB. Officially, the main objective of the secretariat is to implement and coordinate the evaluation and accreditation process of degrees at Bolivian universities. Indeed the most important function of the secretariat is to advice and support universities in their QA activities. The secretariat is also responsible for supporting the universities with the implementation of the rules and regulations that are agreed upon by the universities during the University Congresses.

The evaluation and accreditation of university degrees is governed by a set of regulations established for this very purpose.[10] The document details how the quality assurance process should be organised at the different levels of the university system. The main objectives of the quality assurance process are detailed in the secretariat's regulatory document and chiefly focus on:

- Promoting the quality and relevance of education
- Protecting and maintaining societies trust on the services delivered by the university
- Ensuring that graduates are able to practice their profession to a high standard
- Ensuring that the degrees are known internationally
- Ensuring that the economic-financial, and administrative university systems are effective and efficient
- Ensuring the efficient use of national resources to the educational system in Bolivia

The evaluation process itself consist of three elements, these are:

1. Auto evaluation or internal evaluation
2. External evaluation by academic counterparts
3. Evaluation synthesis

The **auto (self-evaluation)** element is, according to article 14 of the secretariat's regulation, to be organized at the programme or degree level. This process is mandatory and must be conducted every four years. While the way this process is conducted can be determined by each university, the regulation requires that auto-evaluations include, at some level, both teachers and students. The data that results from this process should be analysed and lead to the identification of recommendations which should serve to enhance the quality of the education provided. However, most notable, is that while the regulation details that self-evaluations are to take place every four years, the process is also voluntary, and there appears to be no sanction if the university fails to carry it out. Therefore the periodical self-evaluation process can be understood as suggestive rather than required.

The **external evaluation,** is like the self-evaluation a voluntary process led by the university department. However, an external evaluation is a necessary pre-condition

[10] See Regalmento General de Evaluación y Acreditación de Carreras y/o Programas

for all types of formal accreditation. The external evaluation process requires the submission of the following documents:

1. Self-evaluation report
2. Improvement plan
3. Strategic plan for institutional development
4. Curriculum or study plan;
5. External evaluation forms.

The external evaluation process is executed by academic peers from other universities who meet specified levels of capacity/knowledge. Experts that participate in external evaluations must meet a series of pre-defined criteria. Indeed the external evaluation team, must jointly comply or meet the following criteria, as is detailed in article 22 of the General regulation for evaluation and an accreditation of degrees and programmes (Reglamento General de Evaluación y Accreditación de Carreras y/o Programas):

- Be a professional in the specific area of the Career or Program under evaluation, holding an academic diploma or degree that is recognised nationally or which is equivalent to those recognised nationally
- Have a minimum of 10 years in professional practice, including a minimum of 5 years of university teaching experience
- Have undertaken a specialised training for evaluation
- Have experience in evaluation processes

Additional qualifications may include:

- Have conducted research and / or produced material on the field/subject areas under evaluation
- Have experience in university management.

Once chosen, academic peers involved in external evaluations must engage in the following activities:

1. Analyse the Self-Assessment Report and relevant annexes
2. Visit the facilities of the Degree or Program under evaluation and interview the members of the academic community (university authorities, teachers, students, graduates, administrators), potential employers and any organized entity from society at large that may be linked to the degree or academic programme under evaluation
3. Provide actionable advice and guidance on how to improve the quality of the education to be provided by the programme under evaluation
4. Make recommendations on the areas established in Chapter VI of this document
5. Draft a report based on the information collected and assessed
6. Make a recommendation for or against accreditation, which takes into account the assessment of relevant issues and compliance with minimum accreditation guidelines

It is noted, however, that the conduct of the external evaluation as detailed in the available documents is not very specific. Indeed, it is unclear what the minimum accreditation guidelines are.

More specifically, the external evaluation report or synthesis that is generated following the conduct of an external evaluation should contain observations and recommendations on the following areas:

- Legal and institutional standards
- Mission and Objectives
- Curriculum
- Management and Academic Management
- Teachers
- Students
- Research and Social Interaction-University Extension
- Educational Resources
- Financial Management
- Infrastructure

As a concluding step to the external evaluation process an **Evaluation Synthesis** should be produced. This document, which is delivered from the external evaluation team's observation and recommendations, is presented to the university and to the national committee for accreditation. Based on this document the national committee for accreditation takes one of the following decisions:

1. Accredits the degree for a period of 6 years
2. Provides an interim accreditation, which allows the university to enact recommendations over a two-year period
3. Does not accredit the degree

However, it is crucial to highlight that the quality assurance procedure described above is not imposed on Bolivian universities, rather each university has a choice to adhere to the processes or not. In fact, UMSS highlighted that the norms detailing the accreditation process are so new that there is no precedence for what should happen if programmes are not accredited, or if they continue to be offered once accreditation has failed. UMSA highlighted that the actions taken by the university following an accreditation, or indeed development of a programme, are not subject to any type of sanction. At best each faculty endeavours to improve their own programme how they might see fit. Overall, this means that Bolivian universities are at liberty to provide degrees which are not accredited in any way and even continue to offer the degree options once accreditation processes have failed.

Indeed, the accreditation itself is not linked to the provision of services. During interviews it was highlighted that the consequence of this is that universities may offer degrees of varied levels of quality with no regard for the consequences of this. This is particularly worrisome since the proportion of students conferred degrees is already low (see section 1), which could mean that universities are incentivised to

lower standards to ensure that a higher number of students are able to attain their degrees.

One important aspect worth highlighting is that this secretariat has experience in the accreditation of undergraduate degree, not postgraduate degrees or postgraduate research. Therefore, while the mechanism may be in place the capacity and baseline knowledge to secure a solid quality assurance process for postgraduate degrees is lacking.

3.2.2 The National Secretariat For Postgraduate and Continued Education

The National Secretariat for Postgraduate and Continued Education (Secretaria Nacional de Posgrado y Educación Continua-SINEP), another of the 9 CEUB secretariats, is in charge of coordinating the work on postgraduate education. The secretariat brings together vice-rectors and directors of postgraduate studies from the different universities to form a committee known as the national meeting on postgraduate education (Le Reunión Nacional de Posgrado), the function of which is to:

- Develop the policies strategies and plans for National System for Postgraduate studies (SINEP)
- Promote the relationships between SINEP and national, foreign and international bodies
- Coordinate plans for the organization and development of postgraduate programmes to be adopted by the Bolivian Universities with postgraduate programmes
- Organize events, in order to discuss challenges encountered with postgraduate education at the national level
- Evaluate the activities at the sector level and make recommendations to be applied to the national system for postgraduate programmes
- Promote opportunities to increase foreign language training as part of postgraduate training

The implementation of the policies, strategies and plans developed by SINEP are the responsibility of the secretariat, see the first point above. The secretariats aim is to shape, implement and evaluate postgraduate programs in Bolivia. To this end SINEPS's objectives includes the identification of new pedagogical modalities, development of educational systems of high quality which ensure that graduates are academically, socio-politically, socio-economically and ethically able to fulfil their professional obligations at a high level; ensuring that postgraduate degrees are directly linked to the system for research and development which is part of the national system for science and technology. In 2015 the secretariat published the Regulation for Bolivian Post Graduate Education (*Regalmento del system Nacional de Estudios de Postgrado de la Universidad Boliviana).* However, as highlighted in the previous section, the process of accreditation is voluntary here too. Importantly only postgraduate degree that are permanent are even entitled to an accreditation process. This means that degrees which are offered for shorter periods of time are not

in any way subject to the above noted regulations. While SINEP's mandate is far reaching, this assignment was unable to identify clear actions resulting from the secretariats efforts.

SINEP, like the National Secretariat for Evaluation and accreditation, also lacks relevant experience to quality assure postgraduate degrees. While they have currently do evaluate postgraduate degrees, their focus is exclusively on what in Bolivia are known as the Masters for Professionalization. These degrees do not include research elements and are intended to expand the practical knowledge of participants in their field of knowledge. Professionalization masters are paid for by employers or individuals wishing to further their ability to perform in their area of work. The process of accreditation provided by SINEP is paid for by the party wishing to secure accreditation.

In short, SINEP does not have the experience, or the capacity, to quality assure scientific masters or PhD degrees. Nor do they have the capacity to evaluate postgraduate level research. This is an important distinction because although formally it may appear they have the capacity, in practice this is not the case.

3.2.3 The National Secretariat For Research Science and Technology

The National Secretariat for Research Science and Technology (La Secretaría Nacional de Investigación, Ciencia y Tecnología – SINUCYT) has as its main mandates to:

- Develop policies, plans and strategies aiming to guide scientific and technological research.
- Promote both national and international relationships of members of the SINUCYT.
- Coordinate activities adopted by the research units of the Bolivian University System (Sistema Universities Boliviano-SUB).
- Organize events aiming to strengthen the SINUCYT.
- Organize, coordinate and represent the research, science and technology efforts made by the members of the SUB.
- Prepare the operational documents of the SINUCYT.
- Manage, channel and coordinate the offers of the International Cooperation for Research and Development.
- Prepare an updated the inventory on the Scientific and Technological Potential of the SUB.
- Prepare for the annual National Meeting of Science and Technology (Reunion Nacional de Cuenca y Technology -RENACYT).
- Inform the Council of the CEUB, the University National Conference and the University National Congress on any and all advancements made on specific tasks.
- Complying with and enforcing the Organic Statute and resolutions adopted by the University Government.

