



Decision of the Accreditation Commission/Standing Commission of AQAS
on the study programmes

- **Livestock Science and Sustainable Environment (Master in Agriculture and Sustainable Environment)**
- **Crop Pasture Production and Sustainable Environment (Master in Agriculture and Sustainable Environment)**
- **Agricultural Mechanization and Sustainable Environment (Master in Agriculture and Sustainable Environment)**

and on the doctoral programmes

- **Livestock Science and Sustainable Environment (Ph.D. in Agriculture and Sustainable Environment)**
- **Crop Pasture Production and Sustainable Environment (Ph.D. in Agriculture and Sustainable Environment)**
- **Agricultural Mechanization and Sustainable Environment (Ph.D. in Agriculture and Sustainable Environment)**

offered by the **Federal University of Agriculture, Abeokuta (Nigeria)**

I. Master programmes:

Based on the report of the expert panel and the discussions of the Accreditation Commission in its 74th meeting on 25/26 February 2019, the Accreditation Commission decides for the Master programmes:

1. The Master programmes “**Livestock Science and Sustainable Environment**” (M.AgSE) and “**Crop Pasture Production and Sustainable Environment**” (M.AgSE) offered by the Federal University of Agriculture in Nigeria are accredited according to the AQAS criteria for Programme Accreditation.

The accreditation is **conditional**.

The study programmes essentially comply with the requirements defined by the criteria and thus the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) and the European Qualifications Framework (EQF) in their current version. The required adjustments can be implemented within a time period of nine months.

2. The conditions have to be fulfilled. The fulfilment of the conditions has to be documented and reported to AQAS no later than **31 December 2019**.

3. The accreditation is given for the period of **six years** and is valid until **30 September 2025**.
4. The accreditation decision for the Master programme “**Agricultural Mechanization and Sustainable Environment**” (M.AgSe) offered by the Federal University of Agriculture in Nigeria is postponed.

The study programmes do not yet fulfil all Standards for Quality Assurance in the European Higher Education Area (ESG) and the European Qualifications Framework (EQF) in their current version. However, it is likely that the shortcomings can be remedied within 18 months.

5. The postponement period lasts for a maximum of 18 months and ends on **31 August 2020**. The university has the opportunity to revise the study programmes during this period.
6. The revised documentation will be reviewed by the expert panel. If considered necessary by the expert panel, a second site visit has to be organised. The accreditation commission then takes a final decision based on the expert panel’s updated report.
7. The accreditation commission points out that the university must request to continue the accreditation procedure in written form within the given period. The revised documentation must be submitted in writing no later than **31 August 2020**. If the university does not request the continuation of the accreditation procedure or does not hand in the revised documentation within the given period, AQAS will automatically reopen the procedure and deny the accreditation.

For the Master programmes “**Livestock Science and Sustainable Environment**” (M.AgSE) and “**Crop Pasture Production and Sustainable Environment**” (M.AgSE):

Conditions:

1. A systematic evaluation for courses/modules has to be established.
2. The learning outcomes of the courses also have to reflect the elements of sustainability as described in the title of the programmes. They have to be described as outcome-oriented competencies.
3. It has to be made transparent how the credit system is linked to student workload.
4. The selection criteria for applicants have to be drafted and published.
5. Qualitative and quantitative data on the admission procedures of past cohorts have to be collected systematically.
6. Course/module descriptions including the modes of examination have to be published and also be available to students (e.g. student handbook).
7. To increase transparency a diploma supplement – or equivalent – including a transcript of records has to be handed out with the final diploma.

Recommendations:

1. To foster the development of the internal structure of the centre, CEADSE should establish a common format/structure for all study programmes to present the contents adequately.
2. Curricular links to the needs of small farmers should be increased.
3. Existing synergies between topics should be supported by a more interdisciplinary approach.
4. A broader variety of examination types should be used including new technologies.
5. Teaching methods should stronger support conceptual thinking skills of students.

6. For examinations re-sit options in the same semester should be considered.
7. The frequency of the QA cycle (feedback from students, graduates & labour market) and the implementation of measures should be increased.
8. The centre should establish additional strategic partnerships with targeted private institutions, other universities and international research institutes in Africa and beyond.
9. Short time mobility of students should be fostered. This could be activated by an intensified cooperation between CEADSE and partners outside Nigeria.
10. Continuous training options for teaching staff should be offered.
11. The centre should consider implementing post-doc fellowship positions in the programmes.
12. Links to the private sector of the disciplines should be fostered.
13. The unusual title of the degrees should be explained in the diploma supplement or be adjusted.

For the Master programme “**Agricultural Mechanization and Sustainable Environment**” (M.AgSE):

1. The accreditation decision for the Master programme “**Agricultural Mechanization and Sustainable Environment**” (M.AgSE) offered by the **Federal University of Agriculture/Nigeria** is postponed.
2. The postponement period lasts for a maximum of 18 months and ends on **31 December 2020**. The university has the opportunity to revise the study programmes during this period.
3. The revised documentation will be reviewed by the expert panel. If considered necessary by the expert panel, a second site visit has to be organised. The accreditation commission then takes a final decision based on the expert panel’s updated report.
4. The Standing Commission points out that the university must request to continue the accreditation procedure in written form within the given period. The revised documentation must be submitted in writing no later than **31 December 2020**. If the university does not request the continuation of the accreditation procedure or does not hand in the revised documentation within the given period, AQAS will automatically reopen the procedure and deny the accreditation.

Findings:

1. The academic character of the programme has to be reflected within the curriculum and the course/module descriptions. Intended skills and competencies and respective documentation have to reflect to requirements of the respective level of the European Qualification Framework (EQF) or the national framework. They have to be described as outcome-oriented competencies.
2. A systematic evaluation for courses/modules has to be established.
3. It has to be made transparent how the credit system is linked to student workload.
4. The selection criteria for applicants have to be drafted and published.
5. Qualitative and quantitative data on the admission procedures of past cohorts have to be collected systematically.
6. Course/module descriptions including modes of examination have to be published and also be available to students (e.g. student handbook).

7. To increase transparency a diploma supplement – or equivalent – including a transcript of records has to be handed out with the final diploma.

II. Ph.D. programmes

Based on the report of the expert panel and the discussions of the Standing Commission in its 1st meeting on 27/28 May 2019, the Standing Commission decides:

1. The accreditation decisions for the Ph.D. programmes “**Livestock Science and Sustainable Environment**” (Ph.D. AgSE), “**Crop Pasture Production and Sustainable Environment**” (Ph.D. AgSE) and “**Agricultural Mechanization and Sustainable Environment**” (Ph.D. AgSE) offered by the **Federal University of Agriculture/Nigeria** are postponed.

Diverging from the experts’ recommendation, the Standing Commission reaches the decision that the study programmes do not yet fulfil all Standards for Quality Assurance in the European Higher Education Area (ESG) and the European Qualifications Framework (EQF) in their current version. However, it is likely that the shortcomings can be remedied within 18 months.

2. The postponement period lasts for a maximum of 18 months and ends on **31 December 2020**. The university has the opportunity to revise the study programmes during this period.
3. The revised documentation will be reviewed by the expert panel. If considered necessary by the expert panel, a second site visit has to be organised. The accreditation commission then takes a final decision based on the expert panel’s updated report.
4. The Standing Commission points out that the university must request to continue the accreditation procedure in written form within the given period. The revised documentation must be submitted in writing no later than **31 December 2020**. If the university does not request the continuation of the accreditation procedure or does not hand in the revised documentation within the given period, AQAS will automatically reopen the procedure and deny the accreditation.

Findings:

1. It must be assured that the programmes reach the academic level of a Ph.D. programme in each specialisation (Livestock Science and Sustainable Environment, Crop Pasture Production and Sustainable Environment and Agricultural Mechanization and Sustainable Environment) including the intended focus on sustainability (including social and sustainable components). Thus, the concept of the study programmes and its documentation have to be revised fundamentally. Further information on the areas with need for revision can be found in the experts’ report.
2. The sustainability contents have to be reflected in detail within the description of the learning outcomes and also in specific courses/modules of each programme.
3. Specific courses on Ph.D. level have to be introduced in the field of sustainability and theoretical and applied techniques (esp. research). This cannot be replaced by courses on Master level.
4. The crosslinks between the animal-based disciplines and crops have to be considered adequately in the curriculum of the Ph.D. programme “Livestock Science and Sustainable Environment”. This has to be documented in a revised concept of the programme and accordingly in the course descriptions.

5. Course/module descriptions including the modes of examination have to be published and also be available to students (e.g. student handbook).
6. The format of the documentation of the programmes should be standardized across the Centre.
7. Modules to engage students in simulation and modelling should be introduced, especially for thesis work on Ph.D. level, which can be supported by adequate electives in the first year of the programmes.
8. CEADESE has to establish a systematic course evaluation for each course/module.
9. To increase transparency, a diploma supplement – or equivalent – including a transcript of records has to be handed out with the final diploma.
10. The description of the learning outcomes of the courses also have to reflect the elements of sustainability as described in the title of the programmes. Additionally, they have to be described as outcome-oriented competencies in general.
11. The selection criteria for applicants have to be laid down in a binding way, and they have to be drafted and published.
12. Qualitative and quantitative data on the admission procedures of past cohorts have to be collected systematically.
13. It has to be made transparent how the credit system is linked to student workload.
14. Curricular links to the needs of small farmers should be increased.
15. Existing synergies between topics should be supported by a more interdisciplinary approach.
16. A greater variety of examination types should be used including new technologies.
17. Teaching methods supporting conceptual thinking skills of students should be used more intensively.
18. Re-sit options for examinations in the same semester should be considered.
19. The frequency of the QA cycle (feedback from students, graduates & labour market) and the implementation of measures to further develop the programmes should be increased and the improvements should be documented.
20. The centre should forge additional strategic partnerships with targeted private institutions, other universities and international research institutes in Africa and beyond.
21. Short time mobility of students should be fostered. This could be activated by an intensified cooperation between CEADESE and partners outside Nigeria.
22. Continuous training options for teaching staff should be offered.
23. The centre should consider implementing post-doc fellowship positions in the programmes.
24. Links to the private sector of the disciplines should be fostered.
25. The unusual title of the degrees should be explained in the diploma supplement or be adjusted.

With regard to the reasons for these decisions the Accreditation Commission refers to the attached assessment report.



Experts' Report

on the study programmes

- **Livestock Science and Sustainable Environment (Master in Agriculture and Sustainable Environment)**
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offered by the **Federal University of Agriculture, Abeokuta** (Nigeria)

Visit to the university: November, 19–22, 2018

Panel of Experts:

Prof. Dr. Mizeck Chagunda	University of Hohenheim, Faculty of Agricultural Science, Germany
Prof. Dr. Robert Hänsch	Technical University of Braunschweig, Faculty of Life Sciences, Germany
Prof. Dr. Gordana Kranjac-Berisavljevic	University for Development Studies, Faculty of Agricultural Mechanization, Ghana
Dr. Victor Afari-Sefa	World Vegetable Centre, Benin (labour market representative)
Alexander Buchheister	Student at RWTH Aachen, Germany (student representative)
Coordinator: Ronny Heintze & Patrick Heinzer	AQAS, Cologne, Germany



AQAS

Agentur für Qualitätssicherung durch
Akkreditierung von
Studiengängen

Preamble

AQAS – Agency for Quality Assurance through Accreditation of Study Programmes – is an independent non-profit organisation, supported by more than 85 member institutions, both higher education institutions (HEIs) and academic associations. Since 2002, the agency has been accredited by the German Accreditation Council (GAC). It is therefore a notified body for accreditation of higher education institutions and programmes in Germany.

