International evaluation and accreditation

EVALUATION AND ACCREDITATION DOCUMENTS

Doctoral Research Programme in West African Climate Systems

Federal University of Technology Akure

Akure, Nigeria

June 2024

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CONTENTS

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EVALUATION REPORT

Doctoral Research Programme in West African Climate Systems

Federal University of Technology Akure

Akure, Nigeria

February 2024

The WASCAL network (West African Science Service Centre on Climate Change and Adapted Land Use) has mandated the Hcéres to perform the evaluation of the "Doctoral Research Programme in West African Climate Systems" (DRP-WACS) delivered by the Federal University of Technology Akure (FUTA), Akure, Nigeria. The evaluation is based on the "Evaluation Standards of Doctorate/PhD abroad", adopted by the Hcéres Board on January 31st, 2022. These standards are available on the Hcéres website (hceres.fr).

In the name of the expert committee[1] :

Benoit Gabrielle, President of the committee

In the name of Hcéres[1] :

Stéphane Le Bouler, Acting President

The Higher Council for Evaluation of Research and Higher Education (Hcéres) is an independent public authority. It is responsible for evaluating higher education and research institutions, research organisations, research units, and training programmes.

1. In accordance with articles R. 114-15 and R. 114-10 of the French Research Code, evaluation reports are signed by the President of the expert committee and countersigned by the President of Hcéres.

CONTENTS

I. STUDY PROGRAMME IDENTITY SHEET

- Name of the Institution: Federal University of Technology, Akure (FUTA)
- Programme's title: Doctoral Research Programme in West African Climate Systems (DRP-WACS)
- Level and duration of studies: Doctoral Research Programme (PhD) with a three-year target duration
- Location(s) where the facility is located: Akure, Ondo state, Nigeria
- Campus(es): Department of Meteorology and Climate Science, Campus of Akure
- Year of creation and context: 2012, commencement of WASCAL programme in FUTA

This study programme is implemented in the framework of WASCAL (West African Science Service Centre on Climate Change and Adapted Land Use), a large-scale research-focused service centre including 11 West African countries (Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, Ghana, Mali, Niger, Nigeria, Senegal, Gambia, and Togo). Established in 2012, the programme receives funding support from WASCAL and the German Federal Ministry of Education and Research (BMBF).

Each batch of the programme selects and admits one student from each participating country, with full sponsorship provided by WASCAL. Since its inception, each of the five batches has enrolled between nine and eleven students. 28 students from the first three batches have successfully graduated from the programme.

PERSON IN CHARGE OF THE PROGRAMME

- Name, first name: Prof. Zachariah Debo ADEYEWA
- Position held: Director
- Discipline: Satellite meteorology and climate change

RESULTS OF PREVIOUS EVALUATIONS AND QUALITY SYSTEM IN PLACE

This program has undergone a comprehensive national evaluation process in compliance with the requirements of the National Universities Commission (NUC). The NUC, vested with the authority to establish Minimum Academic Standards (MAS) as Benchmark Minimum Academic Standards (BMAS) for universities in the Federal Republic of Nigeria, accredits degree programmes and academic awards. The BMAS serve as a reference for programme accreditation. Periodic official rankings and evaluations conducted by the NUC contribute to the competitiveness of Nigerian universities. The Doctoral Research Programme in West African Climate Systems received full accreditation from the NUC. At an international level, the World Meteorological Organisation (WMO) accredited the two components of the WMO Regional Training Centre (RTC) in Nigeria: the Meteorological Research and Training Institute (MRTI) and the Federal University of Technology, Akure (FUTA). This accreditation was granted in 2019 and reconfirmed in 2022.

Furthermore, the recruitment of PhD candidates and the supervision of their theses within the programme adhere to the standards of the WASCAL network.

HUMAN AND MATERIAL RESOURCES DEDICATED TO THE PROGRAMME

- A pedagogical team including professors and lecturers from FUTA, the host university, and international lecturers and supervisors from West Africa and Germany: 17 Professors, 15 invited Professors, six associate Professors, six invited associate Professors, four others (researchers, lecturers…)
- An administrative and technical staff consisting of seven people, including a finance officer, an office manager, a janitor, and two drivers
- Specialized educational tools (automatic weather station, Roof Top Meteorological Observatory, Weather Satellite Receiver, Automatic Weather Station, Surface Energy Flux Measurement System, etc.), IT resources (12 work stations, and a High-Performance Computer Xeon E4 cluster machine), a video conferencing system including multimedia projectors, and a hybrid system for delivering and receiving lectures online by Zoom
- Digital resources for programme management, follow-up, and communication (external/internal), including access to FUTA'S Integrated Learning Management Solution (FILMS), an online lecture platform, the FUTA blended e-learning platform, Google classroom and Moodle.

NUMBER OF STUDENTS OVER THE EXISTENCE OF THE STUDY PROGRAMME

Batch	Year Group	Male	Female	Total	Graduation
1	2012/2015	8	2	10	10
2	2013/2016	8	1	9	9
3	2016/2019	7	3	10	9
4	2020/2024	9	2	11	
5	2021/2025	8	3	11	
Total		40	11	51	28

II. COMPOSITION OF THE EXPERTS PANEL

- Benoit GABRIELLE, Professor, AgroParisTech, Paris-Saclay University, Chair of the panel
- Christelle MARLIN, Professor, Paris-Saclay University, an expert who took part in the on-site visit and its preparation but not in the evaluation report
- Mathilde COLAS, PhD Student, University of Technology of Troyes, student expert

Hcéres was represented by Pierre COURTELLEMONT, Science Advisor, and Michelle HOUPPE, Head of project (Europe and International Department).

III. EVALUATION PROCESS

DESCRIPTION OF THE ON-LINE VISIT

- Date: 9th October 2023
- Organisation of the visit: before the visit occurred, the self-assessment report and numerous appendices were provided to the experts. The e-visit took place over one day. Supplementary documents requested by the panel members were promptly sent after the visit.
- Once written by the panel chair, the report was submitted to all panel members for review.
- Cooperation of the institution to be accredited: perfect cooperation by all stakeholders
- Any problems: no problems identified

PEOPLE MET

9th October 2023

AKURE time	Session	Audience
8:00 – 8:30 am	Opening session with top management	Vice-Chancellor, Deputy Vice-Chancellor (Academics), Dean School of Earth and Mineral Sciences (SEMS), Dean School of Postgraduate Studies (SPGS), Director of Department (HOD, Meteorology & Climate Science), University Librarian, Director of Academic Planning (DAP), Director, International Strategy Office (ISO)
8:30 – 9:45 am	Presentation of the PhD programme & Discussion	Programme Director and his team: Deputy Director, Scientific Coordinator, Finance Officer, IT officer, Office Manager, Head of Department of Meteorology and Climate, Janitor/Cleaner
	Break	
10:00 -11:30 am	PhD teaching staff and supervisors	A representative panel of eight professors from the program in terms of position, status, discipline, nationality
	Lunch Break & debriefing	
1:00 – 2:00 pm	Alumni & Employers of the PhD programme	A representative panel of five alumni from the programme in terms of position, status, discipline, nationality and two employers
2:00 – 3:00 pm	PhD Students	Meeting with a representative panel of eight students from the programme under evaluation in terms of gender, nationality, year of studies, learning arrangements, etc.
3:00 – 4:00 pm	Preparation of the closing session	
4:00 – 5:00 pm	Closing session (last questions /no restitution)	Study programme director only
	Debriefing	

Around 35 participants were met during the on-line visit.

IV. OVERALL PRESENTATION

Since its inception in 2012, the WASCAL (West African Science Service Centre on Climate Change and Adapted Land Use) network has been dedicated to addressing climate change challenges through capacity building initiatives. By educating future scientists, WASCAL seeks to assist West African countries in developing appropriate management strategies.