- Promote and stimulate the scientific, technological and cultural outputs of the SUB.
- Coordinate the integration of work between the Universities, the government and the private sector.
- Coordinate the conduct of science fairs.
- Coordinate the evaluation and accreditation processes of research institutes and laboratories of the universities which form part of the SUB.

Although the secretariat does not have the responsibility for accrediting or evaluating university programmes, research institutes or laboratories, they do have responsibility for coordinating the process. It is also noted that in Bolivia there has been a considerable growth of research institutes and laboratories. Currently there are 200 centres and institutes in Bolivia, of which 31% focus on engineering and technology; 19% of natural and agricultural sciences; 17% on social science; 10% of medical science and 4% on humanities. Given the large number of independent centres and institutes the secretariat is well positioned to promote the accreditation process specifically and quality assurance more generally. One interviewee noted that the secretariat was not only well positioned, but with the adept support could play a leading role in moving forward the quality assurance process in the Bolivian context. Thus, time should be given to exploring the role the Secretariat can have, given the generally weak quality assurance capacity in Bolivia.

3.3 REGIONAL ACCREDITATION SYSTEM FOR UNIVERSITY CAREERS

Parallel to the national accreditation system there is a regional system for accreditation. The system is a result of an agreement between the ministers in Argentine, Brasilia, Paraguay, Uruguay, Bolivia and Chile, and has been approved by the council of the common market - MERCOSUR.

The system for accreditation implemented by MERCOSUR is known as ARCU-SUR and follows a mechanism very similar to that of the CEUB (Self-evaluation, external accreditation by academic peers and accreditation), however the process itself is regarded as more stringent. The process also leads to an internationally recognized accreditation which, at the very least, is respected by regional member states.

The evaluation and accreditation of undergraduate degrees that is carried out is led by the network of the national evaluation and accreditation institutions in the respective countries. Hence, the ARCU-SUR evaluation and accreditation in Bolivia is led by the National Commission for the Accreditation of University Degrees (La Comisión Nacional de Acreditación de Carreras Universitarias – CNACU). The commission was established by the Bolivian government in 2010. Despite this CNACU appears to still lack a regular budget. CNASU's work is coordinated by the Vice-Ministry of Education and their tasks executed by a network of representatives from different organisations. At this time, the CNAU members include:

- Vice Ministry of Higher Education and Vocational Training (Viceministerio de Educación Superior y Formación Profesional – VESFP)
- Vice Ministry for Science and Technology (Viceministerio de Ciencia y Tecnología – VCSyT)
- Executive Committee of the Bolivian University (Comité Ejecutivo de la Universidad Boliviana – CEUB)
- National Association of Private Universities (Asociación Nacional de Universidades Privadas – ANUP)

The objectives of CNACU are described as:

- Coordinate Evaluation processes for Accreditation and Certification of educational quality within the framework of the ARCU-SUR System
- Establish and manage the Evaluating Peers and Observers Roster
- Promote self-evaluation processes
- Coordinate the development and follow-up of the External Evaluation process carried out by Evaluating Peers
- Manage the creation and implementation of the Plurinational Agency for the Evaluation and Accreditation of Higher University Education - APEAESU

A review of documentation and data collected through interviews shows that APEASU has yet to be established, however, the data collected also found that the ARCU-SUR systems for accreditation is more stringent than those of the CEUB. Furthermore it was confirmed that currently the ARCU-SUR system can accredit degrees in agronomy, architecture, health care, veterinary medicine, engineering, medical science and odontology. As of early 2017, 46 degrees in 16 Bolivian universities had been accredited by ARCU-SUR. During the 2017-2023 time period, it is expected that a further 43 degrees will undergo the ARCU-SUR accreditation process.

3.4 INTERNATIONAL BENCHMARKING – THE ESG

Although this document focuses on the experience in Bolivia, it is relevant to note how QA and accreditation is managed internationally. The normative document that guides Quality Assurance in Europe is the ESG. The ESG was adopted by the Ministers responsible for higher education in 2005 following a proposal prepared by the European Association for Quality Assurance in Higher Education (ENQA) in cooperation with the European Students' Union (ESU), the European Association of Institutions in Higher Education (EURASHE) and the European University Association (EUA). The most resent revision to the document was made and adopted by the European Ministers responsible for higher education in 2015.

The main goal of the ESG is to contribute to the common understanding of quality assurance for learning and teaching across borders and amongst all stakeholders. The ESG do not set standards for quality in higher education, nor the rules for how quality assurance should be carried within institutions, rather they serve as guidelines for setting up quality assurance processes.

The ESG is divided in three parts:

- Internal quality assurance
- External quality assurance
- Quality assurance agencies

During interviews in Bolivia, it appeared that the ESG are well known amongst those who are responsible for evaluation and accreditation activities at both at UMSA and UMSS. Therefore using these as the benchmarking guidelines appears specifically relevant. In this document (chapter 4) the internal and external quality assurance guidelines are focused upon.

3.5 GENERAL OBSERVATIONS

From a documentation perspective it seems that Bolivia has a well-developed system for evaluation and accreditation (quality assurance), with rules governing both internal and external factors. The system has been decided collectively by the universities and is managed by the CEUB. The system has been established mainly to cater to the needs of the undergraduate education. However, it appears from the data collected that universities themselves may determine how the rules and regulations are applied. Moreover there are no sanctions imposed on universities if they fail to meet the regulations agreed upon, and no systematic response that needs to be met in cases where quality assurance or accreditation processes reveal sub-standard quality.

Therefore it can be said that overall, in actuality, the Quality Assurance of higher education in Bolivia is a tenues at best. Public universities have agreed on rules and regulations that are extensive, but at times rather subjective. Moreover, how these rules and regulations are applied is difficult to grasp in detail. While it has been noted the universities have quality assurance and accreditation processes their implementation appears voluntary and in fact it is unclear what factors are determinant in ensuring that a programme is accredited and or quality assured. Indeed, it appears that each university may decide on a case by case basis if and how any one degree is accredited or quality assured. In discussions with the quality assurance department at UMSA it was revealed that their role is somewhat suggestive. Meaning that while the department understand the importance of quality assurance and accreditation they do not have the power to halt the provision of degrees, but rather can suggest that they be quality assured, accredited and or improved in some way. Indeed, how suggestions made by the quality assurance department are later applied is subject to the decision of the university. Who within the university has the power to make such final determinations is also unclear. It is worthy of note that quality assurance and accreditation offices at European universities usually have a central role within the university and report directly to the university management (the rector) and to the governing body. Hence the approach used at Bolivian universities is quite different. In fact, no evidence that at either UMSS or UMSA the evaluation units have a key position in the university structure or direct ties to senior management was found. A good quality assurance system depends on a system where the evaluation and accreditation activities are conducted

by departments or units that have sufficient authority to impose course correction and which have direct ties to university management. In Bolivia these units can be safely considered weak at best. Therefore, if the universities are to develop their quality assurance further existing quality assurance and accreditation units must be strengthened both in composition (staffing) and in authority (links to management).

Still it should be commended that the majority of degrees (undergraduate) are accredited and that internal self-evaluations appear to take place, and include the participation of students. The composition of external evaluation committees, however, includes neither students nor representatives from external stakeholder groups, such as employers. This is a departure from the international norm. The focus in Bolivia, for external reviews, is solely on academic staff providing oversight, which means that key aspects could be overlooked.

Another striking feature in the Bolivian system is the existence of two parallel quality assurance processes: the national one and the Arcu-Sur process. Since it is known from experiences in other countries that evaluation and accreditation are both time-consuming and expensive processes, finding a way of combining both systems could be advisable. Moreover, the ESG stress that bodies that work with accreditation should be independent from the political level, which is not the case in Bolivia since CNACU, the coordination body responsible for ARCO-SUR accreditation, is composed of several government bodies, including ministries. It is noted, however, the exact role of the vice ministries within CNACU is unclear.

4 University level – strategies and processes

4.1 ALIGNING UNIVERSITY STRATEGY WITH GOVERNMENT PRIORITIES, AND SELECTING RESEARCH PROJECTS

Both universities, UMSA and UMSS have aligned their research priorities with the national development agenda. However, it is important to underscore that since the agenda is quite broad to begin with that it is very easy to ensure that research topics fall within the general Bolivian development objectives.

At UMSA the strategy for selecting research projects starts by highlighting that the research project must "respond to a national problem". The strategy goes on to note that the research project should also aspire to academic excellence and serve to improve and expand the research infrastructure within the university. The operationalisation of these objectives has been detailed in a results framework which highlights the following results:

- Offer PhD students the possibility of using at least 80% of their time to research activities in Bolivia
- Provide positions as regular staff to the graduates of PhDs who have been financed through Sida
- Enable the graduation of PhD students within 5 years from registration[11]

At UMSS the objectives of research are broad as is the case at UMSA, but in relation to their funding of research projects under the agreement with Sida, a series of specific subjects have been selected as of interest. These broadly include: food security, health, technical and industrial development, energy, communication and technology, habitat protection, and human development.