AQAS is a full member of ENQA and also listed in the European Quality Assurance Register for Higher Education (EQAR) which confirms that our procedures comply with the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG), on which all Bologna countries agreed as a basis for internal and external quality assurance.

AQAS is an institution founded by and working for higher education institutions and academic associations. The agency is devoted to quality assurance and quality development of both academic studies and teaching in Higher Education Institutions. The activities of AQAS in accreditation are neither restrained to specific academic disciplines or degrees nor to a certain type of Higher Education Institution

I. Accreditation procedure

This report results from the external review of the programmes “Livestock Science and Sustainable Environment” (Master & Ph.D.), “Crop Pasture Production and Sustainable Environment (Master & Ph.D.) and “Agricultural Mechanization and Sustainable Environment” (Master & Ph.D.) offered by the Federal University of Agriculture, Abeokuta, Ogun State/Nigeria (FUNAAB).

1. Criteria

The Master’s programme are assessed against a set of **criteria for programme accreditation** developed by AQAS. The criteria are based on the Standards and Guidelines for Quality Assurance in the European Higher Education Area (ESG) 2015. To facilitate the review each criterion features a set of indicators that can be used to demonstrate the fulfilment of the criteria. However, if single indicators are not fulfilled this does not automatically mean that a criterion is not met. The indicators need to be discussed in the context of the programme since not all indicators necessarily can be applied to a programme.

The Ph.D. programmes are assessed against the AQAS **criteria for the accreditation of structured doctoral programmes**. The accreditation by AQAS is based on the following key concepts:

- The doctoral thesis is an independent, original academic piece of research. It can take the form of a monograph or a cumulative dissertation. The assessment of the originality is based on a set of criteria:
 - selection of the research topic,
 - formulation and development of questions around the research topic,
 - decision regarding the use of suitable methodological tools and methods,
 - the scientific research, and
 - the discussion and publication of research results.
- Doctoral programmes should foster subject-specific knowledge and, if possible, facilitate cross-disciplinary perspectives and inter-disciplinary exchanges.
- Doctoral programmes are carried out and completed within a specific timeframe.

The panel of experts was asked to assess the programmes on the basis of the relevant criteria and discuss the programmes separately, when needed.

2. Approach and methodology

The initialisation

The university mandated AQAS to perform the accreditation procedure in July 2017.

The university produced a Self Evaluation Report (SER). In June 2018, the institution handed in a draft of the SER together with the relevant documentation of the study programmes and an appendix.

The appendix included e.g.:

- Overview of statistical data of the student body (e.g. number of applications, beginners, students, graduates, student drop outs)
- CVs of the teaching staff
- Information on student services
- Core information on the main library
- Graduate academic regulations

AQAS checked the SER regarding completeness, comprehensibility and transparency. The final version of the SER was handed in August 2018.

The accreditation procedure was officially initialised by a decision of the AQAS Accreditation Commission on 20–21 August, 2018.

The nomination of the panel of expert

The composition of the panel of experts follows the stakeholder principle. Consequently, representatives from the respective discipline/s, the labour market and students are involved. Furthermore, AQAS follows principles for the selection of experts of the European Consortium for Accreditation (ECA).

The Accreditation Commission nominated the before mentioned expert panel in August 2018. AQAS informed the university about the members of the expert panel and the university did not raise any concerns against the composition of the panel.

The preparation of the site visit

Prior to the site visit, the experts reviewed the SER and submitted a short preliminary statement including open questions and potential needs for additional information. AQAS forwarded these preliminary statements to the university and the panel members in order to increase transparency in the process and the upcoming discussions during the site visit.

The site visit

After a review of the Self Evaluation Report, a site visit to the university took place from 19–22 November, 2018. On site, the experts interviewed different stakeholders, e.g. the management of the HEI, the programme management, teaching and other staff, as well as students and graduates, in separate discussions and consulted additional documentation as well as student work. The visit concluded with the presentation of the preliminary findings by the group of experts to the university's representatives.

The report writing

Following the site visit, the expert group drafted the following report, assessing the fulfilment of the AQAS criteria for programme accreditation and the criteria for the accreditation of structured

doctoral programmes. The report included a recommendation to the Accreditation Commission. The report was sent to the university for comments.

The decision

The report, together with the comments of the department, forms the basis for the AQAS Accreditation Commission to decide regarding the accreditation of the programmes. Based on these two documents, on 27/28 May 2019 the Standing Commission took its decision on the accreditation. AQAS forwarded the decision to the university. The university had the right to appeal against the decision or any of the imposed conditions.

In August 2019, AQAS published the report and the result of the accreditation as well as the names of the panel of experts.

II. General Information on the university

Standard for PhD programmes:

The institution is entitled to award a doctorate.

The Federal University of Agriculture in Abeokuta/Nigeria (FUNAAB) was established in 1988 by the Federal Government when four Universities of Technology, earlier merged in 1984, were de-merged. As stated in the SER, FUNAAB is agriculturally inclined and is divided into 10 colleges (College of Agricultural Management and Rural development, College of Animal Science and Livestock Production, College of Biological Sciences, College of Engineering, College of Food Sciences and Human Ecology, College of Management Sciences, College of Physical Sciences, College of Plant Science and Crop Production and College of Veterinary Medicine).

The university is headed by the University council (led by the Chancellor and supported by the Pro-Chancellor). Furthermore, the University council consists of a Vice-Chancellor (who is the Chief Executive Officer of the University) and the Deputy Vice-Chancellors (responsible for Academic and Development). The day-to-day administration is led by the Chief Administrative Officer. The University Senate (which consists of the Vice-Chancellor, the registrar, the Deputy Vice-Chancellors, the university librarian, deans, academics directors, and other professors) provides general control of the academic matters of the university and ensures the activities of the centre are in line with research and teaching/learning policies of the university. For Master and Ph.D. study programmes the university has established a Postgraduate School, which is led by a Dean and supported by Deputy Deans of the Postgraduate School and the Secretary of the Postgraduate School. The Postgraduate School is responsible for the coordination, quality control of postgraduate studies and harmonisation of all postgraduate courses, programmes and regulations in all colleges and academic institutes at FUNAAB.

The daily operation of the Centre of Excellence in Agricultural Development and Sustainable Environment (CEADESE) is organised by the CEADESE director within the CEADESE board. The board has several sections according to the different tasks and responsibilities. Those section are: Monitoring and Evaluation Officer, Finance Officer, Budget Implementation Officer, Procurement Officer, Internal Auditor, National Institutional Partners representative (at least two) and African Institutional Partners representative (at least two). The CEADESE is part of the African Centre of Excellence project, which was launched by the World Bank in 2013.

According to the SER, the objective of CEADESE is to strengthen human and material capacity for agricultural development. The Centre aims at focusing on teaching, learning and research in agricultural productivity in the face of climate change challenges. The Centre jointly runs six M.AgSE/Ph.D. AgSE programmes, whereby the CEADESE has the administrative lead and has set up positions such as Programme leaders, Assistant Programme leaders or the Industrial Liaison officer. Those positions form the Board of Studies at CEADESE, which takes decisions on academic matters such as admission of students, curriculum review, evaluation of research pro-

posals and consideration of examination results. All M.AgSE programmes started in August 2014, whereas all three Ph.D. AgSE programmes already started in February of the same year.

When handing in the SER, FUNAAB had a total staff 1,976 members, which includes academic and non-academic staff. The student population was 19,273 (about 2,538 Pre-degree & Diploma, 15,095 undergraduate students and about 1,640 graduate students).

Experts' evaluation and preliminary general remarks of the experts

Considering the legal status of FUNAAB the expert panel confirms that the institution is legally entitled to award the degree of PhD.

The panel of experts appreciates that FUNAAB applied for World Bank funding successfully and was able to develop and to offer some programmes which are urgently needed in Africa and may help to solve some major problems of the country and the region in the future.

One major problem of the assessment of the programmes is the documentation CEADESE handed in because some key information is lacking in the Self-Evaluation Report. For the panel of experts this had the consequence that they had to ask for some information about processes and practices at FUNAAB and CEADESE during the site visit which was time consuming. This situation made it more difficult for the experts to get a clear picture of the situation of the university and the centre. Due to this problem it might be that some information is available at the university but was not handed over to the panel yet.

III. Policy and procedures for quality assurance

Standards for Master programmes:

The programme is subject to the Higher Education Institution's policy and associated procedures for quality assurance, including procedures for the design, approval, monitoring, and revision of the programmes.

A quality-oriented culture, focusing on continuous quality enhancement, is in place. This includes regular feedback mechanisms involving both internal and external stakeholders.

The strategy, policies, and procedures have a formal status and are made available in published form to all those concerned. They also include roles for students and other stakeholders. [ESG 1.1]

Standard for PhD programmes:

The results of the internal quality assurance management are taken into account for the further development of the doctoral programme.

As outlined in the SER, FUNAAB has developed several levels of quality assurance mechanisms.

The university has implemented a strategic plan for the years 2014–2019 which reiterates the commitment to quality assurance. The strategic plan includes an analysis on the actual situation and a SWOT analysis. The indicators outlined in the analyses comprise financial and human resources, internationalization, quality assurance, academic programmes, entrepreneurship and security. On the university level, FUNAAB has designed a University's Quality Assurance (QA) policy, which aims at ensuring the quality level in all academic areas, such as curriculum planning, delivery of course content, evaluation of courses as well as administrative unit processes. With this, the university tries to target all processes that affect the quality of education which includes the systematization of knowledge, the concentration of necessary information and the derivation of concrete measures to improve both quality of education and students' performances. As outlined in the QA policy, FUNAAB tries to implement a QA system based on input QA indicators (such as quality of teaching and lecturing staff, quality of equipment and laboratories or quali-

ty of student enrolment procedure), process QA indicators defining management responsibilities and output QA indicators (such as student success-ratio or stakeholder's satisfaction). The internal FUNAAB QA system comprises also an institutional auditing which analyses both student enrolment and curriculum relevance. As outlined in the SER, the university annually evaluates the quality of students and reviews the admission processes, if needed. Secondly, the university analyses the relevance of each programme in written reports. These reports cover topics such as study programme's profile and structure, methods of teaching and assessment, practical implementation, student evaluations or available resources. The analysis of these reports is intended to lead to concrete measures which consist of several development steps (area of improvement, required improvements, timeframe and deadlines for improvements or the definition of success criteria).

Quality enhancement at the Federal University of Agriculture is furthered by the collection and analysis on student, staff and stakeholder's feedback. In addition to the feedback collected, unexpected inspection assessments are carried out in order to collect primary data by the quality assurance unit. The university states that each department has QA personnel who report periodically to the QA unit. These reports include the progress and challenges of the department. These reports also complement the information received from feedback and inspections, and to ensure effectiveness in attending to issues promptly. Furthermore, the university states that each programme has to undergo an internal review process which consists of two phases (Academic Audit Cycle 1 and 2). The first academic audit cycle can be seen as a peer review by professors within the college. As stated, the evaluation is based on a systematized template and is carried out at the end of the first semester. A report is generated afterwards. The second academic audit cycle focusses on quality enhancement from an external point of view by professors outside the college, which means that for example a professor from FUNAAB's COLANIM (College of Animal Science and Livestock Production) college can review a study programme at FUNAAB's COLNAS (College of Natural Sciences) college. This is carried out at the end of the second semester and a report is generated as well. Newly developed programmes are subjected to internal and external review before approval by the Postgraduate School and the University Senate. As stated, the design, approval and revision-processes of the programmes aim at guaranteeing that all stakeholders are included in the process. The course and study programme approval processes within the university's structure targets at the content, credit weighting and modes of instruction aiming to meet the standards of international universities.