Funded by the German Federal Ministry of Education and Research (BMBF), WASCAL aims to enhance the research infrastructure and capacity in West Africa concerning climate change by pooling the expertise of eleven West African countries and Germany. Each country hosts at least one programme. Typically, each batch of every programme trains around 11 students from the 11 partner countries, who receive a full scholarship scheme funded by WASCAL until they graduate.

The WASCAL PhD programme "Doctoral Research Programme in West African Climate Systems" (DRP-WACS) is delivered by the Federal University of Technology Akure (FUTA), a leading university of technology in Nigeria. In the most recent Webometrics Ranking of World Universities (July 2022 Edition), FUTA was ranked as the top university of technology in Nigeria, the second-best federal university in Nigeria, and the fifth-best among all universities (around 250, including public and private institutions). Established in 1981, FUTA has experienced significant growth, expanding its academic disciplines and research activities across eight different schools and over fifty academic departments. As of 2023, FUTA accommodates approximately 23,000 students (comprising 17,500 undergraduate and 5,500 postgraduate students), is organised into eight schools and 58 departments, and is supported by a staff of 2,800. The PhD programme is operated by the Department of Meteorology and Climate Science within the School of Earth and Mineral Sciences.

DRP-WACS is the sole programme in Nigeria and within WASCAL network offering specialised training in comprehensive science and applications of meteorology and climate science in all its aspects. It stands out distinctly in complementing other climate-related programmes across WASCAL countries. Thus, the programme holds a unique and exceptional position within the local, national, and regional context of West Africa. The objectives for DRP graduates are to secure employment as consultants for esteemed organisations such as the World Meteorological Organisation (WMO), the World Bank (WB), and the Intergovernmental Panel on Climate Change (IPCC). To date, the programme has successfully trained and graduated 28 PhD students from the first three batches and is currently providing training to 22 students in the 4th and 5th batches of the programme.

PRESENTATION OF THE PROGRAMME'S SELF-ASSESSMENT APPROACH

Upon the request of WASCAL management, the doctoral research programme (DRP) is currently undergoing an external evaluation by Hcéres in preparation for accreditation. The DRP management team has taken on the responsibility of drafting the self-evaluation report, with input from the pedagogical team, alumni, potential employers, and PhD students. The self-evaluation process, desk evaluation, and requisite online visits occurred between May 2022 and October 2023. The Board has made the decision to expand the existing committee on national accreditation to include relevant directorates and personnel within the University (University Accreditation Committee and Academic Planning) in order to conduct the self-evaluation with the aim of obtaining an international accreditation from Hcéres.

V. EVALUATION REPORT

FIELD 1: DOCTORAL POLICY

The DRP-WACS focuses on the fundamental, cross-cutting topics of climate and meteorological systems within the WASCAL network. Its presence holds a unique and critical position within this sub-regional partnership, justified by the esteemed reputation of FUTA in climate and atmospheric sciences. Managed by the Department of Meteorology, accredited by the World Meteorological Office in 2016 for training personnel from BSc to PhD levels, FUTA continues to be recognised as a WMO regional training centre in 2024. Alongside with three other universities in West Africa specialising in agro-meteorology, air pollution, or meso-scale meteorology, FUTA's inclusion in the WMO training centre fosters mutual benefits in terms of international visibility and the quality of training and research programmes.

The DRP-WACS is qualified as a "highbrow programme" by the vice-chancellor of FUTA, acknowledged in its 2016-2020 strategic plan for its contribution towards establishing FUTA as "an international centre of excellence in doctoral training, research and service delivery in Meteorology, Climate Science and related fields." Its trajectory aligns with university-wide strategies geared towards internationalisation, excellence in teaching, research, innovation, and programme development. FUTA extends material support to the DRP in terms of student accommodation, library and Internet access, as well as access to laboratory facilities and classrooms. It is noteworthy that 17 out of the 42 professors or lecturers (40% of the teaching staff) involved in teaching or supervising PhD candidates within the DRP-WACS are affiliated with the Department of Meteorology, or with other FUTA departments. 52% are invited from other universities in Germany (36%) South Africa, West Africa, Poland, and the USA.

The DRP is open to a broad spectrum of disciplines encompassing meteorology, climate science, climatology, geography, atmospheric physics, agriculture, hydrology and water resources management, and mathematics. Thus, it attracts candidates from a large range of Master's graduate programmes across the West African subregion, irrespective of their specific academic backgrounds. Locally, the main partner of DRP-WACS includes the regional WMO training centre, hosted by the Department of Meteorology, and the National Meteorological Agency. Internationally, apart from collaborations within the WASCAL network and its competence centre, the programme has established strong partnerships with universities or research centres in South Africa and Germany. These partnerships offer access to valuable data and high-power computing facilities, and also contribute to the supervision of PhD candidates. However, the specific affiliation of these candidates with research centres or individual laboratories remains unclear.

The DRP considers the social, economic, and environmental needs of the 11 countries participating in WASCAL. This network has a Ministerial Council that brings together all the higher education and research ministers. This Council defines broad themes based on the specific needs of the member states. These themes are then translated into research questions, forming the basis for thesis topics within the DRP. In 2022, the DRP-WACS organised a "Climate Change Stakeholders' Workshop" to "*showcase opportunities for mutual collaboration in solving climate change induced challenges and associated environmental issues, as well as unveiling the relevance of WASCAL research outputs to ministries, agencies, departments, government and non-governmental organisations, as well as private organizations*."

The involvement of socio-economic stakeholders in the DRP-WACS beyond this workshop and the WASCAL-wide schemes has been limited. While PhD projects originate from graduate students or DRP researchers, there are no formal relationships established between the programme and the various stakeholders mentioned. Despite mentions of these stakeholders during the panel visit, no structured collaboration exists. The academic orientation of this programme is underscored by the fact that most alumni (19 out of 23 – see Field 3) have secured positions in universities or research centres. This academic focus may constrain the programme's ability to address boarded socio-economic challenges, as outlined in its objectives. This mitigates its overall impact considering the DRP aims at "*providing transformative climate management solutions to atmospheric, agriculture, water resources, health, coastal, urban issues, environmental and other socio-economic problems occasioned by the interplay of extreme weather and climate*" (as stated in its application form). However, programme management has reported evidences of DRP graduates advising international organisations such as IPCC or WMO.

In 2022, the DRP implemented a comprehensive ethics policy covering research and individual conduct, which applies to all stakeholders involved in the programme, with a particular focus on students and staff. PhD candidates are granted access to all documentary and digital resources available to FUTA students, as along with resources specific to the WASCAL programmes.

The initial training programme of DRP-WACS includes a comprehensive course on research methodology and scientific writing, which is of paramount importance for PhD candidates. This component is designed to equip candidates with the necessary skills to publish two articles in journals with "high impact factors" before defending their theses. The programme also encourages participation in international conferences. However, the level of involvement in national or international conferences remains limited, as evidenced by only three entries in the overall publication record of the DRP. The number of articles published by DRP graduates stands at 25 for batches 1 to 3, averaging approximately one publication per PhD laureate. This figure falls short of the target mentioned earlier (twice lower), highlighting a discrepancy between the desired and achieved publication output. The scientific output of batch 3, totalling 18 publications, is significantly larger than the combined output of the first two batches, highlighting notable progress in this aspect. However, the standard of achievement varied among graduates. Some of the articles from batch 3 were published in high-standard international journals in the climate and meteorology domain, such as *Atmospheric Research* or *Climate*. This underscored the excellence of the research carried out by DRP candidates and its international recognition, suggesting potential for further enhancement through a pro-active publication policy targeting specific journals and conferences. It is expected that publications and PhD dissertations produced by the DRP would be archived in the open repository operated by WASCAL (*library.wascal.org*). However, the search engine does not include entries specific to doctoral programmes, and, as a result, the PhD dissertations cannot be tracked on this portal. This hampers the visibility of DRP research results and their access.

