

## IMPACT

- Settlement Dynamics and Modeling: the size, form, design, and expansion of settlements creates unique micro-climates that affect variables including temperature and wind and have implications on GHG emissions;
- Housing and Green Space Management: Urban Heat Island (UHI) and air quality effects are minimized by the presence of green space (urban parks, gardens, forestry, agriculture etc) in cities and around houses;
- Climate Change, Energy Systems and Settlements: growth, poverty reduction, air quality improvement and jobs creation can be boosted by sustainable infrastructure powered by renewable energy, thus building low-carbon, climate-resilient economies for the future;
- Transport Planning and Sustainable Mobility: innovative technologies, modal shift and other strategies aimed at decreasing the emissions from the transportation sector;
- Rural and Urban migration issues: novel, innovative and comprehensive solutions are required for the multidimensional challenges created by migration induced slow onset events such as sea-level rise, desertification, ocean acidification, and air pollution.

## VISION

WASCAL seeks to become one of Africa's leading institutions in the provision of climate and environmental services in and for West Africa.

## OUR MISSION

WASCAL seeks to provide information and knowledge at the local, national and regional levels to its 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 natural and social sciences and by strengthening West African universities and climate service departments in WASCAL member countries. We combat climate change and improve livelihoods.



**30** NUMBER OF THESE WRITTEN SO FAR 

**INVESTMENT BY BMBF SO FAR**  
**€2,263,667**



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Combating Climate Change.  
Improving Livelihoods

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# FACTSHEET

## Doctoral Research Programme in Climate Change and Human Habitat, Nigeria

Director in Charge of Programme: Professor Appollonia A. Okhimamhe

WASCAL Capacity Building Programme facilitates academic education amongst 12 West African universities in collaboration with German institutions through the Graduate Studies Programme (GSP). Each programme selects students from each of the WASCAL member countries through open calls for applications (scholarship and fee-paying students). WASCAL has since 2012, maintained its strong commitment, under the sponsorship of the German Federal Ministry of Education and Research (BMBF) to provide climate change solution through capacity building by helping educate the next generation of scientists attain an in-depth knowledge of different climate related issues in order to help the region develop suitable management strategies.

English language is used as the main language of instruction. Both Masters

and Doctoral students are expected to participate in four months language training in English (University of Cape Coast, Accra-Ghana) and French (University of Lomé - Togo) for Anglophone and Francophone students respectively.

### PROGRAMME RELEVANCE TO CLIMATE CHANGE

Transforming settlements into sustainable and climate change resilient human habitats is on the front burner in this century. The World Bank's 2009 Urban Strategy highlighted Developing Countries as the locus of this transformation that could be regarded as a challenge and a huge opportunity. While cities are responsible for growing global energy consumption expected to rise above two-thirds, hence increasing GHG emission levels (IEA 2008; in rural areas, humans' livelihood and food security are impacted

by the consequence of increasing GHG that manifests as increase in temperature. In 2016, the United Nations Conference on Housing and Sustainable Urban Development (Habitat III) highlighted the critical challenges of planning and management of settlements (cities, towns and villages) as drivers of sustainable development, a guide to the implementation of Sustainable Development Goals (SDG) and the Paris Agreement on Climate Change. West Africa has highly populated capital cities along its vast coastland, a number of which are at risk as sea level rises and coastal erosion and flooding increase. Similarly, major highly populated cities are located in the hinterland and are at risk as less frequent rainfall events could lead to dry conditions, which make human comfort more expensive to maintain. The bleak picture does not end there. Due to the high population, the spread of pandemics and epidemics such as COVID 19 are a huge public health challenge. Cities in more habitable locations are a “magnet”

attracting a steady flow of humans in search of conducive environments to thrive in. How do we transform our overcrowded cities into sustainable cities that mainstream climate change adaptation and mitigation strategies into their operations? How do we improve on rural environments such that there is minimal push towards the overcrowded cities?

The WASCAL Doctoral Research Programme in Climate Change and Human Habitat, led by the Federal University of Technology, Minna (FUT Minna) in the framework of the West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL), seeks to answer these questions and more, as it combines these two trending key foci of the research community.