The university states that both external and internal stakeholder involvement is also carried out. The listed external stakeholders include the National Universities Commission (NUC), Federal Ministry of Education, Federal Ministry of Agriculture, Federal Ministry of Environment and industry representatives, whereas internal stakeholders consist of Federal University of Agriculture members, teaching staff and students. Data and information is collected by from review recommendations, feedback workshops, survey reports, student supervisory reports, student's quarterly progress reports, in-country supervisor reports and student course evaluation reports. Course evaluation is usually carried out after the completion of each course module (mostly at the end of the semester). The data of the evaluation includes the workload, contact hours, graduate's data, rates of student's progression and performance. The results of the quality assurance procedures are analysed and documented. Curricula modifications can be done based on the QA analysis results.

Being mandatory by Nigerian law, national accreditation procedures for all CEADESE programmes have been carried out successfully in April 2017 and all national regulations are applied accordingly as stated in the documentation. In addition, quality assurance teams from the NUC, the Association of African Universities (AAU), and the World Bank carry out biannual supervisory visits to CEADESE aiming at ensuring the quality of the programmes.

Graduates have established an Alumni platform to share ideas and which serves as an instrument for further collaboration. It is outlined that all graduates are regularly contacted for progress in

their work. The graduates shall assume a university ambassador role for the centre. Graduates who require help in publishing their work are supported and information on conferences is circulated to all graduates. CEADESE continues to support graduates through regular engagements and events. As outlined, the centre tries to bring alumni back to the centre as tutors but according to the university a typical trend in the fields is that alumni will work in the industry.

Experts' evaluation

CEADESE has outlined the QA responsibilities and expectations within the programmes and programme-elements. Responsibilities are clearly defined and information about it is available to students. A quality assurance system, which strongly builds on the general FUNAAB QA system, is in place which is generally appropriate for the relevant study programmes. For example, the directorate of academic affairs at FUNAAB is responsible for QA. On national level every five years accreditation has to be carried out externally. The same applies for the CEADESE which is supervised as well. The QA system is documented and with regards to the documentation comprehensive. It – to a certain extent – involves instruments with different scope such as course evaluations, programme evaluations, evaluations of student workload, progression and completion rates, evaluations of changing societal needs, and evaluations of the learning environment and support services. Students and the labour market are involved in the quality-assurance procedure for the programme. As a positive example the panel recognizes that members from the industry, where students carry out internships, are included as part of the student research committee. Mixed information could be found regarding the practice of course evaluations. While interviews confirmed that improvements in the courses are implemented, the oral statements on how a reliable evaluation of courses is practiced diverted. Also, no clear evidence on course evaluations and the further use of information based on the results could be found. The panel however believes that the particular nature of the centre does require a systematic evaluation of the courses (**Finding 1**).

CEADESE implements a good model of teaching and research. Master-students move from the period of lectures into an industrial internship before moving on to the research period. This assists the students to identify and research on practical and industry-relevant problems. The university advisor/professor is asked to visit often and discuss with the industrial supervisor. The professor gains a holistic view through this and the industrial supervisor also gains an understanding of the academic requirements in the project. This model helps to enhance quality, and the involvement of the internship-givers in the supervision of the students ensures that QA is maintained.

Speaking to stakeholders at different levels, the panel is convinced that experiences from student advisory bodies/groups are used for the enhancement of the programmes. Students and representatives of the labour market expressed the satisfaction that they feel listened to and that the results of quality-assurance procedures lead to concrete measures to enhance quality/resolve identified conflicts. Results from these activities are shared with teaching staff and students and more importantly the recommendations from past reflections/evaluations have been considered. Particularly structural recommendations from the dialogue with the World Bank should be mentioned.

FUNAAB has an alumni office responsible for keeping in constant contact with graduates. The university maintains a strong link with the alumni and aims at connecting with them even more through either involving them in teaching or through following their work. This happens with the overall aim of improving the interlink between the university and the labour market and to utilise data on alumni experiences during further development of the study programmes.

Although the curriculum documentation is available and up-to-date the panel strongly felt that numerous course/module descriptions, particularly when it comes to describing the indented learning outcomes, should be more detailed and specific. While this will be further elaborated below, CEADESE should reflect on their internal review structure with regard to course descriptions as the panel believes it should have been recognized by the centre itself. The panel highly

recommends standardising the format of the documentation (sample templates for all courses) of the centre (**Finding 2**). This would increase consistency and also allow to increase comparability and clearly inform future and current students or other interested parties about the specifics of the programmes. The panel recommends the use of a template for all important documents. The panel also recognises that some of the key documents such as the gender policy and documents on precision farming are under revision. It is important that major components from such documents are made available and published in order to enhance transparency.

Looking at another dimension of internal quality assurance, the panel recognized that the current regulations in terms of exam failure (pass mark: 50%) is that the candidate has to repeat the whole course and there is no re-sit option. While this is a university wide regulation, the panel felt that in the spirit of educational fairness, CEADSE should evaluate how useful this regulation is and address the official channels of FUNAAB to re-evaluate and consider the option of re-sit in the examination policy.

Conclusion

Recognizing that there is a need to evaluate the courses of the centre (course evaluation) and encouraging a standardization in the format of the documentation, the criterion is partially fulfilled.

IV. Quality of the curricula

Standards for Master programmes:

The intended learning outcomes of the programme are defined and available in published form. They reflect both academic and labour-market requirements and are up-to-date with relation to the relevant field. The design of the programme supports achievement of the intended learning outcomes.

The academic level of graduates corresponds to the requirements of the appropriate level of the European Qualifications Framework.

The curriculum's design is readily available and transparently formulated. [ESG1.2]

Standards for PhD programmes:

The institution defines the aims of the doctoral programme.

The doctoral programme is aligned with the aims of the defined qualification.

The doctoral theses provide evidence that the appropriate level of the European Qualifications Framework (EQF) or the respective level on the national qualifications framework for the award of Higher Education degrees has been achieved.

Doctoral programmes are structured in such a way – with regards to the research content and the required time – that students are enabled to progress efficiently through all stages of their research and achieve their doctorate within an appropriate timescale.

1. General information on the M.AgSE programmes

According to the SER, all M.AgSE programmes are designed to be completed within two years. The programmes have a modular structure and are differentiated in centre courses, specific programmes courses, an internship and the thesis courses. As outlined in the postgraduate prospectus the centre courses can be divided into compulsory courses (worth eight Credit Points) and elective language courses (worth 2 CP). The compulsory centre courses are “Climate Change and Agriculture” (2 CP), “Information Systems and Agricultural Knowledge Management” (3 CP) and “International Trade and Commercial Policy” (3 CP). As elective centre courses students can

either choose “Short English language course” (2 CP) and “Short French language course” (2 CP). This means that each M.AgSe programme has centre course to the extent of ten CP.

Additionally, each Master programme consists of up to two internships, two seminars (one pre-data and one post-data seminar) and the Master thesis. As stated by the university, the total structure of each Master programme comprises a maximum 48 CP and can be divided into general centre courses (10 CP), programme specific courses (23–28 CP; differing for each programme), internships with a length of 3–6 months (2–4 CP), seminar (2–3 CP) and Master Thesis (6 CP).

The courses for M.AgSe students shall be completed within the first year and the second year will cover research activities for the Master thesis. The internships will be done at the end of the second semester. The courses are delivered in the form of lectures, workshops and field visits.

2. M.AgSe Livestock Science and Sustainable Environment

The Master programme “Livestock Science and Sustainable Environment” aims at training graduates for sustainable animal production, focusing on the appropriate research technology, resource, climate and environmentally friendly production of foods of animal origin. Graduates shall gain an understanding of and hands-on experience in different disciplines within the realms of animal production. The study programme strives to train students also to meet the industrial needs and achieve enhanced entrepreneurial skills and appropriate technologies for improved animal production, processing, storage, preservation and distribution in animal production. Students have to choose elective courses during their first two semesters. The options for the first semester are “Quantitative Genetics”, “Sheep and Goat Production Enterprises” or “Animal Behaviour and Welfare dynamics in a changing climate”, whereas the options for the second semester are “Poultry Nutrition and Organic Animal Agriculture” or “Sustainable Integrated Livestock Farming Systems”. Each elective course equals 2 CP. By choosing the listed elective courses students are supposed to be able to sharpen their profile according to their personal preferences. The programme plan also includes two internships. In addition to the structure mentioned above, a typical plan of study could be shown as follows:

First semester:

Two Centre Courses (4 CP), “Biostatistics” (3 CP), “Poultry Farming Systems and Sustainable Environment” (2 CP), “Environmental Physiology of Farm Animals” (2 CP), “Agricultural Production Economics” (2 CP) plus one elective course (2 CP).

Second semester:

Two Centre Courses (6 CP), “Tropical Livestock Feed Resource and Commercial Feed Milling” (3 CP), “Ruminant Livestock Production Systems and Environmental Sustainability” (2 CP), “Animal Biotechnology” (2 CP) plus one elective course (2 CP).

Experts’ evaluation

For the M.AgSe programme in Livestock Science and Sustainable Environment CEADSE has well defined the desired qualifications to be achieved during the programme. The intended learning outcomes are both subject-specific and interdisciplinary in nature mostly from the environmental perspective. Intended learning outcomes are explained to be appropriate in the discussions, however not clearly documented in the relevant papers. Proof of their appropriateness could be provided through evaluations, graduate discussions as well and/or feedback from the labour market. The intended learning outcomes at the level – once also clearly documented - of the programme are in line with the current developments in the academic/scientific field and labour market, and the academic degree awarded to the graduates corresponds with requirements of the Master level of the European Qualifications Framework.

Two concerns from the expert panel were debated during the site visit and require further reflection. Firstly, CEADSE decided to award the degree with the acronym M.AgSe. It is obvious that

this is not universally used. Hence it is upon CEADSE to assure that the use of such an acronym does not disadvantage the CEADSE graduates on the job market. Therefore, a clear, compact and transparent supplement to the awarded diploma is required outlining the specifics of its degree to illustrate the added value of the degree (**Finding 3**). Secondly, and even more important, the panel recognized that the philosophy of the programme is to respond to issues of sustainable development. However, there is no offer or indeed targeted courses that deal directly with aspects of development and social economics. Also, when looking at the course descriptions, the learning outcomes do not fully reflect the social and sustainability component of the curriculum. While still present at the level of the programme outcomes, the breakdown in the description of the learning outcomes of the individual courses still requires development. Such additional/newly established courses would help students to gain insights in the sustainability and development links to agriculture. This has to be reflected in the learning outcomes, that should be formulated in a competence-oriented manner (**Finding 4**).

Considering the specifics of the curriculum it should also be mentioned that the programme reflects a very good link to the industry. Without neglecting this positive strength, it should not remain unnoticed that within the future employment field the roll of small farmers is very strong. Hence, when further developing the programme it will be wise to increase the links to the needs of small farmers (**Finding 5**). Further consideration should also be given to the existing links from livestock to crop production. Particularly as CEADSE offers a specific programme in this field, it comes as a surprise that crosslinks and synergies between these fields are not visible at all (**Finding 6**).

After discussing with the staff and students of the programme, the experts conclude that the curricular structure of the study programme supports the achievement of the learning outcomes. Relevant curricular elements (courses/modules) and their functions are documented. The curriculum defines which elements are compulsory and which are electives and an idealised typical course plan is available. The order of curricular elements supports the learner's progression.