[11] While these results are important, it is worth noting that an evaluation of the programme found that PhD students efforts to conduct research were not facilitated, that graduates were not systematically given contracts to benefit from their gained education and that average graduation times exceeded 5 years. See Millard, et al 2017.

4.2 PROJECT SELECTION AND PHD CANDIDATE SELECTION

Both Universities, UMSA and UMSS, have developed processes to select research projects as well as select PhD candidates that go on to participate in the Sandwich model used in collaboration with Swedish Universities. The processes used are described here.

At UMSA the selection of research processes starts with an open call for tenders. The call details the main objectives of research (see section 4.1) and goes on to outline the requirements of the research team. The teams must be composed of a Lecturer or Researcher, who must guide the project, and a wide range of team members either postgraduate or undergraduate that may use their participation in the project as a way to further their respective thesis or dissertations. The call for proposals highlights that members of a single project may be part of different academic departments or units within UMSA.

The call for proposals also details the administrative guidelines that must be met for the proposal to qualify. In addition, special emphasis is made on demanding that proposals make a clear argument for how the research, if conducted will be able to respond to an issue of national or regional concern. Lastly, the call for proposals also demands that ethical guidelines and considerations be included in the proposal.

The guidelines that will be followed in the evaluation of proposals are also detailed. In addition, UMSA has a clear guideline for evaluators to ascribe to. The guideline details the evaluation criteria and provides parameters for how each criterion should be understood and scored. Projects are then evaluated and assessed by third parties. Evaluators are both national and international. The process itself is very thorough and has generated good results. It was noted that irregularities in proposals have been found and in some cases proposals disqualified due to said irregularities. It was noted by UMSA that the evaluation process used for projects funded by Sida is far stricter than the experience of other project evaluations. Research projects funded internally, for example, can become more political within the university.

The selection of PhD students at UMSA is similar to how research projects are selected. There is also an open call for proposals that details all the requirements of the candidate and of the application process. The call also details how many expected candidates will be awarded per department, but this is not necessarily fixed. The evaluation process is much like that for research projects in so far as it is clearly delineated and hard to circumvent. However, the requirements themselves are very broad. Specifically, at the stage of selection for a scholarship the candidate must identify which is his/her area of interest, but is not required to provide a research proposal for the work that he/she expects to undertake.

As is the case at UMSA, at UMSS the process for selecting research projects starts with a call for proposals. The call details the thematic requirements (see section 4.1) as well as the requirements of the research team. The latter follows the same

parameters as do the UMSA requirements. Unlike the UMSA call for tenders, the UMSS call details how individual research categories (qualification and level of experience) are defined. The call also details briefly how projects will be evaluated.

For the selection of PhD students UMSS also uses an open call for applicants. Similarly to UMSS, the topics/faculties are largely prescribed. The call for tenders provides great detail of what is included, but less detail than UMSS on what is required and how requirements (qualifications) are evaluated. Although the call does require that specific formats, included in the call, be used for the submission. Lastly the call for proposals includes a detailed evaluation sheet that would permit an applicant to understand how she/he will be evaluated.

5 Reflections and recommendations

In this chapter general recommendations are provided. These are followed by two sections where the internal and external ESG standards (see section 3.4) are presented and relevant reflections and recommendations for the Bolivia programme provided. Each standard is numbered as found in the ESG document.[12]

5.1 GENERAL RECOMMENDATIONS

Staff competence: In order to guarantee high quality in university education (both at under graduate level and postgraduate level) a competent and well educated teaching staff with both research and teaching skills is necessary. At this time the biggest obstacle to the development of master programs of high quality is the shortage of competent teachers/advisors. Therefore efforts should be made to increase the capacity of teaching staff. It is important that both universities take advantage of the PhD candidates that are educated in Sweden and elsewhere. Bolivia does not automatically recognise foreign doctoral degrees, and currently there is no automatic system of accreditation for students who gain their PhD from Swedish universities with Sida funding. This means that upon their return to Bolivia, they need to either secure accreditation for their degree – a time-consuming and costly process – or apply for jobs based on their Bolivian academic credentials. The system is confusing and counterproductive in terms of supporting high quality in university education.

Postgraduate programme development: Postgraduate education should only include the programs and careers that include a research component. To this end a master degree should be, without exception, a degree that ends with a dissertation. Both universities must continue to develop and expand the postgraduate level, when it comes to master programs and PhD programs.

Funding: Financing degrees, particularly postgraduate degrees remains a challenge. It is clear that universities must either allocate more of their own funds to postgraduate education, and/or ensure that management at a broader level is more

[12] http://www.enqa.eu/wp-content/uploads/2015/11/ESG_2015.pdf

actively involved in fund raising activities. The use of the hydrocarbon tax on postgraduate and research efforts can also be an avenue to close the funding gap.

Quality assurance mechanisms: In order for UMSS and UMSA to adequately benefit from their respective quality assurance units adequate capacity, funding and a clear role with direct ties between QA units and senior management should be put in place. Overall there needs to be a commitment to quality assurance and accreditation at the university level generally, and specifically at the highest levels of university management.

Quality assurance results: It is necessary to start a discussion about the future of the programs that have failed the accreditation process. Clear and rapidly attained steps for improvement should be developed. It is also necessary to consider the grades for accreditation. Just two accreditation grades are recommended: accreditation, accreditation with conditions. The programs with conditions should be given a certain time to improve their operations. This period should not be too long as this can have detrimental to the education process generally. Programs and careers that have not succeeded to improve in the stipulated time should not be allowed to continue. It should be the responsibility of the higher education institutions to close programs that are not accredited.

5.2 REFLECTIONS AND RECOMMENDATIONS - INTERNAL QA –ESG

Standard 1.1 Policy and quality assurance: Institutions should have a policy for quality assurance that is made public and forms part of their strategic management. Internal stakeholders should develop and implement this policy through appropriate structures and processes, while involving external stakeholders.

Reflection and recommendation: There are no central and public documents at either UMSS or UMSA that can shed light on how the internal quality assurance system is organised or indeed if there is a system at all. Both institutions have some written documents that touch upon evaluation, and quality. At UMSA the document is entitled “El nuevo rostro de la calidad en la Universidad Mayor de San Andrés. Tomo V” (2015) and provides a statistical overview of the work carried out. At UMSS there is a PowerPoint presentation “Informe Preliminar de Evaluacíon y Acreditación de las Carreras y Programas (2014) which also focuses on providing a statistical overview.

Quality assurance is a concern for the whole university. While the top management (rector, vice-rector) and the governing body should have the final responsibility for ensuring quality is assessed, both staff (teachers and administrators) and students need to participate in quality assurance processes in order to secure a well-functioning quality assurance system. Furthermore it is also necessary that the university leadership at all levels encourage an open discussion, analysis and critical reflection on the quality of the education provided. To this end the administration and available infrastructure must be understood as central to ensuring high quality. Lastly, it is important that statistical and indicator data be collected, processed and analysed at

regular and consistent intervals in order to enable continues assessment. With these central elements in mind, it is recommended that both UMSS and UMSA develop a QA policy and detail a process to carry out quality assurance. Both are key to ensuring the establishment of a robust QA system. The policy should be developed in conjunction with teachers, students and external stakeholders and count with the support of senior management, this will serve to support the development of a quality culture.

Standard 1.2 Design and approval of programmes: Institutions should have processes for the design and approval of their programmes. The programmes should be designed so that they meet the objectives set for them, including the intended learning outcomes. The qualification resulting from a programme should be clearly specified and communicated.

Reflection and recommendation: The universities seem to have well developed rules and regulation for the design and approval of their programs. These rules and regulations follow the ones at national level set up by the CEUB. However, the detailed content of the material required in the design of a programme is less clear and appears subject to interpretation. Indeed some programmes might count with very developed plans, while other have far less developed ones. Therefore it may be of value to further detail the specific content requirement of the programme plans.

Standard 1.3 Student-centred learning, teaching and assessment: Institutions should ensure that the programmes are delivered in a way that encourages students to take an active role in creating the learning process, and that the assessment of students reflects this approach.

Reflection and recommendation: This standard is important in relation to the outcomes of the teaching and learning process. Indeed successful quality assurance systems need to ensure an active learning element and a clear mechanism to assess student's achievements. During the data collection for this assignment it was not possible to confirm how this standard is reflected in teaching and learning at Bolivian universities. Therefore it would be wise for universities to examine the standard and if not applied, find mechanisms to apply its central tenets.

Standard 1.4 Student admission, progression, recognition and certification: Institutions should consistently apply pre-defined and published regulations covering all phases of the student "life cycle", e.g. student admission, progression, recognition and certification.

Reflection and recommendation: This standard fall outside the scope of this document.

Standard 1.5 Teaching Staff: Institutions should assure themselves of the competence of their teachers. They should apply fair and transparent processes for the recruitment and development of the staff.

Reflection and recommendation: During data collection in Bolivia it became evident that the competence of instructors/teachers requires further development. This is true of both academic and scientific competence, as well as teaching competence.