In terms of partnership and international exposure, the initial training programme includes a study trip to partner universities such as the University of Cape Town in South Africa. The DRP is intrinsically open to an international audience, facilitated by the WASCAL network and its 11 partner countries in West Africa. There are also partnerships with German universities, offering the possibility for PhD Candidates to visit them for up to six months during their research projects. However, this opportunity for mobility and international collaborations was hampered by the Covid-19 pandemic, leading to some students being unable to take advantage of it. These short stays provide a clear added value to the training and research of the PhD candidates, yet a more formal approach to these collaborations (via cooperation agreements or MoUs) would be beneficial.

To conclude, the DRP-WACS benefits from the strong national and international recognition of the Meteorological Department of FUTA, its host university, and its track record of excellence in education and research. The programme deploys a strong training and research programme focused on atmospheric and climate sciences, with relevance to land systems, preparing graduate students to engage with fields such as water management, agriculture, and energy. While the programme interacts with socio-economic stakeholders through outreach activities, there is potential to involve them more actively in the programme design and development to maximise the societal impact of its graduates and their research. The DRP has established both local and international partnerships to provide relevant support, including access to high-power computing facilities. Its scientific output has significantly improved over the years, reaching an excellent standard, although there is room for improvement through a well-designed publication policy and increased visibility and accessibility of research outputs. The DRP also provides international exposure to its PhD candidates through study trips and visits to Germany. However, the underlying partnership could benefit from more formal institutional agreements.

FIELD 2: TRAINING, HOSTING AND SUPERVISION ARRANGEMENTS FOR DOCTORAL STUDENTS

The recruitment procedure complies with the WASCAL policy, wherein positions are advertised across the network's members through their websites and social media platforms. The criteria for admission and academic pre-requisites are clearly outlined in the communication material (e.g., the call for applications), and also comply with the requirements of the host Department at FUTA and its School of Postgraduate Studies. However, despite these efforts, the DRP faces a gender imbalance, with women only accounting for 22% of graduates. The programme neither advertises nor implements a gender policy to address the disparity.

Applications are reviewed by the local WASCAL partners to produce a "shortlist" of up to three candidates, who are then further evaluated by the DRP-WACS sub-committee in charge of admissions.

According to WASCAL regulations, the DRP curriculum is structured in five mandatory steps:

Duration	Object
4 months	Language courses (EN/FR)
6 months	Initial training programme at FUTA
24 months	Data collection in home countries + international mobility
6 months	Thesis drafting at FUTA
3 months	Review of thesis + defence

The official language of the programme is English, and all courses, as well as the thesis dissertations are conducted in English. The initial training programme comprises 21 mandatory courses, with no electives available. Courses are aligned with the core focus of the DRP, providing a comprehensive knowledge on atmospheric processes and their interactions with land and ocean systems, including their modelling. The curriculum covers data acquisition, processing, and analysis, along with applications of climate and atmospheric sciences to areas such as agriculture, water resources, and land use. While the majority of courses (15 out of 19) are dedicated to core disciplinary topics, there are a few courses that integrate cross-disciplinary aspects, such as economics and political sciences. Another course aims to enhance students' skills in scientific writing and literature research. However, there is an overall imbalance in the curriculum, with less emphasis of WASCAL programmes and of DRP-WACS in particular, fostering these interdisciplinary courses could be beneficial. Soft skills (e.g., project management, communication, the ability to work in teams, or leadership) are not explicitly listed as learning outcomes in the DRP Students' Handbook, except for scientific writing. Incorporating these skills more prominently could facilitate PhD research projects. Although, entrepreneurship is part of the overall WASCAL policy, the DRP management considers it out of scope due to the programme's academic orientation.

Courses within the programme feature both lectures and practical approaches, with a particular emphasis on simulation modelling and data analysis. A large majority of them are delivered by professors and lecturers from universities other than FUTA, with affiliations spanning across Nigeria, other West African countries, Germany, Poland, and the USA. While the academic input is substantial, it is regrettable that socio-economic stakeholders are not involved in course delivery to provide their perspectives. Given the societal relevance of the PhD projects, their input could enrich the learning and provide valuable insights into real-world applications.

A syllabus is available for all courses within the DRP-WACS' Students Handbook. However, the Handbook does not specify the procedures for evaluating the skills acquired during these courses. Despite this, all DRP students have successfully completed the training programme so far. Students are invited to provide feedback on courses, along with "invited guests" (as specified in the self-assessment report) and employers, through a rating form (see Field 3). This feedback is reviewed by the programme management and has influenced the introduction of new courses in the past. However, there is room for improvement in this process, particularly in formalising and systematising it through a quality assurance procedure. Establishing a mechanism for coordinating courses and preventing overlaps would be beneficial. Currently, there are no pedagogical meetings organised to discuss, review, and improve the overall training curriculum with the lecturers and professors.

PhD candidates develop their research proposals throughout the training programme, receiving guidance from the DRP management and incorporating input from course lecturers and Department staff. This process occurs through regular proposal seminars. At the end of this 6-month period, candidates defend their research proposals for approval by the Senate of the Graduate College of FUTA. The DRP management ensures that the proposed projects are feasible within the time and resources. The management suggests and appoints supervisors for the candidates, issuing them with contracts that specify their duties and roles. Although the self-assessment report states that: "*the position of lecturers, advisors, supervisors and examiners are opened to qualified academics all over the world through international partnerships*", there is no formal evidence demonstrating the openness, and the DRP governance does not effectively oversee this respect. The supervision policy is not adequately documented in the Students Handbook, beyond the requirement for supervisors to be vetted by the Academic Board of the SGPS. Although the WASCAL network recommends including a supervisor from the students' home countries and one from a German university to foster international exposure, the programme lacks formal agreements (e.g., MoUs) with German universities. During the panel visit, a directory of potential supervisors was mentioned, but PhD students reported difficulties in finding suitable supervisors and organising the visits to Germany. The absence of cross-disciplinarity requirements in the supervisors' team also hampers the interdisciplinary nature of the DRP research, which is clearly claimed and advocated in its strategic plan for 2021-2025.

During the field work, data collection, and analysis phases, the progress of PhD candidates is monitored through quarterly reports, as per WASCAL rules, and regular meetings with the supervisory teams. However, current DRP students mentioned difficulties in arranging such meetings during the panel visit. The DRP governance lacks formal oversight of thesis supervision, and there are no mediation mechanisms in place in case difficulties between PhD candidates and their supervisors should they arise.

The criteria for defending a PhD thesis are clearly outlined in the FUTA "Handbook of the School of Post-Graduate Studies". However, this handbook does not explicitly mention the requirement for the publication of scientific articles. According to the self-assessment report of DRP-WACS, its policy requires the publication of two articles in "high impact journals" prior to the defence.

PhD candidates benefit from very good material conditions concerning digital and physical environments within the institution (e.g., conference room, classrooms, computer room and computing power, Internet access, access to digital resources and scientific literature). However, there are challenges in accessing high power computing (HPC) resources, particularly for earth system models and climate data requirements. Collaborations with partners in Germany and South Africa were mentioned during the panel visit as potential solutions to address this issue. Nonetheless, concerns have been raised by students and alumni regarding the budget constraints associated with a visit to Germany, which can be costly and must be accommodated within their overall research budget. It is recommended that the terms of hosting doctoral students within research laboratories be clearly specified in hosting agreements to address such concerns.