All elements of the curriculum are assigned a certain number of credits as CEADSE uses a credit hour system. What remained unclear is the relation of the credit hours and the expected workload of students.

Conclusion

The expert panel underlines the need for a clear, compact and transparent supplement to the diploma. At the same time, CEADSE is encouraged to strengthen the crosslinks and synergies of the programmes under review and reflect the relevance of small farmers. Also the social and sustainability component of the curriculum must be strengthened. On the basis of the above assessment, the criterion is partly fulfilled.

3. M.AgSe Crop Pasture Production and Sustainable Environment

The study programme aims at focusing a balanced education in the field of crop pasture production which includes both theoretical and practical aspects. Graduates should know all aspects of crop production, particularly forage, crop improvement, crop protection, crop processing and agronomy. The study programme strives to impart knowledge to develop crop varieties that are adaptable to different biotic and abiotic stresses of environment.

In addition to the structure described above, a typical plan of study could be shown as follows:

First semester:

Two Centre Courses (4 CP), "Cropping Systems" (2 CP), "Principles of Cultivar Development" (3 CP), "Crop Protection and Productivity" (2 CP), "Physiology of Crop Production" (2 CP), "Pasture Production, Evaluation and Utilization" (3 CP), "Crop/Pasture Processing Technology" (3 CP).

Second semester:

Two Centre Courses (6 CP), "Seed Production" (2 CP), "Field Experimentation" (2 CP), "Soil Fertility Management and Crop Nutrition" (2 CP), "Agronomy, Ecology and Physiology of Pastures" (3 CP), "Engineering Application in Crop/Pasture Production" (2 CP).

Experts' evaluation

CEADESE defined the aims of the Master programme both in the written documents and within all discussions with the management of the university, the programme coordinators and the teaching staff. Questions that arose from the SER could be answered and clarified in the discussions during the site visit and important information was given in response to the remarks of the experts.

From the expert's point of view, the topic of the Master programme fits very well to the goals of FUNAAB as one of three agricultural universities in Nigeria. The experts positively assess the general structure of the programme and the good combination of the different aspects of crop and pasture production mentioned as described in the SER and much more during the discussions. Moreover, the important features of sustainable environment and the direct link to crop and pasture production could be explained adequately to the experts. Therefore, the programme covers a well-chosen area that is scientifically up to date and has a very high relevance and attractiveness for the labour market in West Africa, and by extension to the entire African continent. Appreciating the very positive explanations, the experts recognize that this is not reflected in the key documentation, especially in the course/module descriptions. To show the existing advantage, the experts strongly recommend to revise and transparently publish the whole set of documents with main focus on course/module descriptions. There is a special need to improve the learning outcomes as they do are not fully formulated as outcomes and at the same time do not adequately reflect the required sustainability dimension (**see chapter IV.2.**). Moreover, confirming the experts preliminary opinion, students confirmed that they would like to get more information about references (text books and publications, sometimes even websites) within the course/module descriptions. Beyond having a more convincing documentation, this will also increase attractiveness for potential applicants and further strengthen the advertisement to increase the number and quality of applications.

Content wise the centre is encouraged to increase the visibility of curricular links from Crop Pasture to Livestock Science as in practice and application in the labour market this cannot be ignored and the centre features the required resources to do so (**see chapter IV.2.**).

It can be confirmed that the structure of the curriculum supports the goal of the programme. The programme reflects both academic and labour market requirements in an appropriate manner. The experts confirm that the academic level of the content corresponds with the requirements of the Master level of the European Qualifications Framework. It also became transparent which courses are offered exclusively for the programme, and which elements are compulsory and which are electives. However, the students would be glad to receive an idealised typical course plan. During the discussions on-site, the experts understood the interlink with the other master programmes of the centre. The combination of 2 semester course work and 2 semester thesis work including the internship in the industry helps students to learn basics and to apply them in a practical research project. With a ratio of 40/60% for practical/theoretical teaching the students, the programme is well adapted to the final needs of the degree holder. Including the writing and defence of a research proposal for the Master thesis shows the high importance of practical scientific competence realised in the study programme. Supervision by three teachers from the university plus one supervisor from the industry during thesis work is guaranteed regarding intensity and quality. The printed versions of the Master thesis provided during the on-site visit underlined that the programme corresponds to the Master level as defined in the European Qualifications Framework. To increase the international acceptance and to allow an easy student exchange, the workload of the Master thesis and all the other courses/modules should be transparent in a way that it can easily be transferred to the ECTS or a calculation factor should be provided so a credit conversion could be done easily.

Conclusion

On the basis of the above assessment, the criterion is substantively fulfilled. The learning outcomes need to be developed on the course/module level and have to be published. Moreover, references should be part of the published documentation. The crosslinks between the different programmes should to be issued.

4. M. AgSe Agricultural Mechanization and Sustainable Environment

The study programme strives to impart knowledge to preserve a sustainable environment with the practice of agricultural mechanization. The study programme objectifies to train graduates that are practically and theoretically sound in issues related to engineering applications in agriculture. Additionally, it aims at imparting knowledge to solve challenges of small and medium scale farmers and basic knowledge farming operations taking into consideration the relationship between soil, water and crop. According to the university, students have to choose one elective course during their first semester. The options are “Agro-Food Process Waste Handling and Management”, “Soil and Water Engineering for Sustainable Environment” and “Farm Power and Machinery for Sustainable”. Each elective course equals 2 CP.

In addition to the structure described above, a typical plan of study could be shown as follows:

First semester:

Two Centre Courses (4 CP), “Engineering Technology and Climate Change” (3 CP), “Engineering Technology for Precision Farming and Conservation Agriculture” (3 CP), “Entrepreneurship in mechanized Agri-Business” (3 CP) plus one elective course (2 CP).

Second semester:

Two Centre Courses (6 CP), “Farm Implement & Operations and Tractor Operation” (2 CP), “Bio-Fuel and Environment” (2 CP), “Livestock Products Processing Practical” (2 CP), “Food Product Development” (2 CP).

Experts’ evaluation

Looking at its establishment period, the experts recognize that the M.AgSe “Agricultural Mechanization and Sustainable Environment” programme, alongside its Ph.D. complement, had a lot of initial challenges to overcome leading to the fact that the programme started last within the centre. The concept had to be modified from the pure agricultural mechanization to the merger with sustainable development in order to meet the requirements of the World Bank. This initial dichotomy of purpose was successfully resolved, and the programme was finally implemented, though later than the other programmes of the centre. However, consequently the late start is reflected in a lower number of students compared to other programmes and also fewer graduates to date from this programme. At the moment, through efforts from the staff of the programme as well as the entire centre, the programme will probably be able to attract more students from the country and sub-region for the forthcoming academic years. Delegations from neighbouring countries (e.g. Sierra Leone) have shown interest in sending students to follow up the courses in agricultural mechanization (both at Master’s and Ph.D. level), and acquire practical as well as theoretical skills offered by the programme. To address the intake of students from the sub-region, which is planned to increase, the programme offers core courses in English/French language to equip students with necessary skills to successfully follow and complete the courses, without any hindrance in the form of a language barrier. Recognizing the manifolded challenges connected with this practice, this approach is very much supported by the experts.

It became obvious that students are encouraged to consider very practical problem-solving issues during their internship period in the industry which is also a result of the fact that staff engaged to teach in this programme are all experienced agricultural engineers who transfer their experience

in the academic application. It is a positive finding that final-thesis-projects emerge from these internships to address on-going industry challenges.

Though the number of students is not large, they are working successfully. One of the graduated students has received awards, both nationally and internationally for her innovation in organic waste management and utilization. The industry is showing interest in final projects' prototypes for scaling-up and mass production.

Besides these generally positive impressions through studying the documentation and interviews during the site visit, the experts found that the learning outcomes of this programme were not always formulated well in the available documentation (**see chapter IV.2.**). In some cases, such learning outcomes appear to be totally absent (as is the case, for example, with "Engineering Technology and Climate Change" AMS 801). Beyond this, learning outcomes should also be allow clear links to their application in the country, giving examples which could later be seen in practice during internships. While the labour market link is well established, and beyond pure formulation in the documentation of the learning outcomes, this programme needs to work more on the content related to the sustainable development, as seen from the point of agricultural mechanization. At this point in time, even considering the future specification of learning outcomes, the academic reflection of sustainable development as promised in the title is not visible (**Finding M1**). The latest developments in this area must be organically integrated into each offered course. Links between sustainable engineering practices and development should be clearly exposed in the course contents with references to all types of agricultural activities, from large (e.g. precision agriculture), to small-scale (e.g. adaptation to climate change and increased resilience), with opportunities provided for students to see all of these during the period of internship.

All elements of the programme, represented as courses and assessments, exams, as well as internship etc., generally are documented with the above-mentioned need to specify in the field of learning outcomes. There is a clear distinction between the compulsory and elective aspects of the programme, which is appropriately explained and clearly outlined. Facebook and WhatsApp discussion groups are available for student discussions, and the time table for exams is designed with student inputs. However, regarding the curricula structure, there is the need to reflect more coherently and cohesively the merger of the sustainable development and agricultural mechanization which is the aim of the programme and which is shown in its title. Learner's progression from the lower to the higher levels of the programme would also be enhanced with this effort. This needs to be addressed by the entire centre in order to attain the requirements of the corresponding level of the European Qualifications Framework. In particular, the centre has to work towards a stronger compatibility with the European Credit Transfer and Accumulation System for higher education, which is one of the weak points of the present curriculum in general, limiting mobility and credit transfer opportunities for students (**see chapter VI**).

Conclusion

On the basis of the above assessment, the criterion is partly fulfilled.

Although the study programme shows in general a well-established system regarding the interaction with the industry, there are still critical areas for improvement as follows:

- The programme has to make additional efforts to organically merge content regarding sustainable development with that of agricultural mechanization because of the naming of the study programme,
- The descriptions of the learning outcomes of each course need to be specified and to accurately reflect the achievements gained by the students following the programme and expected final results of the training.

5. General information on the Ph.D. AgSE programmes

The Ph.D. AgSE programmes are explained to be research based for six semesters. The university provides prospective students the postgraduate handbook which includes a timeline for students in order to complete the Ph.D. AgSE programme in the foreseen time. This timeline starts with the submission of a research concept note which should be done within six weeks (maximum within the first semester) after the admission into the Ph.D. AgSE programme. The presentation of the first non-thesis seminar, the research proposal seminar and the second non-thesis seminar should be done within the first three semesters after the admission to one of the Ph.D. AgSE programmes. The presentation of the post-data seminar can be done either at the end of the third semester or during the fourth semester. Nonetheless, the post-data seminar can only be presented six months after having presented the pre-data seminar. The Ph.D. AgSE programmes end with the presentation of the final public defence of the dissertation. Students should start working on the final presentation before the end of their fourth or during their fifth semester to finish their Ph.D. AgSE in due time. The above listed general centre courses from the Master-programmes have to be taken by Ph.D. students as well in case they did not pass their Master studies in the centre.