The current rules and regulations pertaining to the recruitment of staff, as well as staff development need to be revised. Currently seniority appears to weigh heavier than academic excellence (PhD). Moreover, PhDs awarded by the Swedish universities as part of the cooperation agreement with Sida are not automatically recognized in Bolivia. This has been explained noting that recognition of foreign degrees is time consuming and expensive as a matter of course, however there appears to be no efforts by university senior management to circumvent these challenges. Nor has the systematic recognition of Swedish degrees been included in the agreement with Sida. It is recommended that Sida ensure that future funding supporting PhD degrees conferred by Swedish universities are automatically recognized in Bolivia. It is also recommended that Bolivian universities both revise their recruitment and promotion policies and make a plan for how university academic, scientific and teaching capacity will be improved.

Standard 1.6 Learning resources and student support: Institutions should have appropriate funding for learning and teaching activities and ensure that adequate and readily accessible learning resources and student support are provided.

Reflection and recommendation: Solid and sustainable funding is important for good quality education. Bolivia today faces a massification of higher education. The student numbers seem to increase annually. While there appears to be sufficient funding available for the universities to respond to the needs of a growing undergraduate student body, there is no evidence that either university is making a consolidated effort to allocate adequate funds to postgraduate education. While the government guarantees free undergraduate education, it does not guarantee postgraduate free education, and although universities could allocate funds from their available resources to postgraduate education, they have not systematically done so. Therefore it is recommended that the universities either reallocate funds from within their existing budgets or develop solid fund raising efforts in order to ensure that postgraduate education can be developed and is of high quality.

Standard 1.7 Information Management: Institutions should ensure that they collect, analyse and use relevant information for the effective management of their programmes and other activities.

Reflection and recommendation: To create a solid quality assurance system both at the national and university levels there needs to be a clear and systematic effort to collect relevant data that allows for the continued assessment of the education delivered. In future the Universities, in coordination with the CEUB should determine what type of data needs to be collected. Data collected should have a clear purpose. Here examples of statistical data and indicators, relevant to both undergraduate and postgraduate levels that could be of interest to Bolivian universities in the future are listed:

Students:

- Number of new registrations disaggregated at the university level by programs/arrears, age, sex and ethnicity
- Student performance determined by the study time it took individual students to complete a degree from the moment of initial registration to successful completion disaggregated at the university and degree levels by programs/careers, age and sex.
- Dropout rates

Internationalisation:

- Number of outgoing and incoming students
- Number of international cooperation agreements per institution and per program/career
- Joint degree agreements

Staff:

- Number of teachers disaggregated at the university and programme/career level by position held, level of competence (academic qualification), and sex
- Number of staff disaggregated at the university level by position held, and sex

Economy and financial situation:

- Income sources at the university level disaggregated by state funding, student fees, external donor support
- Budget allocations at each university disaggregated by teacher salaries, other staff salary, equipment, library and other expenditures such as rent, supplementary material etc.

Standard 1.8 Public information: Institutions should publish information about their activities, including programmes, which is clear, accurate, objective, up-to date and readily accessible.

Reflection and recommendation: The homepages of both UMSA and UMSS have at times included dated information. In a well working quality focused system the information provided to the public would be both accurate and up to date. The information provided should, at the very least, include information on programs and courses offered, including postgraduate programs. Up-to-date statistics, as well as information on self-evaluations and accreditations should also be published.

Standard 1.9 on-going monitoring and periodic review of programmes: Institutions should monitor and periodically review their programmes to ensure that they achieve the objectives set for them and respond to the needs of students and society. These reviews should lead to continuous improvement of the programme. Any action planned or taken as a result should be communicated to all those concerned.

Reflection and recommendation: This is maybe one of the most important parts in an institutional quality assurance program. The ESG provides examples of what this type of review should consider:

- The content of the programme in the light of the latest research in the given discipline thus ensuring that the programme is up to date;
- The changing needs of society;
- The students' workload, progression and completion;
- The effectiveness of procedures for assessment of students;
- The student expectations, needs and satisfaction in relation to the programme;
- The learning environment and support services and their fitness for purpose for the programme.

It is also important to emphasise that the result of the self- evaluation and the actions taken thereafter should be public and as such available on the homepage of the university. Importantly the self- evaluation can be conducted in coordination with the external evaluation, the accreditation process. This standard corresponds largely to what in the Bolivian system is called "auto evaluación" (self-evaluation). However, when this process is conducted in Bolivia is unclear. Therefore it would be appropriate for Bolivian universities to consider ensuring that all programmes are subject to periodic self-evaluations.

Standard 1.10 Cyclical external quality assurance: Institutions should undergo external quality assurance on a cyclical basis.

Reflection and recommendation: The external evaluation, or accreditation in the Bolivian system, should be carried out on a cyclical basis. Currently it is a voluntary external evaluation, but it should be mandatory. It is up to the CEUB to decide the terms of the evaluation cycles. This national plan should include both undergraduate and postgraduate education.

5.3 REFLECTIONS AND RECOMMENDATIONS - EXTERNAL QA-ESG

Standard 2.1 Consideration of internal quality assurance: External quality assurance should address the effectiveness of the internal quality assurance processes described in the standards for internal quality assurance.

Reflections and recommendations: Internal quality assurance is the responsibility for the individual institution. The internal quality assurance system my look different at different institutions and it is important that the external evaluation recognises this when looking into the internal system. Therefore it is important that the internal system be well codified and systematically applied. In Bolivia this means that further detail may very well be required at the internal level.

Standard 2.2 Designing methodologies fit for purpose: External quality assurance should be defined and designed specifically to ensure its fitness to achieve the aims

and objectives set for it, while taking into account relevant regulations. Stakeholders should be involved in its design and continuous improvement.

Reflections and recommendations: It is unclear at this time what role, if any, different stakeholders play in the design of quality assurance processes. Bolivian universities should, therefore, carefully evaluate the current systems and ensure an inclusive participatory process in future.

Standard 2.3 Implementation processes: External quality assurance processes should be reliable, useful, pre-defined, implemented consistently and published.

They include:

- a self-assessment or equivalent;
- an external assessment normally including a site visit;
- a report resulting from the external assessment;
- a consistent follow-up.

Reflections and recommendations: The process described above is similar to the accreditation process used in the Bolivian system. However unlike the system in Bolivia, the external quality assurance process should not be a voluntary undertaking. As expressed in Standard 10 for internal quality assurance the external quality assurance should be cyclical. Normally the most frequent cycles are every six years. However, it is important that the Bolivian universities together with the CEUB identify a cycle that suit the Bolivian system and that can be approved by all universities. Having a cyclical and compulsory system will enable the comparison between similar programs. This will also give the institutions the opportunity to benchmark their education against like programmes in Bolivia.

Standard 2.4 Peer-review experts: External quality assurance should be carried out by groups of external experts that include (a) student member(s).

Reflections and recommendations: Composition and competence of the external evaluation committee is strictly regulated in the Bolivian context. There is a strong emphasis on a long academic competence. By contrast in all European quality assurance systems, the students have representatives in evaluation committees who have insights into the education process and its management. This is a measure designed to improve the accountability of the accreditation process. Moreover stakeholders (employers) who have an interest in employing competent graduates can also contribute with valuable opinions about the content and relevance of the programs and careers under evaluation.

The ESG emphasises that the selection of participants of the evaluation be made carefully, that the candidates have the skills and competence for the task and that they are adequately trained to engage in the task at hand. The experience from external panels in Europe and foremost Sweden is that the non-academic members give a valuable contribution to the external evaluation. Therefore it is recommended that Bolivia reconsider the composition of evaluation teams.

Standard 2.5 Criteria for outcomes: Any outcomes or judgements made as the result of external quality assurance should be based on explicit and published criteria that are applied consistently, irrespective of whether the process leads to a formal decision.

Comment and recommendations: It is necessary that the criteria for the external quality assurance is known and also discussed with and accepted by the universities before the external evaluation is conducted. Therefore it is recommended that an effort in information dissemination include relevant parties.

Standard 2.6 Reporting: Full reports by the experts should be published, clear and accessible to the academic community, external partners and other interested individuals. If the agency takes any formal decision based on the reports, the decision should be published together with the report.

Comment and recommendations: It is necessary that the external report is published on the homepage of respective university. The ESG recommends that expert reports include:

- context description (to help locate the higher education institution in its specific context);
- description of the individual procedure, including experts involved;
- evidence, analysis and findings;
- conclusions;
- features of good practice, demonstrated by the institution;
- recommendations for follow-up action.

This external evaluation report corresponds to what in Bolivia is called the "Evaluación Síntesis." Therefore these documents should be made public.

Standard 2.7 Complaints and Appeals: Complaints and appeals processes should be clearly defined as part of the design of external quality assurance processes and communicated to the institutions.

Comment and recommendation: it is necessary to have a clear complaints process. How such a process should be designed in Bolivia falls outside the scope of this assessment.

Annex 1 – Terms of Reference

Terms of Reference: External Evaluation of the Quality Assurance Systems of Research and postgraduate training at Universidad Mayor de San Andrés (UMSA) and Universidad Mayor de San Simón (UMSS) in Bolivia, as well as the national system through Comité Ejecutivo de la Universidad Boliviana (CEUB).

1. Background

Sweden has supported research capacity in low-income countries since 1975. It was then a new, innovative and quite controversial approach within the area of development cooperation. As many low income countries lacked sustainable systems to generate evidence based knowledge, the support to research was seen as key to address many of the problems these countries grappled with and that affected poor people the most.