The programme is combating climate change through its training activities and research output that are geared towards specific objectives as follows: to

- Transport Planning and Sustainable Mobility and Rural and Urban migration issues.
- Provide a platform for young West African researchers to participate in global cutting edge research through assessments and modeling of impacts of climate change in human habitat, and vice versa, with key foci being Settlement Dynamics and Modeling, Housing and Green Space Management (urban agriculture and forestry, recreational parks and gardens), Climate Change, Energy Systems and Settlements (urban and rural adaptation and mitigation strategies).

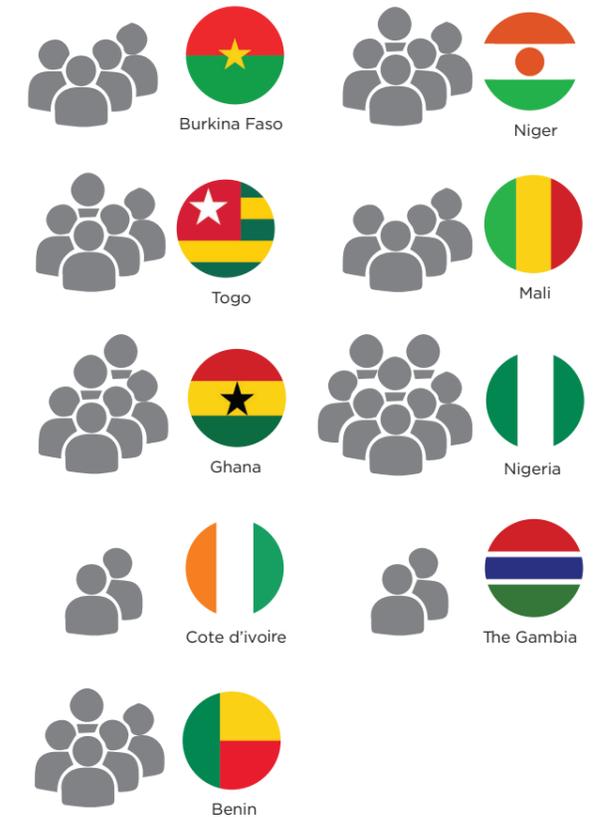
### HOST UNIVERSITY

The Federal University of Technology, Minna (FUT Minna) is a Federal Government owned University in Nigeria and runs this Doctoral Research Programme since 2012. It was established in 1983 and specializes in Sciences, Engineering and especially Technology with an academic culture of excellence that 4th

best University in Nigeria based on graduate employability index. The University has secured approval to commence the Open and Distance Learning (ODL) programme to run a Bachelor of Technology (B.Tech) in Computer Science, whose online Learning Management Systems (LMS) facilitated the online lectures conducted for Batch 4 students of WASCAL CCHH during the Covid-19 restriction period.

Additionally, the University is a beneficiary of a Mini ICT Square for R&D, an ICT Hub and Digital and Malware Detection Laboratory funded by the Nigerian Communications Commission (NCC), National Information Technology Development Agency (NITDA), and National Intelligence Agency (NIA) respectively. In 2019, the University secured the World Bank funded African Centre of Excellence in Mycotoxin and Food Safety (ACEMFS) that would host PhD and Master of Technology (M.Tech) Degrees in Food Safety, Toxicology, Molecular Biology and Bioinformatics. Also, the University is one of the Consortium of 5 African Universities that secured the European Commission Intra Africa Academic Mobility Programme led by Rhodes University, South Africa The University is also collaborating with the Girne American University of Cyprus to run International Degree in selected disciplines. FUT Minna has an enviable record of graduating Postgraduate students on time and consistently, with 2020’s PhD graduates being 94. WASCAL CCHH students will soon join these “crème de la crème” of their society in 2023.

### COUNTRY BREAKDOWN OF BENEFICIARIES SO FAR



### MODE OF ADMISSION

Call for application (through advert) for scholarship as well as for fee-paying students and then selection through the relevant committee with the involvement of the School of Postgraduate Studies (SPGS). Recommendations are then sent to the International Advisory Board.

### BENEFICIARIES SO FAR (2012-2022)

**41 West African students**

Full scholarship scheme: accommodation, tuition, travel, and cost of research.



**30 graduated**  
2012 - 2019

**11 students in 4th batch**

- admitted in 2019
- completion in 2022