Experts' evaluation

As explained in the CEADESE brochure and in the SER, the Ph.D. programmes at the centre are research based. Generally, this can be confirmed by the panel of experts. Indeed, for those admitted with a degree from one of the Master programmes offered by the centre, the courses they only have to take are those listed as seminars (1, 2, and 3, i.e. ACE 995, ACE 996 and ACE 998); Internships 1 and 2 (i.e. ACE 993 and ACE 994) and Thesis defence (ACE 999). However, students admitted for any of the Ph.D. programmes but with Master's degree from outside the centre are required to take and pass the CEADESE compulsory M.AgSE core courses in addition to the 900-level seminars, internships and thesis courses before graduation. While this will be helpful to level the incoming qualification, it means that this levelling happens parallelly to the Ph.D. research-work. Recognizing this mix in the level of courses belonging to the Ph.D. programmes, the panel believes that it is on the one hand helpful as it seems to react on the realistic incoming qualification of students, on the other hand it hints at a conceptual weakness of the respective programmes. It can be stated that the programmes as prescribed at the centre are deficient due to lack of advanced theoretical and applied taught courses that expose the students to analytical toolkits and techniques required at PhD level. Compensating this with the available Master level courses for students with a Master's degree gained outside the centre is not adequate as it does not guarantee the achievement of competencies adequate for the Ph.D. level.

Considering the intended outcomes as discussed on site (and partly described in the SER), the panel of experts concludes that the Ph.D. courses at the centre require improvements with regards to structure, form and content. Without taught courses, it becomes difficult to distinguish the Ph.D. AgSE from the M.AgSE degree programmes in terms of progression from the Master's level. Clear evidence for this progression was hard to assess as the key document to assess the respective level of achieved qualification is only the final thesis. The offered Ph.D. training in form of seminars, internships and thesis without taught and examinable advanced courses give narrow and inadequate exposure of students to the complex theoretical and applied techniques expected Ph.D. level in any given field of specialization. This becomes particularly pressing in the light of the intended impact of sustainability to the education. Therefore, the number of courses offered in the Ph.D. programmes at the centre has to be increased in order to assure students involvement in complex theoretical discussions as well as their ability to apply up to date techniques besides advanced transfer skills in light of sustainability (**Finding P1**). This adjustment is required for all three PhD programmes under review in order to appropriately reflect the full scope of the topics as promised by the name of the programmes.

CEADESE consistently defined the aims (which are partly different from intended learning outcomes) of the Ph.D. programmes both in the written documents and throughout all discussions

with the management of the university, the programme coordinators and the teaching staff. Questions that arose up from the SER could be answered and clarified in the discussions during the site visit or important information was given in response to the remarks of the experts. The topic of the Ph.D. programmes fits very well to the goals of FUNAAB as one of three agricultural universities in Nigeria. Therefore, the programmes cover a well-chosen area that is scientifically up to date and has a very high relevance and attractiveness for the labour market in West Africa, and by extension to the entire African continent. Nonetheless, the clearly outlined aims of the programmes and the accuracy of fit of such programmes for Western Africa and beyond are only vaguely reflected in the Ph.D. structure as mentioned above. Without appropriate coursework for Ph.D. students the panel of experts clearly foresee a deficiency in the progress of students during their Ph.D. studies. Having in mind that the overall topic of the centre is sustainability, the panel clearly sees an unused potential for establishing courses on PhD level in the light of sustainability topics. This might be non-field specific topics for Ph.D. students or programme specific coursework on Ph.D. level.

Conclusion

On the basis of the above assessment and the experts' evaluation of the single Ph.D. programmes below, the criterion is substantially fulfilled.

6. Ph.D. AgSE Livestock Science and Sustainable Environment

For the description of the curriculum, see chapter 5.

Experts' evaluation

The described intended learning outcomes are both subject-specific and interdisciplinary in nature mostly from the environmental perspective. Those intended learning outcomes are also updated through evaluations, graduate surveys and/or feedback collected from the labour market. The overall intention of the programme is clearly to respond to issues of sustainable development and it is required by the labour market. To foster these development specific courses/modules will be beneficial for the programme to increase the existing quality of the programme. The panel of experts especially concludes that pointer courses that deal directly with sustainable development and social economics would be fruitful for the programme (**see chapter IV.5**). Due to the close interaction within the centre, synergies can be created definitely with the Agricultural Economics study programme. Such courses would help students gain insights in the sustainability and development links to agriculture. This could also be reflected in the learning outcomes.

Another matter raised by the panel of experts is the academic title awarded by students. Also, the panel clearly understands the long interaction between the centre and the World Bank regarding this topic and sees a certain potential in awarding this specific degree, it is clear that the uniqueness of the degree will lead to confusion by the labour market. Therefore, the centre should consider a critical reflection concerning the degree naming and the awarding title of the programmes (**see chapter XI**).

Based on the documentation that was presented to the panel of experts and also on the impressions during the site visit, the panel is convinced that the graduates of the programme have a systematic understanding of their research discipline and are able to master all the skills and methods which are used in their research field. They have a comprehensive knowledge of the relevant literature.

Given the availability of an excellent pool of diverse and well-qualified members of staff involved in the programme, the students have the opportunity to deepen their knowledge and understanding of the subject. They contribute – through their research work – original piece of research which extends the confines of knowledge and which holds up to national or international scrutiny.

The staff, research facilities including animals, and the links to the industry provide the doctoral candidates the environment to comprehensively develop skills and instrumental competence to identify and solve new problems in the areas of research, development and/or innovation. The doctoral graduates identify independently scientific questions of research and carry out the critical analysis, development and synthesis of new and complex ideas, which are important for societal, scientific and/or cultural progress. The graduates are provided with communicative competences to discuss research findings of their areas of expertise with (international) subject-specific colleagues, to present and to defend concepts and their research findings in front of an academic audience, and to put across their research to a non-academic audience. Therefore, the experts conclude that the programme's outcome lead to a level of education which is equivalent to level 8 of the European Qualification Framework.

However, the panel felt that the crosslinks between the animal-based disciplines and crops were weak given the importance of the integration in environmental sustainability (**Finding P2**).

Conclusion

On the basis of the above assessment, the criterion is substantially fulfilled. The Ph.D. programme needs to be improved by expanding the curriculum to include advanced courses on PhD level. Such courses are necessary to push the students to the knowledge frontiers in their respective field of specialization. The panel believes that the centre has the full potential to put this in practice while it is encouraged not as a quick fix but as part of a thoroughly conceptualized improvement effort.

7. Ph.D. Crop Pasture Production and Sustainable Environment

For the description of the curriculum, see chapter 5.

Experts evaluation

As stated above, CEADSE defined the aims of the Ph.D. programme both in written documents and in all discussions with the management of the university, the programme coordinators and the teaching staff on site. Questions that arose from the SER and remained open due to incomplete documentation were answered and clarified in the discussions during the site visit and important information was given in response to the remarks of the experts.

The topic of the Ph.D. programme fits the goals of FUNAAB very well as one of three agricultural universities in Nigeria. The experts appreciate the different elements of the programme and the thoughtful combination of the different aspects of crop and pasture production mentioned in the SER. Moreover, the important features of sustainable environment and the direct link with crop and pasture production were explained adequately to the experts. Hence, what remains to be resolved is to reflect this approach in the programme's representation and transfer it more clearly in the curriculum. Adding Ph.D. specific courses in the field of sustainability and theoretical and applied techniques that are specific for crop pasture production will contribute to achieve the intended outcomes and are thus necessary in the experts' point of view (**see chapter IV.5**).

The experts gained the positive impression that knowledge and expertise for the doctoral programme is clearly available within the centre. Nonetheless, it became obvious that this knowledge has to be translated into courses/modules which are specifically created for Ph.D. students. Once having implemented such courses, a major issue is to improve, or even draft, the course/module descriptions for all programmes (be it Master or Ph.D.). Complete course descriptions that include competency-oriented described and clearly outlined learning outcomes do not only facilitate an understanding of the level and content of the course, they are also vital to enable the student to take an active part in the learning process as it is transparent what students can expect/teachers are expected to deliver (**see chapter IV.2**). These course descriptions should also cover up-to-date literature references. This will be highly attractive for potential applicants and further strengthen the advertisement to increase the number and quality of applications.

The existing internship and course structure of the programme is fit for purpose and reflects a close interaction between the centre and the labour market. This combination is important for the success of the programme. Ph.D. students learn through the combination of two semester course work and four semester thesis work (including internships). This sets a good structure to first learn/refresh the skills and knowledge that afterwards enables them to apply these competencies in their practical research project. This overall structure (without neglecting the required Ph.D. specific courses) can be seen as an adequate ratio between practice and theory. The personal and physical resources allow that students will have advanced knowledge and specialised skills after the completion of the programme. Notwithstanding the required Ph.D. courses, the level is comparable to level 8 of the European Qualifications Framework.

Conclusion

On the basis of the above assessment, the criterion is substantially fulfilled. The learning outcomes need to be described adequately in the course descriptions. The crosslinks between the different programmes should be more visible. This should cover study programme specific or general courses on sustainability on Ph.D. level.

8. Ph.D. Agricultural Mechanization and Sustainable Environment

For the description of the curriculum, see chapter 5.

Experts evaluation

Similar to the Master's programme in Agricultural Mechanization and Sustainable Environment, the Ph.D. programme of the same name (Ph.D. AgSe) also started rather late, compared to other programmes of the centre. Despite this, the staff is very committed to make this programme successful. The marketing efforts include visits to various embassies to advertise it regionally to potential students as well as promoting the course through workshops and conferences. This has resulted in a projected intake of about 20 students expected for the next academic year.

The strong commitment to the programme is also seen through the view of the staff and students that there is no agricultural development without mechanization. In addition, a close connection between academia and industry is developed by the contact to alumni and interested enterprises which all contribute through industrial cooperation opportunities, thus providing topics for research etc. In terms of industrial cooperation, some examples of the PPP arrangements are also available, i.e. with Obasanjo farms. National relevance is also evident since the staff is involved in the preparation of the document titled "Food security" covering the whole country.

The staff engaged in teaching in this programme are all agricultural engineers, with several years of professional experience. Regarding the capacity building for human resources, exchange programmes with some universities within the country and region are operating, while arrangements such as sabbaticals for staff are also used for training.

Ph.D. students are required to write concept papers which then are allocated to a professor as supervisor, based on the mutual research interest. In some cases, alumni and enterprises engaged in internships also provide supervisors, which clearly increases the relevance and quality of the research work. According to the discussions held during the site visit, motivation and counselling is the key for ensuring the timely completion of required course work as well as of the thesis for students.

Ph.D. students have a number of resources at their disposal, starting from the workshop equipped with tools for prototype manufacturing, they can use electronic sources and the research library without restrictions, which both seem sufficient and well equipped for the work, with individually allocated space and time for students for writing their final thesis. To ensure quality, a software-based plagiarism check is in place. Both an electronic and a hard copy of the thesis are kept in the centre. Facebook and WhatsApp discussion groups are available for student discussions and

the time-table for exams is designed with due consideration of student inputs. All this is leading to a professionally relaxed and cordial atmosphere between the staff and students, who feel being part of the same team.

The connection with the industry is well-established. Professional bodies are actively supporting the programme and pay regular visits to the centre. They contribute meaningfully to curriculum contents. All students of the programme also become members of professional society, which is necessary in the engineering disciplines for the future job opportunities and professional development.

In comparison to the other programmes in this cluster the agricultural mechanization department does not offer first attempts towards sustainable development of the discipline. Additionally, meeting the requirements of level 8 of the European Qualifications Framework will need some essential upgrades of the programme and a focus on the full scope of what the name of the programme promises. At this time, the programme does not reach EQF level 8 for the proclaimed interdisciplinary character of the programme (**Finding P3**). Equal to the Master programme in Agricultural Mechanization and the other Ph.D. programmes under review, there is a clear need for some improvements in the curricula structure to reflect more coherently and cohesively the merger of aspects of sustainable development and agricultural mechanization which is the aim of the programme and which is shown in its title. At this stage, sustainability contents are not reflected within the learning outcomes of the programme or specific modules. Compared to the other two Ph.D. programmes, the challenges for this Ph.D. programmes are substantially bigger in light of the overall shortcomings of the Master programme. Whereas a few vague sustainability concepts are visible in the Ph.D. programmes in “Livestock Science and Sustainable Environment” and “Crop Pasture Production and Sustainable Environment”, the academic reflection at Ph.D. level in Agricultural Mechanization with a focus on sustainability (including social and sustainable components) is not visible at the moment. Although the study programme comprises of experienced staff, experience in the field of sustainability and therefore a vision for the study programme is missing. The Sustainable Development Goals (SDGs) have to be explicitly addressed in the courses to support covering sustainable development. Without adding this perspective to the Ph.D. programme, there is a clear gap between the aim of the programme and its content. Therefore, the aspired academic achievement of the programme does not match with its content (**Finding P4**).

