

A GLANCE AT **WASCAL IN FUT MINNA**

*In Commemoration of the 10th Anniversary
of WASCAL (2012-2022)*





“Medium and small cities, those which nobody knows about, are going to grow faster in the future. Our century is about global cities.”

The Mayor of Istanbul



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10TH ANNIVERSARY CELEBRATION OF WASCAL IN FUT MINNA

In 2012, when FUT Minna commenced WASCAL's Master Research Programme (MRP) in Climate Change and Adapted Land Use (CCALU), all I was sure of, first, as the Coordinator, then, the Director, was that the staff and I, would put in our very best and make the necessary sacrifice to build a Centre for Excellence, making the very best use of opportunities to pioneer innovative training and research in climate change and our thematic focus of adapted land use. Also, to ensure that the necessary periodic reviews to maintain the relevance of our curriculum and research are embarked upon with the advice and cooperation of our International Advisory/Academic Board and FUT Minna Advisory/Academic Board.

Ten years later, we have scored many firsts with the firm support of the University Management led by visionary Vice Chancellors. It was not a journey without challenges, but we chose to see each challenge as an opportunity to think outside the box, and we know we still have much to do in order to achieve sustainability as well as maintain relevance. We thank our main funder, BMBF (through WASCAL in the Head Office in Accra) as we look forward to the continued support from key stakeholders (Federal Ministry of Environment, University Management, Scientific Community, Alumni and students etc). In this document, we have tried to summarize and present the journey so far, with an eye into the future.....

Prof A. A. Okhimamhe
(Director, WASCAL CCHH)

ACRONYMS

ACRONYM	FULL MEANING
AP	Academic Planning
CAL	Collaboration, Affiliation and Linkages
CCALU	Climate Change and Adapted Land Use
CCCFR	Centre for Climate Change and Freshwater Resources
CCDRM	Climate Change and Disaster Risk Management
CCHH	Climate Change and Human Habitat
CCLU	Climate Change and Land Use
CCWR	Climate Change and Water Resources
FUT	Federal University of Technology
KNUST	Kwame Nkrumah University of Science and Technology
PGS	Postgraduate School
QAP	Quality Assurance and Productivity
SAAT	School of Agriculture and Agricultural Technology
SDG	Sustainable Development Goals
SET	School of Environmental Technology
SNAS	School of Natural and Applied Sciences
SPS	School of Physical Sciences
WASCAL	West African Science Service Centre on Climate Change and Adapted Land Use

PREAMBLE

West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) Graduate Students Programme (GSP) in the Federal University of Technology, Minna commenced, in 2012, as a 24-months Master of Technology programme in Climate Change and Adapted Land Use (CC & ALU). However, in 2019, approval was given for a 42-months PhD degree in Climate Change and Human Habitat (CC & HH) to commence.

Vision, Mission and Specialization:

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 focus of this transformation that could be regarded as a challenge and a huge opportunity. While urban areas are responsible for the growing global population, energy consumption is expected to rise, 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 an 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 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?**

WASCAL Doctoral Research Programme on Climate Change and Human Habitat seeks to answer these questions and more, as it combines these two trending key foci of the research community, not only by providing 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 the 4 key foci being:

- " Settlement Dynamics and Modeling
- " Green Infrastructure and Urban Development
- " Transport Planning and Sustainable Mobility
- " Rural and Urban migration issues

Vision:

To become the leading postgraduate degree programme for educating vibrant young scientists and conducting cross-disciplinary, multi-sectoral and innovative research on Climate Change that aims at bridging the gap in knowledge on the land use changes, climate stress and possible feedbacks.

Mission:

To produce graduates equipped with the highest quality education and training in the use of innovative research methodologies and application of state-of-the-art digital technologies and modelling tools for

assessing climate change impacts with the view of deriving useable climate change scenarios that can guide policy formulation across the West African region. Figure 1 shows the Institutional Set-up for the Centre, just like all other GSPs across West Africa. The Director collaborates directly with the Director of Capacity Building at the WASCAL Head Office in Accra, Ghana, and reports directly to the Vice Chancellor of the University.