To conclude, the DRP-WACS implements a high-quality and transparent recruitment process. The initial training programme equips PhD candidates with the disciplinary knowledge and skills they need to address issues relating to atmospheric and climate sciences, in relation to land systems. Students benefit from a high-quality and international pedagogical team. However, there is a limited involvement of socio-economic stakeholders, whose perspectives could provide a clear added-value to the DRP. The supervision scheme for research projects lacks formalisation and monitoring by the DRP governance, highlighting a need for further guidance. Hosting arrangements for PhD students in research laboratories require better definition to address concerns. While doctoral students benefit from adequate material and financial conditions, challenges remain in accessing high-power computing capacities and data. International exposure opportunities, such as visits to Germany, are encouraged but may require further facilitation by the DRP management. Finally, the criteria for the final Ph.D. defence are clearly defined at the level of the School of Post-graduate Studies (SPGS) and tailored to the DRP.

FIELD 3: THE ATTRACTIVENESS, PERFORMANCE AND RELEVANCE OF THE DOCTORATE

The number of applications has increased from batch 1 to batches 2 to 4 with a plateau around 40 applications, followed by a sharp increase for batch 5 (see Table below). With a maximum of 11 spots available, this implies a 1 to 2-5 ratio of spots to applicants for batches 1 to 4 (which is fair), to 1 to 12 for batch 5 (highly competitive).

Batches	Number of applications
1	20
2	35
3	50
4	43
5	129

This trend reveals a notable progress in quantitative attractiveness but does not allow for an assessment of qualitative attractiveness. The data provided for batch 5 shows that the number of applications is much larger in Nigeria compared to other WASCAL countries (82 versus a range of zero to eleven), raising concerns about the visibility of DRP-WACS outside of its host country. Similar to other WASCAL programmes, there is a low proportion of women applying to and admitted into the DRP, with only 16% and 19% respectively for batch 5.

While the DRP implemented a clear admission process involving a pre-selection by WASCAL partners and scoring sheets, it lacks a mechanism to monitor its attractiveness and analyse its application data. The Quality Assurance and Monitoring Unit of FUTA is not involved in the recruitment process, which is further constrained by the pre-selection procedure established by the WASCAL network. An analysis of the recruitment pool would enable the programme to guide information campaigns to guarantee a sustainable and equitable distribution of

qualitative attractiveness across genders and member countries. "Inadequate visibility" is mentioned as a weakness in the self-assessment report.

In terms of performance, the DRP has achieved a 100% success rate for its first two batches, with only one student dropping out from batch 3. The progress of students is monitored by the DRP management through regular reports every three to six months), without further oversight by larger governing bodies. There were no reports of significant delays with thesis defences in the self-assessment report nor during the panel visit. Yet, difficulties with the visits to Germany were reported, and currently, no formal mechanisms are in place to alleviate such issues.

The career paths of the DRP-WACS graduates are closely monitored by the management, and documentation is maintained for all 28 graduates. All graduates are fully employed, with 80% of them holding positions in academia as pot-doc researchers, lecturers, or professors in prominent national public institutions. Within less than ten years after graduation, alumni from batch 1 have attained senior Lecturer positions or leadership roles in renowned universities across the sub region. Some post-doc researchers have gained international exposure through positions in countries such as South Africa, Germany, or the USA. Outside of academia, which remains the primary focus of the DRP, alumni have found employment in national public institutions (e.g., the Met Agency of Burkina Faso) as well as in international organisations (WMO, the African Development Bank). While the DRP has been successful in capacity-building for the academic sector and national/international agencies in the meteorological sector, its impact on the private sector, NGOs, and stakeholders outside the meteorological and climate sectors has been less significant. However, the programme aims to "*bridge the skills gap by providing climate management solutions to agriculture, water resources, health, coastal, urban issues, environmental and other socio-economic problems occasioned by the interplay of extreme weather and climate*" (quoted from the slides presented during the panel visit).

From this perspective, the DRP is actively engaged in outreach activities and partnerships (e.g., with IPCC or the African Development Bank). These partnerships offer opportunities to leverage the impacts of the DRP's research toward socio-economic stakeholders. The DRP can facilitate the market transfer of innovations arising from its research through channels such as WASCAL Climate services branch and competence centre. Both of these aspects should be encouraged and further developed.

Alumni associations exist at both country and programme levels within the WASCAL network, and they have platforms on social media. The DRP-WACS alumni are expected to contribute to courses, research, and outreach activities. However, interactions between the alumni and the DRP management remain minimal based on feedback gathered during the visit. Leveraging the support and expertise of the alumni network presents an opportunity to enhance the visibility of the DRP and develop partnerships with a broader range of stakeholders.

To conclude, the DRP has established clear admission procedures and benefits from the well-structured WASCAL network in West Africa. While it only attracted a moderate number of applications for its latest four batches, it experienced a surge in applications for batch 5. This increased attractiveness is uneven across WASCAL countries, and could be boosted by a qualitative analysis of applications and a targeted promotion of the DRP, especially among women. Despite this, the programme features a 100% success rate for graduates and a strong job market integration, primarily within academia and meteorological agencies. To maximise its impact, the DRP should strengthen interactions with private and public stakeholders involved in climate change and encourage greater involvement from alumni in training, research, and programme promotion.

FIELD 4: MANAGEMENT AND CONTINUOUS IMPROVEMENT OF THE DOCTORATE

Doctoral supervision policy is the responsibility of the School of Postgraduate Studies (SPGS) at FUTA. This overseeing body coordinates and manages the postgraduate training programmes (recruitment, implementation and graduation), as DRP-WACS, in accordance to established rules and regulations. To provide a comprehensive framework for its study programme, the SPGS provides various documents, including the *Prospectus of the School of Post Graduate Studies*. This prospectus is regularly reviewed and updated to align with international standards and outline procedures and rules for the effective management and administration of postgraduate programmes. This document delineates channels of communication to be followed in case of any grievances or concerns regarding the quality of service received by students or staff. In addition to the prospectus, the SPGS also offers a *Handbook of the School of Postgraduate Studies*, which serves as a guide to support students throughout their academic journey, from admission to graduation. These documents are made available to all stakeholders on programmes like DRP-WACS, ensuring transparency and clarity in programme operations.

The DRP-WACS operates within the School of Earth and Mineral Sciences (SEMS), taking an interdisciplinary approach to training and research. The programme is administered by the Department of Meteorology and

Climate Science (MCS), which oversees the entire process of doctoral supervision, from admission to thesis defence. The MCS is also responsible for reviewing the various curricula hosted within its department.

The FUTA Advisory Board of DRP-WACS holds the responsibility of overseeing the proper functioning of the programme. Academic matters pertaining to the programme are thoroughly examined by an academic sub-committee within this board, which subsequently submits recommendations to the University's Senate for approval. Additionally, an International Advisory Board convenes at least annually to review the programme's activities and ensure alignment with international standards. To guarantee its sustainability in the medium term, the DRP drafted a *Strategic Plan* outlining its objectives and strategies. Direct management of the programme is entrusted to an executive team and technical support staff based at the university's WASCAL Centre. This management team handles both administrative and academic aspects of the programme, ensuring adherence to the directives of the FUTA Advisory Board and the SPGS.

Various documents are available to stakeholders involved in the programme. A second handbook (*Student Handbook*) is available for DRP-WACS students, tailored specifically to assist them throughout their thesis journey. This handbook mentions an Ethical Policy and a cautionary note on plagiarism. Furthermore, an *Ethics Policy Statement* has been developed for all stakeholders engaged in the DRP-WACS programme, aimed at promoting best practices. This statement includes a proposed code of conduct and ethics for programme staff, contributing to the effective organisation and administration of the programme (*Ethics and Regulations for DRP-WACS Staff*). In addition to the criteria established by the SPGS, the doctoral supervision process also adheres to WASCAL standards, regarding the recruitment and supervision of PhD students.

