



## **CALL FOR APPLICATIONS**

### **West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL)**

**With funding from the German Federal Ministry of Education and Research (BMBF)**

### **2025 Admissions into PhD Programme in Climate Change and Agriculture**

**(FULL SCHOLARSHIP AVAILABLE)**

The West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) Graduate Study Programme in Climate Change and Agriculture is pleased to announce application for Doctoral programme in Climate Change and Agriculture at Université des Sciences, des Techniques et des Technologies de Bamako (USTTB) - Mali; Institut Polytechnique Rural de Formation et de Recherche Appliquée (IPR/IFRA) - Mali under the Capacity Building Programme of WASCAL, with funding from the German Federal Ministry of Education and Research (BMBF).

WASCAL is a wholly West African international organization with focus on academic and transdisciplinary research, building graduate-level scientific capacity and serving policy makers in West Africa with science-based advice on adaptation to climate change impacts and land use management. It cooperates with many agencies and universities in the region, providing a knowledge platform of excellence for its partners. WASCAL is funded by BMBF, multilateral and bilateral partners and its 12 West African member countries, namely: Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Ghana, The Gambia, Guinée, Mali, Niger, Nigeria, Senegal and Togo.

WASCAL's mission is to provide information and knowledge services at the local, national and regional levels to West African member countries to cope with the adverse impacts of climate change. We do this through capacity building support to young West African scholars in fields of climate, natural and social sciences and by delivering climate and environmental services in member countries.

## **Objective of the Programme**

The PhD programme in Climate Change & Agriculture aims at training highly qualified human resources for West African countries in anticipating the effects of Climate Change on Agriculture.

**Objective of the call:** to select candidates for the WASCAL climate change and agriculture PhD programme at USTTB - IPR/IFRA, Mali.

## **2. Student Eligibility**

The entry requirements into the programme are the following:

- Candidates must be from the WASCAL country members;
- Candidates must have a Master Degree, or its equivalent in Soil Sciences, Crop Sciences, Agro-forestry, Forestry, Animal Sciences, Integrated Pest Management (IPM) or other relevant disciplines, with an academic performance of at least 60 % (Second Class Upper or Assez Bien);
- Experience with modeling routines or GIS would be an advantage but not a prerequisite;
- Candidates must submit the following documents:
  - 1) completed application form;
  - 2) birth certificate;
  - 3) certificate of nationality;
  - 4) two recent passport photos;
  - 5) MSc degree or equivalent;
  - 6) transcript of records of MSc or equivalent;
  - 7) abstract of the MSc (or equivalent) thesis;
  - 8) BSc degree or equivalent;
  - 9) transcript of records of BSc or equivalent;
  - 10) abstract of the BSc (or equivalent) thesis;
  - 11) detailed CV;
  - 12) letter of motivation (personal statement should include the student's academic and personal qualities as well as his/her interests in research in the area of Climate Change and Agriculture);
  - 13) a PhD pre-proposal (which will be improved under the guidance of supervisors, if admitted);
  - 14) support letter from employer (if employed) granting study leave, in case of success;
  - 15) support letter(s) from your sponsor(s) granting fellowship, in case of success if you are a fee paying candidate/student;
  - 16) names and contact details of 3 references, one of whom must be his/her Master's supervisor.

*Female candidates are encouraged to apply.*

## **Intake capacity**

The programme will support twelve (12) students with scholarships, basically one (1) from each of WASCAL country members and accommodate a maximum of three (3) fee-paying or self-financing students.

## **3. Language requirements**

Climate Change & Agriculture is an English-speaking graduate programme. The following are the language requirements:

- Basic Certificate in English Language;
- Functional Certificate in English Language;

Before enrollment, a four-month intensive English or French language proficiency course will be offered at the University of Cape Coast (UCC, Ghana), for the selected Francophone candidates and at Université de Lomé, Togo for the selected Anglophone candidates.

## **4. Scholarship and Research Support for WASCAL supported students**

The scholarship and research support will normally be provided to the WASCAL supported students based on the criteria below:

- After admission, students will be required to maintain a graduate level Grade Point Average (GPA) of B or a minimum of B from the courses;
- During the course curriculum phase, students will be required to develop a detailed research project, including budget;
- During the project/research stage, students are expected to present their progress reports regularly and be evaluated accordingly.