The modality of the Swedish support has not been static; it has rather developed organically over time. Creating capacity through doctoral training is at the core of the support. The focus, however, is not on individual research capacity but on institutional research capacity. At the same time as doctoral students are trained abroad, funding is provided to establish research environments at their home university i.e. research infrastructure (ICT, laboratory facilities, access to scientific journals, etc.), research management (research policies, research structures, research grants), university reform (administration& finance) to establish sustainable research environments.

The sandwich model has for many years been the modus operandi of Swedish research cooperation. Universities in partner countries find the model highly valuable. Firstly, research training at a Swedish university offers an international research environment, with opportunities for networking, access to well-equipped labs and literature. Other opportunities are participation in international conferences, publishing in international journals and obtaining a worldwide recognized doctoral degree. Secondly, since the students are recruited among university staff at partner universities and data collection is carried out at their home institution, the sandwich model contributes to retain staff and diminishes the risk of losing human capital to foreign countries.

Gradually, Sweden is shifting focus from the sandwich doctoral training, with graduation only at Swedish universities, to support the establishment of local doctoral training at collaborating institutions in the south. What occurs is not really a change in the nature of support, but rather a change based on the progress of the research capacity within a country. In this regard support to the establishment of local MSc programs is an important first step to establish local PhD programs. The sandwich

modality serves its purpose well at a given point in the development of a country´s research system where such did not exist before. Its purpose is to create a critical mass of PhD graduates/researchers for a partner university in selected disciplines. When achieved, the critical mass of trained researchers can create, manage and sustain local MSc- and PhD-programs.

Many countries involved in Swedish research cooperation now have the capacity and the conditions to develop their own doctoral programs. While the sandwich model was directed to university staff, the local MSc- and PhD-programs can increase in scale and offer training to larger number of doctoral students and respond better to national demands. It is also a further step towards sustainability.

Sweden has supported research capacity building since 2000 through a cooperation with the two major public universities in Bolivia: Universidad Mayor de San Andrés and Universidad Mayor de San Simón. Since the ongoing phase there is support to local scientific Masters programmes and there are initiatives to set up local PhD programmes. Both universities have a research fond where a mechanism for competitive calls has been set up. The Viceministry of Science and Technology has also received a limited support with a focus to provide Bolivian researchers access to scientific journals.

The "Comité Ejecutivo de la Universidad Boliviana", CEUB is a coordinating institution of the Bolivian public universities, where there is also a unit for Accreditation on the national level.

The total current agreement amount for 2013-2017 stipulates approx. 212 million SEK for both universities UMSA and UMSS, which together represent around 80% of the country's research. UMSA, UMSS and CEUB are all interested in participating in the present review.

Sida is presently assessing the possibilities for a continued support to Bolivia.

Quality Assurance of postgraduate training programs

For sandwich PhD-students trained and graduated at Swedish accredited universities, quality of the training has not been an issue[13]. Quality has become a concern when supporting local PhD-training. Most of our partner countries lack or have emerging and weak mechanisms to ensure quality of higher education and MSc- and PhD-

[13] The Council for University and higher education ensures the quality of the higher education in Sweden.

programs. Increasing intake of students causes worries of what influence "overcrowding" (lecturer/student ratio, space, use of and access to resources) may have on standards of quality. There is also a fear that in the competition for students (where the numbers of students are crucial to allocation of resources) quality will be traded off.

There is still no international common standard on quality of higher education and how it should be measured, but initiatives like the Bologna process in Europe is one initiative in that direction. When the Swedish research cooperation increases its support to the development of local research training in low-income countries, it will be key to ensure the quality of these training programs. The stand of Swedish research cooperation is that all students supported by Sweden should receive training of equal quality irrespective where training and graduation is taking place. Thus, a minimum requirement for PhD-training programs has been set to five years[14]

To gain increased knowledge of existing quality assurance systems as well as the quality of current postgraduate programs in Bolivia will be very helpful in the planning of future research cooperation with this country and Sida has decided to commission an external review for this purpose.

2. The context

One of the objectives of the research cooperation is that the UMSA and UMSS have well-developed research management structures in order to handle increased external funding as well as national funding. In preparation for continuous research cooperation 2013-2017 Sida has made it possible for the both universities to use external consultants to address its internal weaknesses and develop a more relevant research management system.

Included in research management is a system for quality assurance of research and higher education. The universities UMSA and UMSS have identified weaknesses in this area, especially as the scientific Masters degree is currently being improved and as there are no sustainable local PhD degree programs in place.

CEUB has not received any direct from Sida this far, although contacts have been taken recently to discuss a possible future collaboration. CEUB has compiled the documents from the last XII National University Congress in 2014, which is the highest instance of universities in the country. The documents include rules and

[14] 2 yrs MSc + 3 yrs PhD or 1 yr MSc + 4 yrs PhD

descriptions of many of the processes regulation research and innovation at the public universities, including quality assurance and accreditation.

3. Purpose of the Quality Assurance Review

The assignment will include two parts:

1. Assessment of the Quality Assurance systems,
2. Assessment of the quality of research and the postgraduate programs offered at the universities supported by Sweden.

The main aim of the assignment is to assess both the quality assurance (QA) systems[15] and the quality of research and postgraduate programs at the universities UMSS and UMSA in Bolivia.

The quality of the QA systems will also be assessed at national level by reviewing the regulations established by national agencies[16] with the specific mandate to oversee and ensure that national standards for postgraduate training programs are implemented.

In the case of the QA system at UMSA and UMSS the focus will be on their internal regulations for ensuring quality and to what extent these harmonize with the national QA system.

In both cases the assignment will include an assessment of extent to which the regulations are implemented and the quality of the training upheld. On the national level, focus shall be given to UMSA and UMSS although there are possibilities to visit some other public university.

Since there are no universal agreed upon standards for postgraduate training programs the assessment of the quality of the QA system should be made with relation to national (such as CEUB), regional and international quality (such as Mercosur in Latin America and ESG in Europe).

The second part of the assignment is to assess the actual quality of the postgraduate programs offered at the universities supported by Sweden. At the university level other systems which contribute to quality will be taken into account, such as the

[15] National Quality Assurance system: a structure which defines principles and processes designed to monitor and evaluate standards and systems in place and use the outcomes to lead to improvement (EUA, 2013)

[16] In Bolivia this responsibility falls on Comité Ejecutivo de la Universidad Boliviana, CEUB

ethics committee, the systems for evaluation of the MSc candidates, PhD candidates, the Sida fond and the IDH fond. A focus should be on postgraduate programs and research projects. In this assignment "Postgraduate programs" is referred to PhD-programs as well as MSc-programs making the distinction when relevant.

The third part of the assignment is to give recommendations on how the QA systems can be developed further at the universities as well as on the national level based on regional and/or international best practices.

The assignment will serve as support to the universities and potentially the country to develop a sustainable system to assure quality in research and research training.

4. The Assignment

Please exemplify wherever possible.

a) Assessing the QA system of research and postgraduate training, and the quality of local Sida-supported training programs

- Review and asses the existing quality of the QA systems setting the standard for research projects at the universities (competitive calls, evaluation procedures and monitoring).
- Assess the monitoring and evaluations capacity of the regulating institutions at national and university level as regards research projects supported with competitive funds.
- Provide information about the departments at universities supported by Sweden that has the mandate to ensure quality of postgraduate training and their capacity to do so.
- Outline and review the quality of the standards and regulations for postgraduate programs within the universities supported by Sweden. Assess if they harmonize with their respective national QA standards and regulations.
- Assess the implementation of the regulations and processes related to research, as described in the CEUB XII National University Congress
- Assess the monitoring and evaluations capacity of CEUB in order to ensure that the quality standards of research and postgraduate programs are implemented.
- Provide an overview of the existing standards and regulations for postgraduate programs within Bolivia.
- Is there an implemented structure for incentives to perform research in the university system and on the national level, including e.g. research career ladders?
- Assess to what extent the Sida-funded postgraduate programmes are designed and implemented in line with formal regulations and standards.
- Assess the academic positions/qualifications of lecturers/supervisors for postgraduate training.
- A description of how the QA operational system is linked to the universities overall Strategic Plans

- Compare and assess the QA of postgraduate training and research in Bolivia with regional and international standards[17].

b) Analysis, conclusions and recommendations

- Data and information shall be analyzed and interpreted systematically. Underlying assumptions shall be made explicit and taken into account.
- Conclusions should be substantiated by findings and analysis.
- Describe the differences between Bolivian regulations related to research quality structures to European and other international regulations and provide recommendations for potential improvements
- Recommendations and lessons learned should follow logically from the conclusions. More specifically, concrete recommendations shall be made on how the QA systems in Bolivia can be improved both at university and national levels, including indicators that could be used for monitoring the quality. Also, recommendations regarding possible forms of future support (internal and external) to institutions to improve QA systems should be provided.

5. Methodology

The evaluation process is seen as a process of learning and improvement and thus participatory evaluation methods are perceived critical. The consultants shall suggest a feasible methodology, based on their experience on QA of universities. The methods will include: studies of available documents at the universities UMSA and UMSS, CEUB and Sida; interviews will be carried out the responsible QA units and relevant units within the universities and other relevant agencies including Sida, the Swedish Embassy in La Paz, as well as research management staff, researchers, lecturers/supervisors and students at the universities. A couple of researchers based at Swedish universities and active in the research collaboration with Bolivia should also be interviewed. The evaluators should describe the groups (gender disaggregated data) that have been consulted and why they were selected.