The management of the programme is effective and the doctoral supervision policy adheres to clear and well-defined criteria. The recruitment procedure follows established guidelines set forth by WASCAL, the FUTA Department, and the SPGS. However, to further enhance the inclusivity of the programme, it would be beneficial to implement a gender equality recruitment policy aimed at increasing the representation of women. Moreover, the establishment of additional support documents for students, such as a publication guide or an anti-plagiarism guide, would be beneficial. The creation of a pedagogical council, adapted to the specific needs and context of the programme, could foster collaboration among professors, facilitate ongoing review and improvement of the training curriculum, monitor supervision arrangements and student progress, and address other relevant matters.

FUTA's human resources policy takes into account the needs of doctoral programmes, allowing for adjustments in staffing levels as necessary to support the satisfactory running of programme activities. While this aspect is not extensively elaborated upon in the self-assessment report, it is evident that the management of the DRP relies on an effective and adequately sized management team. The teaching and research activities within DRP-WACS are carried out by a team of high-quality academic staff, all of whom are dedicated to meeting the programme's needs and ensuring its successful implementation.

The university, facilitated by the SPGS, promotes collaborative research and encourages incoming mobility. PhD supervisors are incentivised to participate in mobility programmes through funding allocated to research projects in collaboration with local or international partners. The self-assessment report indicates that supervisors have access to occasional seminars or programmes by the SPGS for training purposes, although it highlights a weakness in the insufficiency of available training for supervisors (SWOT analysis). While efforts are mentioned to improve the quality of training and supervision through collaboration with the postgraduate committees of FUTA Schools, there is no evidence provided to support these efforts. In the threats associated with the SWOT analysis, it is specified an: '*Inadequate academic staff remunerations and conditions of service encourage brain-drain to "greener pastures"*. In other words, conditions for supervisors are not favourable and would benefit from improvement. However, there is no internal policy or actions by the DRP itself regarding human resources and career development for its staff and supervisors.

The implementation of the programme enhances the training curricula offered by the Department. By training PhD students, the programme helps build the university's capacity in meteorology and climate sciences. It involves various stakeholders, with PhD students being central to the training and research efforts. These stakeholders work together to strengthen knowledge in meteorology and climate sciences across various fields (energy, agriculture, water resources, etc.). Additionally, the programme focuses on enhancing research skills, establishing research partnerships and networks (including alumni working in various structures), and facilitating participation in numerous research projects both locally and internationally. This capacity building promotes the collaborative approach advocated by the SPGS and contributes to FUTA's reputation for excellence in meteorology and climate systems not only in Nigeria but also in the wider West African sub-region and internationally.

The self-assessment report mentions that, with the expertise acquired over the years, support mechanisms for courses, fieldwork and dissertation work, have been gradually implemented so that PhD students can complete

their doctorate on time. Regarding the evaluation of doctoral training, students are given the opportunity to provide feedback on courses through a structured form. Then the management team reviews these comments and takes the necessary steps to improve the programme. For instance, new courses have been introduced based on student demand. Furthermore, the University has internal mechanisms in place to monitor the supervision of PhD students. This includes a quarterly student-supervisor evaluation form, ensuring that both courses and supervision undergo continuous improvement. Although support mechanisms exist to address the specific needs of students, the report suggests that integrating these efforts into a formal quality assurance procedure would be beneficial for the programme. It would also be useful to introduce mediation mechanisms to resolve any difficulties that may arise between PhD students and supervisors.

During the visit, only little information was given in the overall evaluation process about quality assurance. FUTA includes a Quality Assurance and Monitoring Unit (QAMU) in its organisational chart. According to the university's website, the QAMU defines references related to capacity building for staff, self-evaluation, evaluation of academic activities, and setting of standards. It also mentions a *Quality Assurance Policy* and a *Quality Assurance Handbook*, although these are not yet available on the university's website. QAMU collaborates with professors and students to evaluate service delivery, review processes, and establish benchmarks for assessing and enhancing the quality of training and research. It also coordinates its activities across various units, including WASCAL Centres, departments like MCS, and schools such as SEMS. As FUTA's quality assurance system is still under development, it is not yet fully operational to ensure the quality assurance and continuous improvement of a programme such as DRP-WACS.

To conclude, the DRP-WACS relies on dedicated and qualified staff managing the programme and an internationally diverse teaching staff engaged in student supervision. While the programme possesses sufficient human, material, and financial resources, there is room for improvement in the conditions for supervisors, which could enhance the overall effectiveness of the programme. The programme would benefit from the introduction of an internal policy or actions to promote career development of DRP supervisors and staff. The recruitment procedure for PhD students is well defined and aligned with criteria established by relevant stakeholders. Moreover, students have opportunities to provide feedback on courses and supervision, contributing to ongoing quality improvement efforts. However, there is potential to enhance the quality assurance procedure by aligning it more closely with departmental and university policies, particularly as FUTA's quality policy is still evolving.

VI. CONCLUSION

The DRP-WACS operated by FUTA within the WASCAL network, leverages the esteemed reputation of its host Department and its affiliations with organisations such as the World Meteorological Organisation. Its focused approach on atmospheric sciences and their interactions with the land system positions the DRP as a key component within the WASCAL network, primed to engage with disciplines like water, energy, and agriculture sciences and engineering. The programme's potential to address societal issues related to land-atmosphere and climate interactions is strong, underscored by its growing outreach initiatives with national and international organisations.

With an impressive track record in scientific publications, successful PhD candidate outcomes, and alumni integration into the job-market, the DRP significantly contributes to academic capacity building within the African sub-region. Adequate support is provided to PhD candidates in terms of financial means, human resources, and infrastructure. However, its governance could be more inclusive and more transparent, while overarching quality procedures are still absent. The recent surge in applications reflects the programme's growing attractiveness, yet targeted promotional efforts and the implementation of a pro-active gender policy could further enhance its reach. The DRP management is also encouraged to cultivate broader partnerships with socio-economic stakeholders to amplify its societal impact and contribute meaningfully to adaptation and climate change mitigation efforts in West Africa.

STRENGTHS

In general, for the WASCAL network

- A well-structured international network of partner universities that ensures high-quality recruitment of PhD students on an international level, and a top-level opportunity for capacity-building across West Africa on climate change
- A thematic focus on a cross-cutting topic with high societal and scientific relevance to West Africa, aligned with well-established needs for public and private decision-making, as well as research and higher education
- An efficient foreign languages and inter-cultural training
- An organisation with adequate support in terms of financial means, human resources, and infrastructure
- A well-formalised and documented framework to select, host, and supervise PhD candidates
- A support of the WASCAL regional Competence Centre, which centralises the data collected by PhD candidates and which researchers can capitalise on

Specific points to WACS programme

- A DRP hosted by an excellent University Department in meteorology and climate sciences, benefiting from the recognition of the World Meteorological Office
- An excellent track-record of scientific publications, evidencing the relevance and high-quality of the research conducted by PhD candidates
- An excellent track-record of job-market integration for graduates, with a strong focus on the academic sector
- Significant and relevant outreach activities, in relation with national and international organisations (Intergovernmental Panel on Climate Change, World Meteorological Organisation or the African Development Bank)

WEAKNESSES

- A visibility which should be boosted to attract more candidates, especially from outside of Nigeria
- A lack of quality assurance processes in general, in particular regarding PhD supervision and course evaluation
- A governance scheme lacking proximity with professors and supervisors
- Little involvement of socio-economic stakeholders in the training programme or PhD projects, mitigating the impact of this programme outside of academia
- A lack of specific courses on project development and entrepreneurship
- A lack of a structured partnership with German institutions, hindering the organisation of visits by PhD students
- Limited interactions with the alumni network, which contributes marginally to the DRP

RECOMMENDATIONS FOR THE INSTITUTION

- Build on the recent surge in applications to analyse applications and increase the attractiveness of the programme, especially among women and candidates from outside of Nigeria
- Deploy a quality assurance system for all aspects of the DRP, from students' recruitment to the monitoring of their career path with the help of the QAMU and in line with national and WASCAL standards
- Set up a closer and more inclusive governance, including students' representatives
- Set up annual pedagogical meetings to discuss, review, and improve the overall training curriculum with all lecturers and teachers,
- Structure/formalise partnerships with a set of well-identified and recognised German institutions to improve collaborations with them
- Foster collaborative, cross-disciplinary research between researchers involved in the DRP and develop interfaces with research centres working on water, energy, or agriculture-related issues
- Introduce courses focusing on soft skills and entrepreneurship in the initial training programme
- Define a consistent and effective publication policy and improve the support to PhD candidates in the publication process.