When processing the required update of the curriculum, the experts believe that courses/modules in simulation and modelling should be introduced, especially for the thesis work of the Ph.D. candidates. Nowadays competencies in these field can be expected from Ph.D. holders and when lifting some more traditional content of the programme there should be room for these more progressive elements (**Finding P5**).

Moreover, the description of the learning outcomes of some courses is too vague and not precisely formulated so they have to be revised to represent the programme’s aims adequately (**see chapter IV.2**). Learner’s progression from lower to higher levels of the programme would also be enhanced with this effort. This needs to be addressed by the entire centre in order to attain the European Qualifications Framework’s requirements. Obviously, the mismatch between these requirements is most obvious in this Ph.D. programme (when compared to the other two Ph.D. programmes under review). Furthermore, the centre has to intensify its work towards compatibility with the European Credit Transfer and accumulation System for higher education, which is one of the weak points of the present curriculum in general, limiting mobility and credit transfer opportunities for students (**see chapter VI**).

Conclusion

The programme is built on a traditional Master programme in “Agricultural Mechanization” with a good connection to the traditional agribusiness sector. The department provides students necessary practical skills in the agricultural mechanization field, which enables graduates to entry the

traditional path of the discipline. The interaction with the traditional labour market is a plus for the programme, because this is not common at other institutions.

Nonetheless and in light of the lack of sustainable components in the programme (be it from a conceptual or an experience point of view), the programme needs an essential upgrade on its content and a full focus on the sustainability scope. In comparison to the other Ph.D. programmes under review and as a consequence of the structural weakness of the Master programme “Agricultural Mechanization and Sustainable Environment”, the requirements of level 8 of the European Qualifications Framework is not met at the moment. At this stage, the criterion for the Ph.D. programme under review is not fulfilled.

V. Learning, Teaching and Assessment of Students

Standards for Master’s programmes:

The delivery of material encourages students to take an active role in the learning process.

Students are assessed using accessible criteria, regulations, and procedures, which are made readily available to all participants and which are applied consistently.

Assessment procedures are designed to measure the achievement of the intended learning outcomes. [ESG 1.3]

Learning, Teaching

At the Federal University of Agriculture courses are typically imparted with electronic device support. It is stated that the university provides internet access across the university and the centre. Student-oriented learning shall be facilitated by the use of modern facilities like interactive boards and e-compliant learning facilities. The courses are described as designed in way that learning outcomes are to be reached. The study programmes are organized by the Academic Planning Unit of FUNAAB in a way that overlapping of courses are not supposed to happen. The university states that at the beginning of each semester, course instructors make the course outline and materials available to the students. Each course indicates a component where students are made to lead discussions, presentations and independent study on relevant topics which counts towards continuous assessment. The courses can be formal lectures, assigned readings or combinations of both.

As outlined by the university, diversity of students is taken into consideration by enabling foreign students to participate in English courses in the first year. According to the SER, learning modes of the courses are tailored to suit the students of the programmes.

Assessment

The university states that it allows flexibility in the mode of examination on the post graduate level. For instance, students could have an open or closed book three-hours in class examination, or have a take home examination. The examinations are assessed by the course lecturer, who is supposed to inform the students of the mode of examination in due time at the beginning of each course. Students will also be informed online.

It is stated that the university has clear examination regulations which are outlined in the post-graduate regulations’ prospectus for Master and Ph.D. degree programmes. These regulations define for instance the examination length for sit-in examinations according to the credit amount of a course. Having failed one course, students have the chance to re-take the examination in the following year. Additionally, the academic calendar is published online and made available to students before the beginning of the academic year.

Regarding the theses and dissertations, it is stated that those are examined by external and internal examiners. The oral defence of both Master theses and Ph.D. dissertations is carried out in an open forum by the examination committee set up by the Postgraduate School. The examination

committee consists of the programme leader, the student's supervisor, the external examiner, an internal examiner and the Dean of the Graduate school.

The Postgraduate School also provides a handbook to guide all postgraduate students on issues relating to exams and dissertation.

Experts' evaluation

From the expert group's point of view, the methods of teaching and learning used in the programmes under review seem to be suitable for attaining the qualification goals, even though the usual form of examinations are written exams. The expert group suggests that this nationally typical format should be further developed in the sense of a variety of examination types used, and that new technologies should also be taken into consideration in this way (**Finding 7**). The experts also rated the occasional continuous assessment, which can sum up to 30% of the overall grade, as positive and to be highlighted and considered helpful by the students.

In addition to the classical lecture, there are also exercises and practice-oriented teaching in the laboratories, farms and facilities of the centre. From the perspective of the experts, the imparting of conceptual thinking among students should be more accentuated in the way of learning. The experts positively perceive the first steps of the centre in the area of blended learning/online supported learning, and they would like to support the centre to further pursue this strategy (**Finding 8**).

In the case of a failing an exam (less than 50% of the points), students have to re-enrol to the course. There are currently no re-sit options without the necessity of repeating the whole course. From the experts' point of view and also from the students' perspective, a re-sit option should be offered immediately or in the following semester, in order to counteract an extension of the study period (**Finding 9**). For Ph.D. students, the examination rules clearly state that if they do not pass, they will be able to defend again after three months. Furthermore, the experts still see room for improvement in the point that the centre might consider establishing a common format for presenting their final theses and the examinations.

The system of examination is clearly and transparently organized and published in all programmes. After the lecture period, one week for self-studying followed by a two-week exam period. The requirements are known to the students and a feedback loop to avoid too much examinations in the same week takes place between the centre and students. This ensures that, as a rule, not more than two exams per day take place. Although the experts consider this to be very challenging, the results presented and the discussions show satisfaction and success with this procedure.

Supervision of Ph.D. students is done by three teachers from the university plus one supervisor from the industry during thesis work and guarantees intensity and quality. Before the students are allowed to defend their thesis, the centre demands at least one published article. This should be handled carefully so that no unwanted prolongation of the period of study is caused by this requirement.

For students with disadvantages solutions are available in the centre.

The responsible actors collect statistical data for the further development of the programmes. At request of the students, a general feedback system was installed and is available online. However, the expert group recommends that the centre intensifies to work closely with students, graduates and representatives of the labour market (particularly a higher frequency of consultations) in order to receive immediate feedback and to discuss possible measures together (**Finding 10**).

Due to the practical training offered within the different curricula, the group of experts concludes that theoretical knowledge is put into practice successfully. The study programmes under review have good relations to the local industries, of which students can benefit when it comes to finding internships.

Conclusion

This criterion is fulfilled. However, improvement options exist in the field of re-sit option for students, a larger variety of examination types and the further development of blended learning activities.

VI. Student Admission, Progression, Recognition and Certification

Standards Master's programmes:

Consistently applied, pre-defined, published regulations are in place which cover student admission, progression, recognition, and certification.

[ESG 1.4]

Standards for PhD programmes:

The relevant formal criteria such as admission requirements and procedures, examination conditions and the award of the degree are described and have been published.

Admission

According to the report, student's admission follows the University Admission Policy. The admission procedure is outlined in the postgraduate regulations. The regulations differentiate between postgraduate diploma, Professional Master's, Academic Master's and Ph.D. degrees. Prospective students for the M.AgSE programmes must fulfil the basic undergraduate matriculation requirements. To be eligible for admission into Academic Master's degree programmes, a candidate must be a graduate of FUNAAB or any other university recognized by the University Senate and shall have obtained a minimum of second class (upper division) degree in the relevant field. It is stated that in exceptional cases, candidates with second class (lower division) can be accepted as well. Holders of a postgraduate Diploma or a professional master's degree from FUNAAB or another recognised university with a minimum weighted average score of 60% may be considered for admission into the academic Master's degree as well. Prospective candidates may be additionally required to undertake an oral and/or written examination before admission. Students will usually be enrolled in September, being the start of the new academic year.

To be eligible for admission to one of the Ph.D. programmes, a prospective candidate must have obtained an academic master's/M.Phil. with research degree of two years duration with a minimum weighted average score of 60% from FUNAAB or an equivalent recognised university. Candidates from other universities with a master's degree of less than two years duration and master's degree holders from FUNAAB with less than 60% weighted average can only be admitted to Master degree programmes and shall be required to pass a Ph.D. qualifying examination before proceeding to the full Ph.D. programme. The university states that courses can be prescribed for such candidates and those candidates are not allowed to present a pre-data seminar until having passed all prescribed courses, each of which the candidate must take and pass at 50% or a higher grade.

All applications are to be screened by the CEADESE Scientific Board in order to invite suitable candidates for an oral interview. The university states that the students are selected following an open, merit-based procedure and special concessions are given to female, regional applicants. Following the selection process, a short list will be created and forwarded to the Postgraduate School for final scrutiny and approval by the postgraduate board. If necessary, course bridges can be advised to students with any kind of deficit regarding the programme's content. Students who

have acquired some prerequisite knowledge and skills prior to admission at CEADSE are given some degrees of percentage taught courses credit waivers. As outlined in the Graduate Students Handbook, this regulation is specifically applicable to Ph.D. students.

The university states that theoretically for all Master and Ph.D. programmes tuition fees have to be paid, but due to the World Bank funding nearly all of the enrolled students have a scholarship.

Progression

According to the university, each of the programme's structure considers the level of readiness of the students, occupational requirements as well as age requirements of the students. As the programme is taught in English, the university offers English language courses for international students.

Creditation and recognition

As explained by FUNAAB, credits are assigned to courses based on the number of contact hours needed to complete the described course content. According to the SER, three hours of lectures per week is equivalent to three credits, two- to three-hour practical is equivalent to one credit, and six hours of field work is equivalent to one credit. FUNAAB uses local credits. The workload calculation is stated under the postgraduate regulation prospectus and indicates a minimum of one CP and a maximum of six CP for each course.

Experts' evaluation

Applications for admissions is via an online process which can be accessed from CEADSE's admission website that is linked to the international postgraduate admissions website of FUNAAB. The formal minimum requirements for admission are described in the university prospectus and CEADSE brochure as well as on the CEADSE website. They are appropriate for the specific Master and Ph.D. programmes and support their objectives. Although the admission requirements are well described, the selection criteria for short listing of applicants are not documented. In which way the various criteria (bachelor's degree scores, motivation letter, reference letters, etc.) are weighed in the selection process is not documented (**Finding 11**). For example, it was only during the on-site evaluation that the panel received confirmation from CEADSE management that, admissions usually target at least 30% females and 70% males. Applicants however have the opportunity to be interviewed on-site (only for those shortlisted) to bridge the gap of any missing information and/or justify their inclusion. Also, certain critical information does not seem to be publicly available to applicants from the CEADSE website for external/international applicants, except for the minimum entry requirements. These include language assistance for students from Francophone countries (in addition to flexibility of the programme to allow for them to audit English courses) and explicit information on the nature of industrial attachments. Such missing information can be provided on the website. Consequently, there were no consistent documents on qualitative and quantitative data on the admission procedures of past cohorts made available to the panel of experts to give an evidence-based proof of the adequacy of the process. This data will be required to monitor the adequacy of the admission procedures in the future (**Finding 12**).