In case considered appropriate, additional programs and universities in Bolivia can be assessed as positive examples; these should be approved by Sida in advance. The methodology should preferably include components or strategies that promote the local ownership at CEUB and the universities of the QA process.

[17] Especially with reference to IUCEA and the EU/Bologna process.

The evaluators shall propose an evaluation methodology, including particular evaluation techniques in the proposal, and elaborate them further in an inception report. The inception report should include a specified time and work plan with delivery dates for the reports, field visits and dissemination activities. The inception report will form the basis for the continued evaluation process and methods to be used.

The results of the review shall be presented and discussed in a seminar at Sida where representatives from the universities and CEUB are invited though video conference after the revised report has been communicated, or possibly at a follow-up visit in Bolivia.

Available material and studies, including desk studies, should be used to whatever extent possible.

The consultants are advised to spend approximately 2-3 weeks in Bolivia together with the universities and CEUB. At the end of the field visit a debriefing meeting shall be held at the Swedish Embassy in La Paz with video link to Sida.

6. The team qualifications

The review team should possess a mix of evaluative skills and thematic knowledge, and if possible be gender balanced and include professionals from the region concerned.

Team members:

a) At least one team member must have a PhD
b) Any other team member must have a minimum of a Masters' degree
c) Experience from universities in low-income countries
d) Broad knowledge in higher education and research management
e) Experience of international development cooperation.
f) Experience of quality assurance systems of higher education and research
g) Experience of quality assurance systems evaluation in low-income countries
h) Experience from universities, higher education and research in low-income countries and in Latin America in particular
i) At least one member must have experience from a national agency responsible for a national quality assurance system of universities (part of the Bologna system), preferably Swedish Universitetskanslersämbetet (UKÄ), and otherwise as similar as possible to the Swedish system.
j) All members shall be fluent in spoken and written English, and at least one in Spanish

It is a merit if the team leader and additional members of the team have a PhD degree, if additional members speak Spanish, if they have experience from doing research in a low-income country, and if members have done similar assignments before.

7. Reporting Requirements

a) The reviews should result in a single report with a clear separation between findings on the university level and the national level.
b) The reports shall answer all the issues addressed in the Terms of Reference.
c) The report shall contain an Executive Summary which shall provide an overview of the report highlighting the main conclusions and recommendations.
d) The report shall contain a list of person interviewed during the review.
e) Recommendations shall be given based on an in –depth analysis of the findings.
f) The final report shall be submitted to Sida in electronic form in Microsoft Word for Windows and should be presented in a way that enables publication without further editing.
g) The final report shall be produced in English and in Spanish.

8. Work Plan and Budget

The Consultant's proposal shall include a work plan and a budget divided years 2016 and 2017. The assignment shall be initiated on November 1st 2016 the latest and end on April 30th 2017.

An inception report shall be sent to Sida within two weeks after signing the agreement. A meeting with Sida will take place to further discuss in detail the objective and methods of the evaluation.

A maximum budget of 500 000 SEK is available.

9. Reporting dates

The following outputs shall be delivered by the auditors to Sida at the following dates:

- Inception report: 2016-10-31
- Draft report: 2017-02-28
- Revised report: 2017-03-31
- Final report: 2017-04-30

Annex 2 – List of documents

Agreement between Sida and Universidad Mayor de San Andress (UMA on Support to Research Cooperation during 1 April 2013 and 31 December 2017.

Constitución Politica del Estado República de Bolivia. Asembla Constituyente. Honorable Congres Nacional. 2009

Criterias de la Calidad para la accreditación Arcu-Sur. 2015.

El Nuevo rostro de la calidad en la Universidad Mayor de San Andrés. Tomo V. Universidad Mayor de San Andrés, La Paz 2015.

Estatuto Orgánico de la UMSS. Universidad Mayor de San Simon. Cochabamba.

Guia Elaboración de Programas de Doctorales. Universidad Mayor de San Simón, Vicerrectorado, Cochabamba 2016.

Guia Elaboración de Programas de Posgrado. Universidad Mayor de San Simón, Vicerrectorado, Cochabamba 2015.

Limberg Camacho Acosta, José, Metodología de Autoevalaucion Universitaria. Universidad Mayor de San Simon, Cochabamba, 2017

Modela Academico del Sistema de la Universidad de Boliviana. Comité Ejecutivo de la Universidad Boliviana. La Paz 2011.

Plan de Desarollo 2014 – 2019 de Universidad Mayor de San Simon. Cochabamba 2014

Plan Nacional de Desarollo Universitario 2014 – 2018. Comité Ejecutivo de la Universidad Boliviana. La Paz 2014

Procedimiento para la Creación de Carreras y Programas. Comité Ejecutivo de la Universidad Boliviana. La Paz

Programas de Posgrado Usa 2016. Universidad Mayor de San Andrés La Paz 2016

Reglamento de la Escuela Universitaria de Posgrado. Universidad Mayor de San Simón, Vicerrectorado. Cochabamba 2015.

Reglamento General de Estudios de Posgrado de la Universidad Boliviana. Comité Ejecutivo de la Universidad Boliviana.

Reglamenato General Evalaución y Acreditación de Carreas y Programas. Comité Ejecutivo de la Universidad Boliviana. La Paz

Reglamentos del Sistema Nacional de Estudios de Posgrado de la Universidad Boliviana.. Comité Ejecutivo de la Universidad Boliviana. La Paz 2015.

Sistema Arcu-Sur. Sistema de Acreditación de Carreras Universitarias para el Reconcimiento Regional de la Calidad Academica de sus Rspectivas Titulaciones en el Mercosur y Estados Asociados. 2015

UMSA. DIPGIS. Convocatoria: Fondos Concursables de Investigacion Ejecucion de Proyectos- Gestion 2015

UMSA. DIPGIS. Convocatoria: Seleccion de candidatos a doctor proyectos de investigacion con cooperacion del Programma the UMSA 2013-2017

UMSS. Informe: proceso de seleccion de profesionales para seguir estudios de doctorado en Suecia.

UMSS. Convocatoria 2015. Programmas tematicos de investigacion subprogram de apoyo a proyectos de investigacion.

Annex 3 – List of interviewees

Note: an asterisk is denoted to highlight individuals who participated in multiple group interviews/discussions owing to their multiple roles

IN SWEDEN

Individual and group Interviews by Category/Institution

Sida, University Staff and independent experts

1. Milton Rene Soto, Bolivian Ambassador to Sweden, 31.01.17
2. Nils Jensen, Stockholm University, 30.01.17
3. Teresa Soop, Sida, 31.01.17
4. Bergenståhl, Björn, Professor, Lund University, Jan.19, 2017
5. Joel, Abraham, Professor, SLU, Nov 29, 2016
6. Larsson, Gen, Professor, KTH, Jan 9, 2017
7. Malmquist, Anders, Lecturer, KTH, Nov 24, 2016
8. Ribbeklint, Larry, Consultant, KMPG, Jan 3 2017
9. Ribbeklint, Claudia, Consultant, Jan 3 2017

IN BOLIVIA

Individual and group interviews by category/institution

University Mayor of San Andress

1. Waldo Albarracin, Rector, 16.02.17
2. Gotia Arze, Luis Jefe, UMSA, Feb 17, 2017
3. Serrudo Ormchea, Marjua Jefa, UMSA, Feb 17 2017

Administration, DIPGIS, UMSA, 13.02.17, 17.02.17

1. Angela Vargas Hinojosa, Information Systems Unit
2. Cristina Mejia Alarcón, Communication
3. Dionicia Lourdes Apaza Laura, Archive
4. Elizabeth Guzmán, Social Interaction
5. Ignacio Chirico*, DIPGIS General Coordinator in UMSA-ASDI program
6. Johnny Clavijo Santander, Systems Unit
7. Judith Susana Flores Hermosa, Accounting
8. Karina Apaza Coca, Innovation
9. Lola Calle Vega, IDH project
10. Marcus Salas Oliva, Accounting
11. Mónica Díaz Ortuno, IDH project
12. Paulo Marcelo Cabrera Vadivia, Accounting
13. Rosario Darma Choque Poma, Accounting

14. Roxana Vania Pillco Yanez, Archive
15. Sandra Quispe Quia, Archive

Research project coordinators-UMSA, 14.02.17

1. Alberto Giménez, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
2. Celeste Rodríguez, Department of Pathology - Faculty of Medicine, Nursing, Nutrition and Medical Technology
3. Eduardo González, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
4. Flavio Ghezzi, Physics Degree - Faculty of Pure and Natural Sciences
5. Giovanna Almanza*, Institute of Chemical Research - Degree in Chemical Sciences
6. Jorge Quintanilla Aguirre, Institute of Chemical Research - Degree in Chemical Sciences
7. Juan Antonio Alvarado, Institute of Chemical Research - Degree in Chemical Sciences
8. Mario Blanco Cazas, Institute of Geological and Environmental Research - Faculty of Geological Sciences
9. Ninoska Flores, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
10. Noemí Tirado Bustillos, Genetics Institute
11. Volga Iñiguez*, Institute of Molecular Biology and Biotechnology - Faculty of Pure and Natural Sciences
12. Waldo Yapu, Institute of Chemical Research - Career of Chemical Sciences