VII. OBSERVATIONS OF THE INSTITUTION

FEDERAL UNIVERSITY OF TECHNOLOGY

P.M.B. 704, AKURE, ONDO STATE, NIGERIA

Doctoral Research Program in West African Climate Systems

WASCAL West African Science Service Centre on Climate Change and Adapted Land Use

Vice-Chancellor

Professor Adenike T. Oladiji, ***FAS***

B.Sc, M.Sc, Ph.D (Ilorin)

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Director, DRP-WACS

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Ref. No.: FUTA/DRP-WACS/HCERES/024/02 6th April, 2024

Stéphane Le Bouler,

Hcéres acting President

Dear President,

Comments on Some of the Issues Raised in the Provisional Evaluation Report on the Doctoral Research Programme in West African Climate Systems [FUTA]

On behalf of the Vice Chancellor, Professor Adenike T. Oladiji, and the Advisory Board of the WASCAL Doctoral Research Programme in West African Climate Systems at the Federal University of Technology, Akure, I extend our sincere gratitude for the opportunity to undergo international evaluation of our programme under the auspices of Hceres. We are truly appreciative of the immense resources, time, and diligence invested by the evaluators throughout the evaluation process.

Having carefully reviewed the provisional report, we wish to address certain issues that we believe stem from misunderstandings regarding some of the documents presented during the evaluation process. We offer the following responses and clarifications to provide further insight into these matters.

We trust that these explanations shed light on the areas of concern and contribute to a better understanding of our programme. Once again, we express our gratitude for the thorough evaluation and the opportunity to provide these clarifications.

Please accept our best regards,

Professor Z. Debo Adeyewa
6th April, 2024
Director,
Doctoral Research Program in West African Climate Systems (DRP-WACS)
West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL)
Federal University of Technology, Akure
Nigeria

Comments on Some of the Issues Raised in the Provisional Report

1. A governance scheme lacking proximity with professors and supervisors.

Specific Mentions/Remarks:

(i) Bullet 3 under Weaknesses in Conclusion Section on page 15:

"*A governance scheme lacking proximity with professors and supervisors*".

(ii) Under FIELD 2: TRAINING, HOSTING AND SUPERVISION ARRANGEMENTS FOR DOCTORAL STUDENTS; first paragraph, lines 3 – 5, page 11:

"*The DRP governance lacks formal oversight of thesis supervision, and there are no mediation mechanisms in place in case difficulties between PhD candidates and their supervisors should they arise.*"

(iii) Under FIELD 2: TRAINING, HOSTING AND SUPERVISION ARRANGEMENTS FOR DOCTORAL STUDENTS; paragraph 4, lines 6 and 7 on page 11:

"*The supervision scheme for research projects lacks formalisation and monitoring by the DRP governance, highlighting a need for further guidance.*"

(iv) Under FIELD 3: THE ATTRACTIVENESS, PERFORMANCE AND RELEVANCE OF THE DOCTORATE; second paragraph, lines 2 and 3 on page 12:

"*The progress of students is monitored by the DRP management through regular reports every three to six months), without further oversight by larger governing bodies.*"

(v) First paragraph, last sentence, page 14:

"*It would also be useful to introduce mediation mechanisms to resolve any difficulties that may arise between PhD students and supervisors.*"

Our Response/Remarks:

DRP-WACS has a very strong governance scheme for supervision during fieldwork and thesis supervision. It maintains a good relationship and close interactions with professors and supervisors engaged in its doctoral programme. This commences from students' proposal development and runs through proposal presentations, progress seminars until final defence of thesis. The quarterly meetings are statutory and reported at Advisory Board meetings. The attached **Appendix 1** is an extract of a report presented at a recent Board meeting (pages 8-10) where the report of interaction with Batch 5 students and their supervisors were presented. The report highlighted strengths and weaknesses discussed with each student as well as resolutions of conflict with some few students and their supervisors arising from communication issues. It is therefore a good example of dynamic resolution of conflicts. At other times, DRP-WACS management had scheduled meetings specifically to address challenges and salvage situations arising from student-supervisor relationship or when a student appears to be lagging behind in his/her research programme.

It is also imperative to state that DRP-WACS enters into a formalised contractual agreement with supervisors with strict provisions and terms of engagement. The fact is that not all supervisors complete the thesis work with some students in view implementations of contractual provisions. **Appendices 2(a) and 2(b)** are typical examples of signed contracts with a major and a co-supervisor for the same student. It also shows that the terms are stricter for the major supervisor in view of the higher responsibility placed on him/her.

It is also necessary to state that reports of monitoring activities on our doctoral students are reported to higher authorities; the DRP-WACS Board (as in **Appendix 1**) and also to the Director of Capacity Building of WASCAL on quarterly and semi-annual basis. We have never had any cause to report cases that could not be handled to the Director of Capacity Building for intervention. This is one of the reasons for our good performance in students' timely and scheduled completion rates including non-delays in the completion of thesis work by students.

We therefore wish to conclude that the governance scheme of the programme has been very effective and we are confident that most students and other stakeholders would attest to this.

2. A lack of a structured partnership with German institutions, hindering the organisation of visits by PhD students:

Specific Mentions/Remarks:

(i) Bullet 6 in Weaknesses under Conclusion on page 15:

"– the programme lacks formal agreements (e.g., MoUs) with German universities.

(ii) Similar comments are referred to in line 11-15 of last paragraph in field 2, page 10:

During the panel visit, a directory of potential supervisors was mentioned, but PhD students reported difficulties in finding suitable supervisors and organising the visits to Germany."

(iii) Under FIELD 3: THE ATTRACTIVENESS, PERFORMANCE AND RELEVANCE OF THE DOCTORATE; second paragraph, lines 4 and 5 on page 12:

"Yet, difficulties with the visits to Germany were reported, and currently, no formal mechanisms are in place to alleviate such issues"

(iv) A similar comment was made in the second paragraph, lines 7 and 8 on page 9:
"…yet a more formal approach to these collaborations (via cooperation agreements or MoUs) would be beneficial".

Our Response/Remarks:

1. The sponsors of the programme (BMBF) and WASCAL actually envisaged the challenges of fixing many doctoral students in German institutions. Therefore, a central coordinating arrangement was made for a structured partnership with German institutions on behalf of all doctoral programmes. The first appointed German facilitator was Prof. Ame Korzinger, of the GEOMAR Helmholtz Centre for Ocean Research Kiel, Germany. For Batches 4 and 5 Students, Dr. Michael Thiel of the University of Würzburg, Germany was appointed and he is being assisted by Sabine Oppmann. He has been facilitating the partnership with key German institutions on behalf of WASACAL to ensure that every student has a German supervisor and a host for the 6-month research trip to Germany.