CEADSE has very strong links with industry partners for the study programmes under review, several of whom are also alumni of FUNAAB and are bent on seeing CEADSE functioning as a top Centre of Excellence (COE). A unique feature of CEADSE programmes is the three-month industrial attachment at a private entity or national and international research institution (e.g. IITA and AfricaRice) for students, with the caveat that in the majority of cases, MSc. and Ph.D. thesis topics will be identified during this period to solve actual industry problems while at the same time meeting university postgraduate course requirements in terms of science quality. The panel is highly of the opinion that this is very commendable from CEADSE and is a model that should be replicated in other COEs as in most traditional university settings including FUNAAB, postgraduate students do not usually engage in industrial attachments. During the on-site evaluation, some labour market representatives confirmed sending their staff on study leave to CEADSE to pursue postgraduate studies as a result of this strong link between academia and industry. The Cen-

tre seems to have done a lot of research work in several of the various course disciplines listed for this accreditation. With funding from a multilateral donor such as the World Bank, and likely other development partners in the future, the multiplier effect and related development outcomes as well as sustainability of technology transfer is crucial. The panel suggests that as CEADESE looks into the future, the centre should consider forging additional strategic partnerships with targeted private institutions and other universities and international research institutes in Africa and elsewhere to commercialize newly introduced technologies and products for off-takers in Nigeria and other sub-Saharan African countries. This might also impact admission numbers (**Finding 13**). A typical example is CEADESE's pending discussion with IITA for extension of their existing collaboration for CEADESE to become a seed multiplication centre for IITA mandate crops.

Another element that is important to address is the required evaluation and documentation of student workload. FUNAAB and the management of CEADESE explained that the credit system in Nigeria and several other West African countries is generally and strictly based on contact hours and does not contemplate any assignment of credits for student self-learning time, thereby making it difficult to compare this system with the European workload concept. Recognizing that the masters and Ph.D. programmes include a very high percentage of self-learning time, and that international exchange with Europe is not only an implicit goal CEADESE will have to find ways to reflect the student workload including self-learning time in its credits. Conversion tables from the local system to the ECTS system might be an option (**Finding 14**). Based on the reviewed documents and particularly in light of the discussions with students the panel of experts is positively convinced that for all programmes under review the expected workload is within the defined limits and that it is possible to study the programmes in the time given.

Learning agreements are not used as it is very seldom that students want to go abroad for exchange programmes for some course work. To enhance mobility for internships and thesis work, it is recommended that agreements are signed between CEADESE and partners in and outside Nigeria. This will foster short-term mobility of students (**Finding 15**). Another critical concern of the panel is the unconventional title of the certificate (M.AgSe and Ph.D. AgSe) issued to its graduates without a diploma supplement or other documentation explaining the qualification. CEADESE management explained that this type of document is not issued and requested by the FUNAAB and also not in the whole West African area. CEADESE itself has no power to issue such a document without approval of its Governing Council. Nonetheless, it would help to increase the acceptance of the labour market to issue such a document explaining the specifics of the programmes (**see chapter IX**).

Conclusion

The criterion is partly fulfilled. Generally, admission criteria and procedures are implemented. The selection criteria in case of a higher number of applicants, as well as the selection process requires further definition. Qualitative and quantitative data regarding the admission will be required in the future. Increased regional and international partnerships will also positively impact admission numbers. Fostering short-term mobility of students will also positively impact the quality of the learning experience in the programmes.

VII. Teaching Staff

Standards for Master's programmes:

The composition (quantity, qualifications, professional and international experience, etc.) of the staff is appropriate for the achievement of the intended learning outcomes.

Staff involved with teaching is qualified and competent to do so.

Transparent procedures are in place for the recruitment and development of the staff. [ESG 1.5]

Standards for PhD programmes:

The qualification of supervisory staff (m/f) is appropriate to ensure that doctoral students are supervised at the correct academic level.

The personnel are sufficient in number to safeguard supervision arrangements on the doctoral programme.

The remit of supervisors is clear and transparent.

As stated in the CEADESE programme brochure, CEADESE structure indicates that each study programme has a programme leader and an assistant programme leader. The organizational work for areas such as “Monitoring & Evaluation”, “Finance” or “Communications” is shared between the programme leaders. Additionally, there are two industry liaison officers to create a connection between CEADESE and the labour market. The monitoring and evaluation will be supported by an assistant. The centre indicates that over 75% of all teaching staff has at least a Ph.D. title.

To promote high quality learning, teaching staff are supported with recognition to facilitate staff gaining Fellowship, Learning and Teaching Development programmes for early career academics. As stated by the university, FUNAAB encourages scholarly activity to strengthen the link between education and research by awarding grants, facilitating the participation of national and international conferences or supporting academic staff to achieve higher degrees. Special attention shall be paid to new employed professors concerning their teaching abilities. Opportunities for professional development of teaching staff are given through regular training trips to other universities and research institutes. Another key activity regarding the enhancement of teaching quality is seen by the university by the occasional reward of excellent teaching initiatives and the encouraging of staff to develop enhancement initiative. According to the SER, the university encourages and promotes staff development programmes such as faculty exchanges, faculty internships, training programmes or workshops (both national and international). CEADESE also put emphasis on private public partnerships as being a key strategy to the centre. This is described as having fostered a closer relationship between the university and the private sector. Typical collaborations come in form of internship opportunities, student supervision and workshops.

As outlined by the university, the Master and Ph.D. programmes “Livestock Science and Sustainable Environment” are taught by four full-time professors, one associated professor, two readers, one senior lecturer and two lecturers. A connection to the labour market shall be guaranteed by the inclusion of two industrial managers who also taught courses at FUNAAB.

For the Master and Ph.D. programmes “Crop Pasture Production and Sustainable Environment” a total of nine full-time professors and eleven senior lecturers are listed to conduct the courses offered at CEADESE.

The centre indicates three full-time professors, three readers, two senior lecturers and two lecturers for the Master and Ph.D. programmes “Agricultural Mechanization and Sustainable Environment”. The Ph.D. programme will be taught by the listed staff excluding the two lecturers.

Experts’ Evaluation

The experts are satisfied with the high motivation of the teachers involved in the programmes and the open-minded discussion throughout the on-site visit. Moreover, the experts positively recognize that there is currently a good student to teacher ratio which could reach the proportion of 1:1 in some of the programmes. So, the capacity of teaching staff for the study programmes is perfectly given.

In the discussions during the on-site visit it became obvious that the teachers generally practice an “open door policy”. This approach facilitates and encourages the exchange of information between them and the students. Moreover, the Master and doctoral students explained that the communication between them and their teachers takes place via email in cases where students or supervisors are not directly available at the same place. No problems were mentioned. Within the two years working period for the Ph.D. students in the research lab, the students will be supported by their supervisor from the actual lab as well as by the supervisor from CEADESE. Besides the electronic communication, the supervisor from CEADESE visits the students in their research lab. The coordination activities are well defined and due to the clear intake procedure major coordination happens in the very early stages of the programmes.

Regarding the academic level of the teachers, CEADESE has established a good teaching staff portfolio for all programmes under review. It should be pointed out that especially for the livestock-programme, the highest density of highly qualified breeders in the West-African zone is involved in teaching the respective students. All human resources involved in teaching within the programmes are documented, including their academic and other relevant qualifications. The teachers have in-depth subject-specific knowledge on their field which is proven by publications in peer-reviewed journals and could be shown throughout the specific discussions especially while visiting the different facilities. Some members of CEADESE have also done internships overseas (e.g. Humboldt-fellow in Germany) giving them the possibility to experience how research and supervision is done abroad. The experts believe this is a good practice and encourage further developing of this exchange. Being crucial for the programmes, the panel of experts encourages CEADESE to provide more opportunities to upgrade their qualifications (be it through participations in international conferences or by publishing articles) (**Finding 16**).

A relatively high portion of the teaching staff is recruited from FUNAAB. To implement additional topics which are not in the focus of the CEADESE staff, associate lecturers are temporarily employed for the programmes. Sometimes, even scientists from the industry or the tightly connected research labs are involved in the study programmes. However, to introduce new ideas and/or methods, the experts recommend to implement post doc-fellows into the programmes (**Finding 17**).

As pointed out by the Vice-Chancellor and the teachers during several discussion rounds, the university organizes workshops regarding modern teaching methodologies. New lecturers at the university have to undergo several trainings. In this way, procedures are in place to ensure and to develop appropriate didactic qualifications of the teaching staff. The finally trained teachers – as actually presented by the course “E-Learning” – functioning as multiplier for the members of CEADESE.

Conclusion

The criterion is fulfilled. The teaching staff seems to be appropriate to deliver the study programmes under review in a good manner. To foster their knowledge, the panel of experts recommends intensifying opportunities to upgrade the skills of the teaching staff.

VIII. Learning Resources and Student Support

Standards Master’s programmes:

Appropriate facilities and resources are available for learning and teaching activities.

Guidance and support are available for students to advise on achieving successful completion of their studies. [ESG 1.6]

Standards for PhD programmes:

There is a research environment in place which facilitates the relevant research and fosters the qualification which is necessary for a future research career inside academia or outside an academic context.

Doctoral students have access to an appropriate infrastructure.

Sufficient and suitable guidance and supervisory systems are in place.

Facilities and resources

According to the SER, the CEADESE centre caters for the academic, personal and professional needs of students with an emphasis on successful transition and academic progression. The university receives a sponsorship from the World Bank facilitated by the Association of African Universities (AAU) and the National Universities Commission (NUC).

The centre is located at the International Scholars Resources Centre and offers lecturer rooms, equipped with teaching and learning facilities. The Centre additionally offers seminar rooms, laboratories, workshops and computer rooms. The university has a central library, which has the largest collection of Agricultural resources in Nigeria. The centre itself has a specialised library, which is equipped with e-resources with up to date journals and e-books. It is outlined that both electronic and printed resources are provided in order to give students the essential background reading for courses taught in the centre. The facilities include 24 hour reading rooms, research commons for the exclusive use of graduate students and faculty members, photocopy services and networked environments with computers. As stated in the SER, the university provides internet connectivity.

Information, consultation and guidance

According to the self-evaluation report, course components and descriptions are available on the CEADESE website for students and other stakeholders. Admitted students will receive useful information prior to their enrolment in the specific programme about living conditions and the working environment. Accommodation will be provided to students on campus and there is a paid shuttle system in place at the university for on-campus transportation of students. The university has established a personal tutoring policy which supports students in terms of guidance. The CEADESE management, programme leaders and the faculty are available between one and two hours every day for consultations. International students will be assisted by the centre to obtain necessary immigration documents through the FUNAAB International Office. Additionally, students will get access to medical services at the university's Health Centre. Students are also registered under National Health Insurance Schemes.

Experts' evaluation

FUNAAB has module handbooks which include literature, learning outcomes and examination methods, but those are solely for internal purposes and not available for students. The module descriptions are made available to students via a student's prospectus where all courses for all CEADESE study programmes are listed with a very minimal description of content. Those descriptions are also available on the centre website. Looking at the student's prospectus, the experts concluded that the current version of the prospectus does not cover all necessary information for students and information such as examination modes are not provided beforehand (**Finding 18**).