Research Coordinators, and Deans, UMSA 15.02.17 and 16.02.17 (different groups)

1. Alejandro Mayori, Faculty of Engineering (Vice-Dean)
2. Carla Crespo*, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical and Biochemical Sciences
3. Carlos Salinas, Instituto Boliviano de Biología de Altura (IBBA) - Faculty of Medicine, Nursing, Nutrition and Medical Technology
4. Carlos Santelices, Chemical Sciences Career - Faculty of Pure and Natural Sciences
5. Eddy Martinez, Institute of Research in Health and Development (IINSAD) - Faculty of Medicine, Nursing, Nutrition and Medical Technology
6. Francisco Callejas Huanca, Faculty of Geological Sciences (Vice-Dean)
7. Gonzálo Taboada López, Institute of Genetics - Faculty of Medicine, Nursing, Nutrition and Medical Technology
8. Iván Larico, General Coordinator of the Postgraduate - Faculty of Medicine, Nursing, Nutrition and Medical Technology
9. Maria del Pilar Navia Bueno, Faculty of Medicine, Nursing, Nutrition and Medical Technology
10. Mauricio Peñarrieta, Institute of Chemical Research - Faculty of Pure and Natural Sciences

11. Miguel Calla Carrasco, Faculty of Engineering (Dean)
12. Oswaldo Ramos*, Chemical Sciences Career - Faculty of Pure and Natural Sciences
13. Patricia Brieger, Center for Psychopedagogy and Research in Higher Education (CEPIES)
14. Tito Estevez Martini, Faculty of Pharmaceutical Sciences and Biochemistry (Dean)
15. Walter Pérez, Faculty of Pharmaceutical Sciences and Biochemistry (Vice-Dean)
16. Wendy Soria, Institute of Chemical Research - Institute of Molecular Biology and Biotechnology - Faculty of Pure and Natural Sciences
17. Xavier Salazar, Center for Psychopedagogy and Research in Higher Education (CEPIES)

Quality Assurance department, UMSA, 17.02.17

1. Jaime Tola, Responsible for the quality unit
2. Elizabeth Guzman, Responsible for the unit of social interaction

University Mayor of San Simon General, UMSS, 23.02.17

1. Juan Ríos del Prado, Rector UMSS

Administration DICyT, UMSS, 21.02.17

1. Julio Medina Gamboa, Director DICyT
2. Jacqueline Maldonado Blancas, Director's assistant
3. Fernando Gutierrez García*, DCA
4. Ivan Fuentes Miranda*, DCA
5. Carlos López Martinez, INFOCYT
6. Rodrigo Echeverría Herrera*, GETEC
7. Nando Zurita Mercado*, FORPRO
8. Ruth Antezana Caballero, Assitant/Secretaria de Dirección DICyT
9. Xavier Grigoriu Rocha, FORPRO
10. Ruth Pradel Serrano, Responsable de IDH
11. Alex Yañey Paz, UGB
12. Carlos Cuenca Santander, INFOCyT
13. Ebert Caballero Calle, Administration
14. Silvia Michel Salinas, Consultora
15. Jorge Anonio Mayorga Lazcano, Doctorando ARES/UMSS
16. Lilian Aguilar Iglesias, Administration

Deans, and Directors, UMSS, 20.02.2017 and 21.02.17

1. Carlos Espinoza Aguilar, Medicine
2. Cesar Cabrera Román, DISU- Director
3. Hernán Flores García, DUEA- Director
4. Jannette Maldonado Murgica, Head of Department of Distance Education Graduate
5. Jhonny Limbert Ledezma Rivera, Director FACSO
6. Jorge Villazón Urquidi, Director Postgraduate Medicine

7. José Limberg Camacho Acosta, DUEA - Teacher and researcher
8. Juan Carlos Soto Pareja, Head of department training Graduate School UMSS
9. Repetido Num. 11
10. María Kathia Cladera Portugal, Dean FHCE
11. María del Rosario Aro Arispe, EUPG- Head of Unit
12. Omar Delgado Zeballos, Director Postgraduate Agronomy
13. Paul Pineda Gamorra, Director CLAS
14. Repetido con Num. 15
15. René Gonzalez*, EUPG- Director
16. Ronald López, Graduate Director Rural Development
17. Richard Martinez Yucra, Director of Postgraduate Dentistry
18. Vicente A. Limachi, Postgraduate Humanities

Researchers and Coordinators, Sida Programme, UMSS, 17.02.17

1. Alfredo Durán Nuñez del Prado, Water Resources Coordinator
2. Carmen Ledo García, Coordinator, Habitat and human settlements
3. Cinthia Carola Rojas Arnez, Researcher-Instructor - faculty of science and technology
4. Daniel Illanes Velarde, Health Coordinator
5. Daysi Perez Rea, Researcher-Instructor - - faculty of science and technology
6. Eduardo Zambrana*, Innovation Coordinator
7. Eliana Maldonado Gutierrez, Researcher CTA
8. Jorge Quillaguamán Leytón, Bioprocess Coordinator
9. José Gino Aguirre Villaroel, Agronomy Coordinator
10. Jose Luis Balderrama Idina, Researcher-Instructor - - chemistry
11. Lucio Alejo Espinoza, Energy Coordinator
12. Omar Orlando Arce García*, Director of the Research Institute of the Faculty of Science and Technology
13. Rosmery Salazar Anaya, Social Sciences Coordinator

Former leadership from UMSS and DICyT, 23.02.17

1. Omar Orlando Arce, Ex-director of the DICyT and Head of the Department of Academic Coordination - DCA.
2. Eduardo Zambrana Montán, Ex- Director of DICyT
3. Virginia Vargas Vallejos, Ex- Head of Training and Promotion Department - FORPRO
4. Jennifer Cahill Mangudo, Ex- director of the EUPG / UMSS (2012 - 2016)
5. José Guillermo Bazoberry Chali, Ex- Director of DICyT (2012-2016)
6. Lucio Gonzalez, Ex - Rector UMSS (2011-2014)

Vice-Ministry of Science and Technology

1. Alex Pantoja Montán, Technical II in Information Resources in Science and Technology
2. Cecilia Molina Canedo, Professional V Scientific and Institutional Communication
3. Cindy Baez Orozco, Head of Science and Technology Unit

4. Erika Montes Menacho, Director General of Science and Technology
5. Faruk Dosserich Rodríguez*, Professional V in Science and Technology
6. Jenny Ofelia Carrasco Arredondo, Deputy Minister of Science and Technology
7. Mario Velasco Alcócer, Professional V in Science and Technology Information Sources
8. Mauricio Céspedes Quiroga, Specialist II in Science and Technology
9. Sandra Loayza Cala, Professional V in Science and Technology

Other Parties

Comité Ejecutivo de la Universidad Boliviana (CEUB), 14.02.17

1. Edgar Lima Torrez, National Secretary of Technology and Research
2. Lucio Eduardo Álvarez Paredes, National Secretary of Postgraduate and Continues education
3. Luis Ernesto Valdivia Baldomar, National Secretary of Evaluation and accreditation
4. Sandra Villafani Echazú, National Secretary of Institutional Development

Representatives from other Universities, 17.02.17

1. Alvaro Alvarez G., Director - Universidad Amazonica de Pando (UAP)
2. Alvaro Pedro Melgar Quevedo, Escuela Militar de Ingenieria (EMI)
3. Daniel Biggermann, Universidad Católica Boliviana (UCB)
4. Edgar Lima Torrez, Comité Ejecutico de la Universidad Boliviana (CEUB)
5. Juan C. Mercado de Heredio, Jefe de Posgrado - Universidad Policial (UNIPOL)
6. Marcela Rabaza V., Universidad Católica Boliviana (UCB)
7. Marcos Zenteno Santa Cruz, Escuela Militar de Ingenieria (EMI)
8. María Angélica Suárez, Universidad Autónoma Gabriel René Moreno (UAGRM)
9. Richard Mercado Gemio, Escuela Militar de Ingenieria (EMI)
10. Richard Robles Rodriguez, Escuela Militar de Ingenieria (EMI)
11. Robert Moreno Jaramillo, Director Escuela Postgrado -Universidad Autonoma Gabriel Rene Moreno (UAGRM)
12. Sandro Centellas, Diretor DICyT - Universidad Publica El Alto (UPEA)
13. Contreas, Fransisco, Desk officer, UHR, Nov 15, 2016
14. Cortez Baldiviezo, Eduardo, Vice-Minister, Feb 14, 2017

Focus group by category/institution

Researchers-UMSA, 17.02.17

1. Alberto Jose Giménez Turba, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
2. Carla Crespo Melgar*, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
3. Cristhian Alvaro Carrasco Villanueva, Institute for Research and Development of Chemical Processes - Faculty of Engineering