2. Apart from this central arrangement, DRP-WACS has established relationships and contacts with German institutions and they have been involved in teaching, providing access to laboratories, hosting and supervision of our students over the years. It noteworthy that DRP-WACS maintains existing project collaborations with some of these German institutions amongst which are, (i) Greenhouse gas emissions and mitigation options under climate and land use change in West Africa: A Concerted Regional Modelling and Assessment (CONCERT-West Africa); and (ii) Land Surface Processes as a Determinant of Climate Change in Africa – Scenarios, High-Resolution

Modelling and Development of a Stakeholder Data Portal LANDSURF linked with the WASCAL Research Agenda Programmes (WRAP). DRP-WACS is currently working on MoU with one of the prominent institutions on the list of institutions that have featured regularly in lecturing, supervising and hosting of students in Germany over the years.

3. It is unarguable that signed MoUs with partner Universities in Germany would be beneficial for mutual benefits, especially our students. However, due to the diverse nature of students' fields of interest and topics, it would be practically impossible to establish MoUs with all potential institutions that our students could visit. Our experience has shown that institutions of interest vary with different batches of students.
4. In practical terms, almost all our Batches 4 and 5 students have German supervisors. This is attested to by the list of German supervisors presented in **Appendix 3**. Only two exceptions: a Batch4 student who did not go to Germany because he is working on a project with an American supervisor in NASA. Similarly, one of the Batch 5 students chose to work with a supervisor in Spain with no need to go to Germany.
5. In summary, the existing partnerships with German colleagues are working well in terms of securing German supervisors and host institutions. This is being complimented with the formalized or structured facilitation of the partnership with German Universities through Dr. Michael Thiel. It is desirable to have signed MoUs with German institutions and we are presently working on this.

3. Publication Issues:

Specific Mentions/Remarks:

(i) Under FIELD 1: DOCTORAL POLICY; paragraph one, lines 6 to 10, page 9:

"The number of articles published by DRP graduates stands at 25 for batches 1 to 3, averaging approximately one publication per PhD laureate. This figure falls short of the target mentioned earlier (twice lower), highlighting a discrepancy between the desired and achieved publication output. The scientific output of batch 3, totalling 18 publications, is significantly larger than the combined output of the first two batches, highlighting notable progress in this aspect."

(ii) Paragraph 2, page 11:

"The criteria for defending a PhD thesis are clearly outlined in the FUTA "Handbook of the School of Post-Graduate Studies". However, this handbook does not explicitly mention the requirement for the publication of scientific articles. According to the self-assessment report of DRP-WACS, its policy requires the publication of two articles in "high impact journals" prior to the defence."

(iii) Under RECOMMENDATIONS FOR THE INSTITUTION; last line (8th line), page 16:

"Define a consistent and effective publication policy and improve the support to PhD candidates in the publication process"

Our Response/Remarks:

The recommendation on defining consistent and effective publication policy is well taken.

At the inception, emphasis was not strong on publication of scholarly articles by the School of Postgraduate Studies. Although publication of articles was not explicitly stated in the School of Postgraduate Handbook, a decision extract emanated from its Board meeting and this decision would feature in the next revision of the handbook. This explains the surge in articles published by Batch 3.

The steady progress in publication by the different batches is being achieved due to continuous emphasis and awards for those with significant publications as done in December 2023 for Batch 4 graduates. At the time of submitting the report, the publications by Batch 3 was significantly higher than those of Batch 4 because it takes some time for articles to be published. As at today, the updated list of published articles by Batch 4 is significantly higher and growing. Please see **Appendix 4**.

Inclusion of scholarly publication in DRP-WACS handbook is in consonance with WASCAL policy on scientific reporting and publication. The collection of doctoral certificate is actually tied to the fulfilment of the criteria.

Conclusion:

In conclusion, we have addressed the concerns raised in the provisional report regarding the governance scheme, structured partnerships with German institutions, and publication issues within the WASCAL Doctoral Research Programme in West African Climate Systems at the Federal University of Technology, Akure.

Regarding the governance scheme, we have provided ample evidence demonstrating the robustness and effectiveness of our supervision framework. Through dynamic conflict resolution mechanisms, formalised contractual agreements with supervisors, and regular reporting to higher authorities, we ensure the successful progression of our doctoral candidates.

Concerning structured partnerships with German institutions, while formal MoUs are desirable, our central coordinating arrangement and established relationships have facilitated the appointment of German supervisors and hosts for research trips. We are actively working on formalising partnerships through MoUs, ensuring mutual benefits for all parties involved.

In addressing publication issues, we acknowledge the necessity of a consistent and effective publication policy. While our emphasis on scholarly articles has significantly increased publication rates, we are committed to refining our policies and providing enhanced support to PhD candidates throughout the publication process, in alignment with WASCAL policy.

Additionally, although formal schemes such as quality assurance procedures might not have been explicitly documented, practical and pragmatic measures have been implemented at each stage of our programme to ensure overall effectiveness in quality assurance. These measures complement our existing framework and contribute to the continued success of our programme as we improve on the mechanisms and procedures.

Overall, we are confident in the strength and efficacy of our programme's governance structure, quality, partnerships, and publication policies.

We appreciate the insightful suggestions provided during the evaluation process and remain dedicated to implementing them to further enhance our programme. With dedication and effective partnership with our collaborators, we are confident in our ability to further elevate the Doctoral Programme in the West African Climate Systems to new heights of achievement and impact.

Appreciation:

We sincerely appreciate the kind efforts of HCERES in encouraging and facilitating the improvement of our doctoral programme.

Professor Z. Debo Adeyewa
Director,
Doctoral Research Program in West African Climate Systems (DRP-WACS)
West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL)
Federal University of Technology, Akure
Nigeria

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ACCREDITATION DECISION

Doctoral Research Programme of WASCAL in West African Climate systems

Federal University of Technology Akure

Akure, Nigeria

June 2024

SCOPE OF THE ACCREDITATION GRANTED BY HCÉRES

HCÉRES has based its evaluation process on a set of objectives that study programmes must pursue to ensure recognised quality within France and Europe. These objectives are divided up into four accreditation criteria.

The Accreditation Commission issues an opinion about the accreditation of the study programme after examining the file. The Hcéres President takes the decision based on the Commission's opinion and the final evaluation report of the programme. This accreditation decision, taken in plenary session, is the result of a collegial and reasoned process.

The decision issued by Hcéres regarding the accreditation of the study programme corresponds to the awarding of a label to the evaluated entity.

This decision is independent of the accreditations carried out by the French State and therefore does not entail recognition in France of the institution or the diplomas delivered by it.

Decision No. EI-2024-28 on the accreditation of the WASCAL Doctoral Research Programme in West African Climate systems, delivered by the Federal University of Technology Akure, Akure, Nigeria

The President of the High Council for the Evaluation of Research and Higher Education,

Considering the Research Code, in particular Articles L. 114-3-1 to L. 114-3-6;

Considering the Board's deliberation of 29th September 2022 on the accreditation criteria for a doctorate/PhD abroad;

Considering the Decision No. 2023-9 of 16th March 2023 on the international accreditation procedure of the High Council for the Evaluation of Research and Higher Education;

Considering the agreement DEI_20220407 of 12th May 2022 - for the evaluation/accreditation of seven training courses, delivered by training and research centres affiliated to the WASCAL network in seven sub-Saharan African countries;

Considering the opinion issued by the Accreditation Commission on 25th April 2024;

Decides:

Article 1

Noting that the Doctoral Research Programme in West African Climate systems delivered by the Federal University of Technology Akure in Nigeria meets the four accreditation criteria, voted by the Board of the High Council on 29th September 2022, as follows:

ACCREDITATION CRITERION 1: DOCTORAL POLICY

The Doctoral Research Programme in West African Climate Systems benefits from the strong national and international recognition of the Meteorological Department of FUTA, its host university, and its track record of excellence in education and research. The programme deploys a strong training and research programme focused on atmospheric and climate sciences, with relevance to land systems, preparing graduate students to engage with fields such as water management, agriculture, and energy. While the programme interacts with socio-economic stakeholders through outreach activities, there is potential to involve them more actively in the programme design and development to maximise the societal impact of its graduates and their research. The DRP has established both local and international partnerships to provide relevant support, including access to high-power computing facilities. Its scientific output has significantly improved over the years, reaching an excellent standard, although there is room for improvement through a well-designed publication policy and increased visibility and accessibility of research outputs. The DRP also provides international exposure to its PhD candidates through study trips and visits to Germany. However, the underlying partnership could benefit from more formal institutional agreements.