Regarding the mentioned imprecise module descriptions, the experts still see a need for action regarding a revision of the module handbook (**see chapter IV.2**). The learning outcomes have to be aligned with the course descriptions. Although the module descriptions refer to the student workload, it does not include time for self-learning which does not create a completely comprehensible picture when it comes to transparency for students. This applies for both student information and comparability to other credit systems (**see chapters VI**).

For students it is possible to complete the studies in the standard period of study time. This is also the aim of close mentoring by the teachers. The coordination of the courses offered is programme-specifically well resolved and for the experts there was also no doubt that the sum of the module objectives make sure to achieve the specific goals of the respective study programme.

The resources of the World Bank were used specifically for laboratories, classrooms, farms and student workplaces which enable an appropriate practice combination and work on a scientific level for traditional study programmes as the ones under review. The rooms are sufficient dimensioning for the current student cohorts and the commitment of the teachers to allow students, outside the regular opening hours, to access the rooms. The experts assess the resources positively.

In addition to the main library, the centre also has its own library in which subject-specific literature is found in greater numbers. Also, students have access to databases and journals via the workstations in order to access further scientific literature. An introduction to the library is organized by the central librarian. In addition, in all buildings of the centre Wi-Fi access is available.

There are many possibilities for counselling and support services at both the university level and at the centre. Hours of consultation are communicated, but beyond that teachers are approachable for students. There is an introduction for new student cohorts and the so-called student prospectus gives a first glimpse of the module contents. There is also the possibility to apply for scholarships. In addition to the classroom time, there is also an exchange of students among each other via Social Media and student representatives act as speakers.

Because the demand for outgoing mobility is currently not very strong, no extensive experience had been gained until now. However, the centre wants to motivate and support the students here and there is responsible staff for internationalization efforts in the centre. The experts emphasize the centre on its way and sees a great opportunity in closer cooperation of the Centre of Excellence. Foreign students (currently mainly from neighbourhood countries) are already welcomed by staff at the international airport and accompanied to Abeokuta. For the Ph.D. students, there are already research funds, which should enable a (national) conference participation.

The students will be supported and accompanied in the completion of practical phases and internships. The practical mentors also provide further support in the form of mentoring. Also, students keep note of their activities during the internship. Regular exchange meetings place between the centre management and the practice partners, which in the past also led to representatives of the labour market being able to motivate their own employees for the programme.

For students with disadvantages, there were already individual case-related solutions in the past. The responsible persons in the centre and university-wide are sensitized for the subject and can use for example wheelchairs and shuttle vehicles. For students in special circumstances, there is also the possibility to enrol as part-time student (six instead of four years).

In finding a subject for the doctoral thesis, students are encouraged to submit an appropriate concept to the centre-management for discussion. This will be further specified in the joint discussion and the centre will examine which professor can best accompany this subject and support the student. It will also be examined to what extent an industrial partner can also be supportive. In principle, every Ph.D. student has three professors from the centre as supervisors. All students are also regularly invited to meetings at FUNAAB. Currently, a digital platform is being developed for the publication of the final thesis.

There are counselling offers for the career path and soft skills are taught in short courses during the programme. Furthermore, there is extensive support in the social dimension. FUNAAB has extensive sports facilities and its own hospital. There are also offers in the area of student apartments, which are to be further expanded to allow access to a larger group of students.

Conclusion

This criterion is fulfilled. There is a high level of satisfaction and motivation among the students and they feel taken seriously on every university level. The experts can confirm this impression and praise the high level of commitment of the teachers as well as their willingness and commitment to provide above-average support to the students. Nonetheless, the module descriptions have to be revised in such a way that the learning outcomes have to be aligned with the course descriptions and publish.

IX. Information

Standards for Master's programmes:

Data is collected from relevant sources and stakeholders, analysed, and used for the effective management and continuous enhancement of the programme. [ESG 1.7]

Impartial and objective, up-to-date information regarding the programme and its qualifications is published regularly. This published information is appropriate for and available to relevant stakeholders. [ESG 1.8]

Being a World Bank funded project, FUNAAB benefits from a system of information collection provided by the World Bank. The university states that information regarding the programmes is published on a regular basis on the university's website, in advertisements, memorandums and letters.

The university states that both external and internal stakeholders are involved in the data collection processes of the university. The listed external stakeholders include the National Universities Commission (NUC), Federal Ministry of Education, Federal Ministry of Agriculture, Federal Ministry of Environment and industry representatives, whereas internal stakeholders consist of Federal University of Agriculture members, teaching staff and students. The data and information are collected by doing review recommendations, feedback workshops, survey reports, student supervisory reports, student's quarterly progress reports, in-country supervisor reports and student course evaluation reports. Course evaluation is usually carried out after the completion of each course module (mostly at the end of the semester). The data of the evaluation includes the workload, contact hours, graduate's data, rates of student's progression and performance. The results of the quality assurance procedures are analysed and documented. Curricula modifications can be done based on the QA analysis results. The completion rate of enrolled (Master and Ph.D.) students are additionally analysed each year.

Experts' evaluation

While formal requirements of the programmes under consideration are clearly stated and are accessible for students, it was evident during the site visit that students receive course descriptions once a new semester has commenced, while the experts could not find a general description of the learning outcomes of the programme on an overall level. This description could be of high interest for future applicants of all programmes. Furthermore, the experts would encourage the centre to upload all relevant information of the programmes, including course syllabi, to the CEADSE website, which the panel of experts was made to understand is in the process of being substantially revised to be more user friendly. This would not only improve transparency with the community, but would also improve the accessibility for students and future applicants (**Finding 19**).

The close contact and fluid communication of the centre with external partners from the respective disciplines, such as private sector and research institutions of the field, allow the centre to observe the harmonization of the programmes' outcomes and the requirements for successful employability of the graduates from the thesis problem identification stage through the industrial attachment stage to graduation and possible employment thereafter. For further improvement, the

experts suggest the establishment of stronger links of the students to the private sector (**Finding 20**).

CEADESE has an active alumni network that connects with present student cohorts and has even funded some projects for improving record keeping in examinations and transcripts. Informal feedback communication channels are implemented to allow the centre to evaluate the professional development of several alumni. However, a formal tracer study is yet to be undertaken that will permit a robust follow-up evaluation of the progress of graduates for all programmes. This is understood, given that CEADESE is less than 5 years old of establishment. The panel recommends that CEADESE should consider implementing formal mechanisms in the not too distant future to better evaluate the performance of its graduates.

While the panel highly commends CEADESE for providing information during the site visit, the students need proper access to very important information, especially regarding the regulations of the programmes, duration, requirements for passing and completion of the programmes. Therefore, the experts encourage CEADESE to implement and publish all this information on its website as well as the policies, such as the gender policy, as soon as they are approved by its Senate.

After the completion of the Master or the Ph.D. programme, graduates receive a certificate explaining the content of the respective study programme. Having in mind that FUNAAB decided using a Master and Ph.D. title which is uncommon even within Nigeria, it has to be clear what is behind those specific titles. Although these uncommon degrees have a certain USP potential for the university, FUNAAB should consider a critical reflection concerning the degree naming and the awarding title of the programmes (**Finding 21**). Seeing the potential in the field for the region and Africa, an additional document (e. g. transcript), complementing the certificate and reporting on course specifics in more detail, has to be developed in order to provide potential employees with a full overview about themes and content of the respective study programme (**see chapter IV.2**).

Conclusion

This criterion is partly fulfilled. The current state of transparent information for outsiders needs to be improved to foster the level of attraction within Western Africa.

X. Recommendations of the panel of experts

The panel of experts recommends **to accredit with conditions** the study programme “**Livestock Science and Sustainable Environment**” (M.AgSE) offered by **the Federal University of Agriculture, Abeokuta**.

The panel of experts recommends **to accredit with conditions** the study programme “**Livestock Science and Sustainable Environment**” (Ph.D. AgSE) offered by **the Federal University of Agriculture, Abeokuta**.

The panel of experts recommends **to accredit with conditions** the study programme “**Crop Pasture Production and Sustainable Environment**” (M.AgSE) offered by **the Federal University of Agriculture, Abeokuta**.

The panel of experts recommends **to accredit with conditions** the study programme “**Crop Pasture Production and Sustainable Environment**” (Ph.D. AgSE) offered by **the Federal University of Agriculture, Abeokuta (FUNAAB)**.

The panel of experts recommends **to postpone the decision** for the study programme “**Agricultural Mechanization and Sustainable Environment**” (M.AgSE) offered by **the Federal University of Agriculture, Abeokuta**.

The panel of experts recommends **to postpone the decision** for the study programme “**Agricultural Mechanization and Sustainable Environment**” (Ph.D. AgSE) offered by **the Federal University of Agriculture, Abeokuta (FUNAAB)**.

Findings:

For all programmes:

1. CEADESE has to establish a systematic course evaluation for each course/module.
2. The format of the documentation of the programmes should be standardized across the Centre.
3. An additional document to the certificate, which explains the course specifics, has to be developed so that possible employees can see what graduates have learned within the programme.
4. Being an ACE for sustainable environment, the curricula and thus the course descriptions for all programmes have to take into account the social and sustainable component of each module taught at CEADESE. Additionally, the course descriptions have to be formulated in a competence-oriented manner.
5. To strengthen the programmes on the long run, it will be wise to increase the links to the needs of small farmers.
6. The ACE should create synergies between close disciplines regarding interdisciplinary topics.
7. A variety of examination types should be further developed including new technologies.
8. Within the lectures, the imparting of conceptual thinking among students should be more accentuated in the way of learning.
9. Re-sit options should be considered within the same semester.
10. A more frequent exchange regarding feedback and possible measure between CEADESE and students, graduates and representatives of the labour market should be established.

11. The selection criteria for applicants have to be drafted and published.
12. Qualitative and quantitative data on the admission procedures of past cohorts has to be collected systematically.
13. The centre should forge additional strategic partnerships with targeted private institutions, other universities and international research institutes in Africa and beyond.
14. CEADESE has to transparently describe how the used credit system is linked to student workload to allow comparison with other credit systems.
15. Short termed mobility of students should be fostered. This can be done by cooperation between CEADESE and partners outside Nigeria.
16. More options to upgrade the qualifications of teaching staff members should be offered.
17. The centre should consider implementing post-doc fellows in the programmes.
18. The student handbook/prospectus has to include all necessary information such as course descriptions or examination modes for students.
19. All necessary information including course syllabi have to be made publicly accessible on the CEADESE homepage.
20. It would be beneficial for the programmes to foster the links to the private sectors of the respective disciplines.
21. The degree naming and the awarding title of the programmes should be object of critical reflection.

Additional finding for “Agricultural Mechanization and Sustainable Environment” (M.AgSE):

- M1. The academic reflection clearly has to be visible within the curriculum. The centre has to create courses on sustainable environment regarding the topic of agricultural mechanization.

Finding for the three Ph.D. programmes:

- P1. Specific courses on Ph.D. level have to be introduced in the field of sustainability and theoretical and applied techniques (esp. research). This cannot be replaced with courses on Master level.

Additional finding for the Ph.D. programme “Livestock Science and Sustainable Environment”:

- P2. The crosslinks between the animal-based disciplines and crops have to be focused due to the importance of the integration in environmental sustainability.

Additional findings for the Ph.D. programme “Agricultural Mechanization and Sustainable Environment”:

- P3. It must be assured that the programme reaches the academic level of Ph.D. in Agricultural Mechanization including the intended focus on sustainability (including social and sustainable components).
- P4. The sustainability contents require stronger reflection within the learning outcomes of the programme and specific courses/modules.
- P5. Modules to engage students in simulation and modelling should be introduced, especially for thesis work at Ph.D. level, which can be supported by adequate electives in the first year of the programme.