Each student will receive a monthly stipend to cover accommodation and other expenses for the study period.

Research funds will also be made available to students after approval of their research proposal by their advisor/supervisor, the GSP Coordination in Mali and WASCAL headquarters.

The student may travel to Germany once during the PhD fellowship period to work with scientists at German universities or research centers. Airfare will be paid by the programme and a monthly stipend will also be provided for each month spent in Germany.

## **5. Outline of the programme**

The time required for the completion of the PhD programme is 42 months.

### **5.1 Training components**

The following steps are required: English upgrade (see above 3. Language requirements), indoor courses, and research phase.

#### ***Intensive Indoor Courses (6 months)***

Registered students will take part in six months of intensive courses work at IPR/IFRA (Mali) with its teaching modules and sub-modules as the following:

- i. Introduction to Climate Change;**

- ii. Research Methodology and Skills Development:** System thinking, Scientific research methodology, Scientific writing, Communication with rural communities, Participatory Action Research;
- iii. Statistics and Modeling Tools:** System and optimization models (linear and nonlinear programming of resource allocation), GIS, RS and Geostatistics, Biostatistics, Sampling methods, (field trials and surveys);
- iv. Modeling of Agro-ecosystems:** System modeling (socio-ecological modeling), Agricultural land use mapping (GIS and RS), Development of crop models at the field scale, Application of simulation models to assess climate impact on production systems;
- v. Adapted Agricultural Production Systems to Climate Change:** Concept of Resilience in Agricultural Production Systems (Livestock and cropping), Energetics of production systems, Soil science (Soil conservation and restoration, Soil organic matter management/GHG emissions, Soil fertility management), Agricultural water management (rain-fed agriculture and irrigation methods), Agro-biodiversity management and breeding strategies, Pests and diseases management (animal and crops), Animal production and ranch management, Adaptation measures (Agro-forestry etc.);
- vi. Agricultural Value Chain and Policies:** Food systems and food security, post-harvest technologies, Social and economic drivers of adaptation, Agricultural policies (index-based Crop and livestock insurance, National Adaptation Plans or NAP, PES, etc.);
- vii. Innovation Systems in Agricultural Production/Field trip/Excursion**

## 5.2 Research component

Each student will carry out some research in a common agreed upon location. It includes the research plan preparation, field work, data analysis, final write up and defense.

- Research Plan Preparation (3 months), during the intensive courses phase.
- Field Work: The field work can be done in or outside Mali depending on expertise (supervisor), availability of equipment and accessibility to relevant data.
- Data analysis - if needed, visit to Germany for scientific visit (duration maximum 6 months): During their research, students may visit Germany. Such visit is to enable the student to have access to specialized equipment and computing facilities not available in Mali, partner universities or in WASCAL Competence Centre (Burkina Faso).
- Final write-up and thesis defense: The final write-up of the thesis will be undertaken at the university or research center where the supervisor works or at IPR/IFRA or in the Competence Centre (Burkina Faso). The thesis defense will be conducted in Mali (at IPR/IFRA).

## 6. Application Procedure and Contacts

Candidates may apply directly to USTTB or the GSP CC & AGRIC by submitting the requested documents scanned in separate files via one e-mail.

Please send your message to [yacdial2003@gmail.com](mailto:yacdial2003@gmail.com) ; [mkarembe@yahoo.fr](mailto:mkarembe@yahoo.fr); [ksamasse@yahoo.fr](mailto:ksamasse@yahoo.fr); and [copy\\_capacitybp@wascal.org](mailto:copy_capacitybp@wascal.org)

**Application Deadline: January 31st, 2025**

**7. Publication of the Selection Outcome**

Shortlisted candidates will be contacted for an interview and the checking of originals of submitted documents (certificates, transcripts, etc.).

For details regarding the programme please refer to the following websites: [www.wascal.org](http://www.wascal.org)  
[www.usttb.edu.ml](http://www.usttb.edu.ml); [www.ipr-ifra.edu.ml](http://www.ipr-ifra.edu.ml)