4. Jose Mauricio Peñarrieta Loria*, Institute of Chemical Research - Career of Chemical Sciences
5. Leslie Tejada Pérez, Institute of Chemical Research - Career of Chemical Sciences
6. Luis López, Institute of Chemical Research - Career of Chemical Sciences
7. María Eugenia García Moreno, Institute of Chemical Research - Career of Chemical Sciences
8. María Teresa Alvarez Aliaga, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
9. Mauricio Rodolfo Ormachea Muñoz, Institute of Chemical Research - Career of Chemical Sciences
10. Patricia Andrea Mollinedo Portugal*, Institute of Chemical Research - Career of Chemical Sciences
11. Yonny Flores Segura, Institute of Chemical Research - Career of Chemical Sciences

PhD Candidates –UMSA, 14.02.17

1. Pamela Canaviri Paz, Institute of Chemical Research – Degree in Chemical Sciences
2. Claudia Teresa Canedo Rosso, Institute of Hydraulics and Hydrology - Career of Civil Engineering
3. Luis Alejandro Romero Soto, Institute for Research and Development of Chemical Processes - Faculty of Engineering
4. Daniel Martín Salas, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
5. Cesario Ajpi, Institute of Chemical Research - Degree in Chemical Sciences
6. Wendi Soria Sotillo, Institute of Chemical Research - Institute of Molecular Biology and Biotechnology - Faculty of Pure and Natural Sciences
7. Silvia Tatiana Zambrana Santander, Farmaco Biochemistry Research Institute - Biology - Faculty of Pharmaceutical Sciences and Biochemistry
8. Lidia Nina Quiroz, Institute of Geological and Environmental Research - Faculta de Ciencias Geologicas
9. Gustavo García, Institute of Chemical Research - Institute of Metallurgical and Materials Research
10. Ariana Zeballos, Institute of Chemical Research - Institute of Metallurgical and Materials Research
11. Atma-Sol Bustos Zenteno, Chemical Sciences Career
12. Israel Quino Lima, Chemical Sciences Career

Master Students –UMSA, 14.02.14

1. Ximena Padilla Lizarazu, Institute of Diagnostic Laboratories and Health Research (SELADIS)
2. Diandra Arévalo López, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
3. Freddy Chambi Chiri, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry

4. Sonia Jimenez Pacohuanca, Institute of Molecular Biology and Biotechnology - Faculty of Pure and Natural Sciences
5. Juan Yujra Cárdenas, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
6. Naviana Leiva Quispe, Institute of Chemical Research - Career of Chemical Sciences
7. Vanessa Aliaga Condori, Institute of Chemical Research - Career of Chemical Sciences
8. Mery Laura Saniz, Institute of Chemical Research - Career of Chemical Sciences
9. Karen Palebral Velarde, Institute of Chemical Research - Career of Chemical Sciences
10. Max Vargas Mena, Institute of Chemical Research - Career of Chemical Sciences
11. Raúl Vidal Quispe Choque, Institute of Chemical Research - Career of Chemical Sciences**(1)
12. Virgina Veliz Apaza, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
13. Joaquín Soliz Gutiérrez, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
14. Elba Janeth Colque Zacarias, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
15. Patricia Suxo Tutila, Institute of Chemical Research - Career of Chemical Sciences
16. Teresa Maya Pacheco, Institute of Chemical Research - Career of Chemical Sciences
17. Angela San Martin Ortiz, Institute of Chemical Research - Career of Chemical Sciences
18. Marisel Mercedes Mamami Mamani, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
19. Mauricio Claure Zeballos, Institute of Chemical Research - Career of Chemical Sciences
20. Oscar Rollano Peñaloza, Institute of Research in Natural Products - Chemical Sciences Career, ** (2)
21. Orlando Mamami Calle, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
22. Adalid Alfaro Flores, Farmaco Biochemistry Research Institute - Faculty of Pharmaceutical Sciences and Biochemistry
23. Susana Huanca López, Chemical Sciences Degree
24. Marco Quino Huasco, Chemical Sciences Degree

** Participants of these focus groups were not part of the Masters programme (1) is a researcher and (2) is a PhD candidate.

Researchers-UMSS, 22.02.17

1. Alejandra Ramirez Soruco, CESU
2. Alvaro Mercado G., CASA-FCyT
3. Ana María Romero Jaldín, CASA-FCyT
4. Angel Galarza Barrón, FCAP-UMSS
5. Crecencio Alba Pinto, IESE-UMSS
6. Cristina Karen Ovando Crespo, CISTEL
7. Eduardo Córdova Eguivar, IIA
8. Ernesto Rojas Cabrera, IIBISMED
9. Galo Muñoz, LH UMSS
10. Henry Antezana F., CASA-FCyT
11. Ivan del Callejo Veracc, Centro de Agua
12. Marko Quiroga Berazaín, CEPLAG
13. Miguel Guzman Rivero, IIBISMED-CUMETROT

PhD Candidates-UMSS, 23.02.17

1. Benjamin Gossweiler Herrera, CLAS/ CEPLAG
2. Carla Fernández Espinoza, ULRA
3. Carlos Acevedo Peña, UTT-IIFCyT
4. Claudia Cossio Grageda, CASA/FCyT
5. Daniel Bernardo Aviles Ribera, CEPLAG
6. Daniel Eid Rodriguez, Medicine
7. Evelyn Villaneva Gutierrez, Fitotecnia
8. Fabricio Montaño Antezana, CEPLAG
9. Israel Rodrigo Rocha Romero, CTA/ Energy
10. Jerry Luis Salas Valdivia, CTA/ Energy
11. Jhonny Villaroel Schneider, CTA/ Energy
12. Karina Ustariz Olivera, CIF-Lokoleta
13. Luis Antonio Choque Camaero, CTA/Energy
14. Luis Fernando Perez Mercado, CASA/ CEPLAG
15. Mariel Nataly Perez Zabaleta, CBT
16. Mónica Alejandra Guevara Martínez, CBT
17. Paola Jimena Ledo Espinoza, CEPLAG
18. Vladimir Cossio Rojas, Centro de Agua
19. Wendy Sofia Sanzetenea Ramirez, UTT-IIFCyT
20. Yercin Mamani Ortiz, IIBISMED

Master students-UMSS, 23.02.17

1. Alades Valentin Oxa Geronimo, CEP
2. Alex Rudy Ojeda Copa, INCISO
3. Ana Esther Mamani Colque, IIFHCE
4. Arturo José Bandoin Salguero, FCAyP
5. Carla Daniela Agular Elias, CESU
6. Carmen Gandarilla Salazar, FCAyP
7. Carola Zenteno Saavedra, INIAM
8. Cintia Patricia Angola García, CTA

9. Efrain Gómez Lara, INCISO
10. Fabiola Patricia Gonzales Coro, CAPN
11. Fernando Aguilar Saravia, IIJP
12. Gaid Navia Lara, CASA
13. Gualberto Rodriguez Gandarillas, INCISO
14. Ida Alejandra Peñaranda, CESU
15. Jeanett Daga Quisbert, Tecnología
16. Jhim Terrazas Salvatierra, CEPLAG
17. José Israel Flores Vargas, Centro de Agua
18. Karen Ustariz Z., CASA
19. Lily Marcela Suarez Lagraba, IESE
20. Lluvithza Yadranka Carvajal Aubraucic, IIJP
21. Luis Alejandro Jaimes Prado, Centro de Agua
22. Marcela Maldonado Rocha, PRATIC
23. Marcelo Marcial Felipe Lima, Centro de Agua
24. María del Rosario Ponce Guzman, LH-UMSS
25. María Reneé Nogales Z., CESU
26. Martinez Caliva Virgilia Efraín, LH-UMSS
27. Mauricio Alexey Pozo Rojas, CED
28. Maya René Choque Aguilar, CASA
29. Mery Doga Quisbert, Bioprocesos
30. Nancy Ortiz Veizan, Bioprocesos
31. Paola Daniela Castro Molina, INIAM
32. Redner Céspedes Quiroz, IIFHCE
33. Rodrigo Alvaro Quispe Condori, IESE
34. Sulmayra Zarate Guzman, LH-UMSS

External evaluation of the Quality Assurance Systems of research and postgraduate training at Universidad Mayor de San Andrés (UMSA) and Universidad Mayor de San Simón (UMSS) in Bolivia, as well as the national system through Comité Ejecutivo de la Universidad Boliviana (CEUB)

This report presents the findings and conclusions of an external assessment of the quality assurance systems used to assess research and postgraduate training in Bolivia. The aim of this assignment has been to provide an overview of the existing quality assurance systems in Bolivia generally, and specifically the system(s) which govern the Sida supported postgraduate training programmes. The focus has been on systems that are used by the Universidad Mayor de San Andrés (UMSA) and Universidad Mayor de San Simón (UMSS) in Bolivia, as well as the national system through Comité Ejecutivo de la Universidad Boliviana (CEUB). The report presents a number of recommendations developed in relation to the Standards and guidelines for quality assurance in the European Higher Education Area (ESG), which have been used as the international benchmark against which performance in Bolivia has been measured.

SWEDISH INTERNATIONAL DEVELOPMENT COOPERATION AGENCY
Address: SE-105 25 Stockholm, Sweden. Office: Valhallavägen 199, Stockholm
Telephone: +46 (0)8-698 50 00. Telefax: +46 (0)8-20 88 64
E-mail: info@sida.se. Homepage: http://www.sida.se

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