ACCREDITATION CRITERION 2: TRAINING, HOSTING AND SUPERVISION ARRANGEMENTS FOR DOCTORAL STUDENTS

The Doctoral Research Programme in West African Climate Systems implements a high-quality and transparent recruitment process. The initial training programme equips PhD candidates with the disciplinary knowledge and skills they need to address issues relating to atmospheric and climate sciences, in relation to land systems. Students benefit from a high-quality and international pedagogical team. However, there is a limited involvement of public and private socio-economic stakeholders, whose perspectives could provide a clear added-value to the DRP. The supervision scheme for research projects lacks formalisation and monitoring by the DRP governance, highlighting a need for further guidance. Hosting arrangements for PhD students in research laboratories require better definition to address concerns. While doctoral students benefit from adequate material and financial conditions, challenges remain in accessing high-power computing capacities and data. International exposure opportunities, such as visits to Germany, are encouraged but may require further facilitation by the DRP management. Finally, the criteria for the final Ph.D. defence are clearly defined at the level of the School of Post-graduate Studies (SPGS) and tailored to the DRP.

ACCREDITATION CRITERION 3: ATTRACTIVENESS, PERFORMANCE AND RELEVANCE OF THE DOCTORAL PROGRAMME

The Doctoral Research Programme in West African Climate Systems has established clear admission procedures and benefits from the well-structured WASCAL network in West Africa. While it only attracted a moderate number of applications for its latest four batches, it experienced a surge in applications for batch 5. This increased attractiveness is uneven across WASCAL countries, and could be boosted by a qualitative analysis of applications and a targeted promotion of the DRP, especially among women. Despite this, the programme features a 100% success rate for graduates and a strong job market integration, primarily within academia and meteorological agencies. To maximise its impact, the DRP should encourage greater involvement from alumni in training, research, and programme promotion.

ACCREDITATION CRITERION 4: MANAGEMENT AND CONTINUOUS IMPROVEMENT OF THE DOCTORAL PROGRAMME

The Doctoral Research Programme in West African Climate Systems relies on dedicated and qualified staff managing the programme and an internationally diverse teaching staff engaged in student supervision. While the programme possesses sufficient human, material, and financial resources, there is room for improvement in the conditions for supervisors, which could enhance the overall effectiveness of the programme. The programme would benefit from the introduction of an internal policy or actions to promote career development of DRP supervisors and staff. The recruitment procedure for PhD students is well defined and aligned with criteria established by relevant stakeholders. Moreover, students have opportunities to provide feedback on courses and supervision, contributing to ongoing quality improvement efforts. However, there is potential to enhance the quality assurance procedure by aligning it more closely with departmental and university policies, particularly as FUTA's quality policy is still evolving.

Article 2

The WASCAL Doctoral Research Programme in West African Climate systems delivered by the Federal University of Technology Akure, in Nigeria, is accredited for a period of 5 years from the date of this decision.

Article 3

The decision is accompanied by the following recommendations and comments:

- Build on the recent surge in applications to analyse applications and increase the attractiveness of the programme, especially among women and candidates from outside of Nigeria
- Deploy a quality assurance system for all aspects of the Doctoral Research Programme, from students' recruitment to the monitoring of their career path with the help of the QAMU and in line with national and WASCAL standards
- Set up a closer and more inclusive governance, including students' representatives
- Set up annual pedagogical meetings to discuss, review, and improve the overall training curriculum with all lecturers and teachers,
- Structure/formalise partnerships with a set of well-identified and recognised German institutions to improve collaborations with them
- Foster collaborative, cross-disciplinary research between researchers involved in the programme and develop interfaces with research centres working on water, energy, or agriculture-related issues
- Introduce courses focusing on soft skills and entrepreneurship in the initial training programme
- Define a consistent and effective publication policy and improve the support to PhD candidates in the publication process.

Article 4

This decision will be published on the Hcéres website.

Paris, 14th June 2024.

The acting President
signed
Stéphane Le Bouler

The evaluation reports of Hcéres
are available online : www.hceres.com

Evaluation of higher education and research institutions
Evaluation of research
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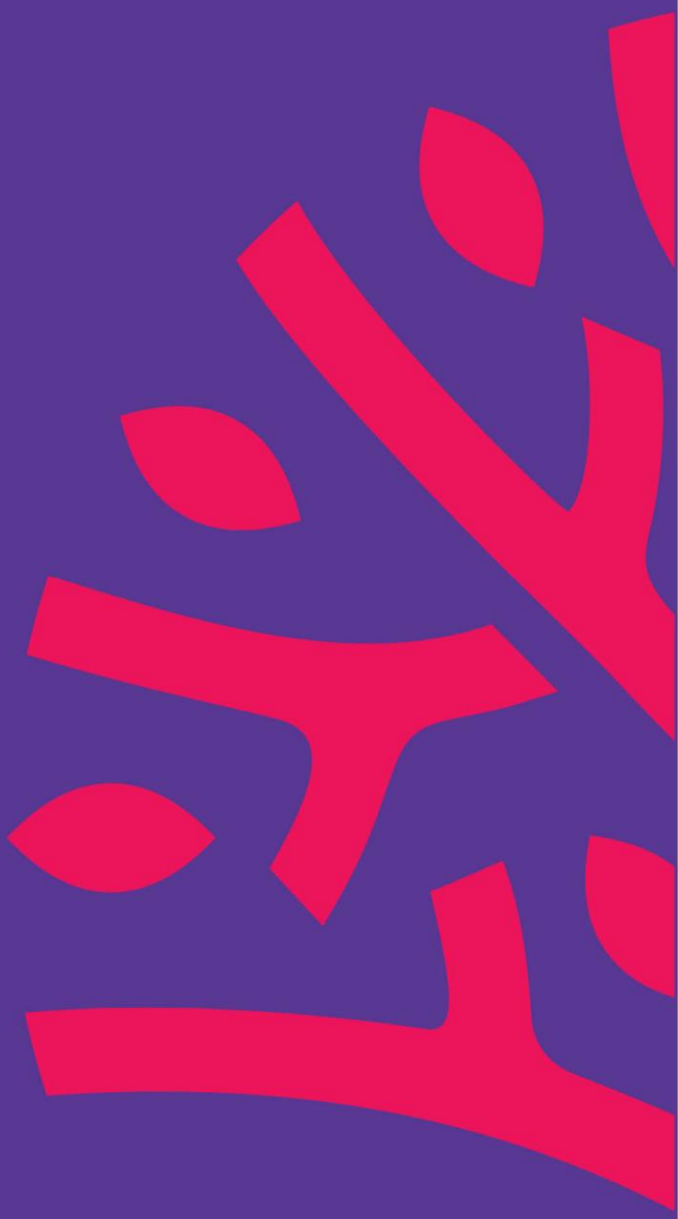

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