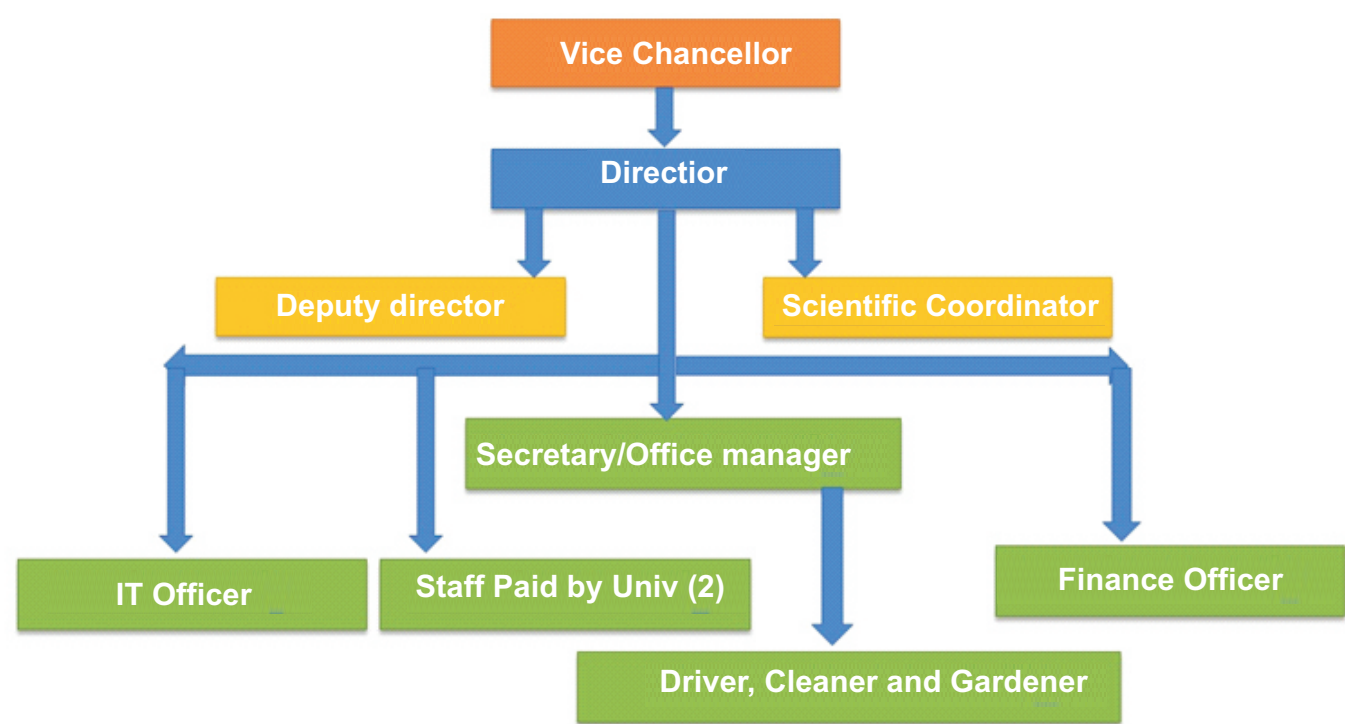


Figure 1 Institutional Set-Up

The CC & ALU Masters Research Programme (MRP) successfully produced 30 graduates in 3 Batches within the span of 6years (2012 - 2018). The first Doctoral Research Programme (DRP) candidates are the Batch 4 students of the WASCAL CCHH in the University. Twelve (12) candidates were enrolled as Batch 5 students during the last quarter of the year 2021. Eleven (11) of them are on WASCAL scholarship, while one (1) of the students is a fee-paying student on partial self-sponsorship from MIGRAWARE, a Project that WASCAL CC HH is involved. Both programmes are in-progress (See Table 1), with the Batch 4 students expected to complete their degree in April 2023. Figure 3 shows that 53 students had been enrolled since the commencement of the programme to date (2012-2022).

The MRP batches comprising 30 young men and women had graduated, on schedule, with Master of Technology (M.Tech) degrees in Climate Change and Adapted Land. **In fact, it is on record that the University was the very first WASCAL host to graduate the first batch of students in October 2014 in a grand ceremony hosted by Professor Musbau Akanji (former Vice Chancellor of FUT Minna).** This pivotal event was attended by the representative of the Honourable Minister for Environment of Nigeria, Dr Samuel Adejuwon (in October 2014, the HM gave up on being physically present at the ceremony at about 1pm due to unavoidable meetings in Abuja), the pioneer Chairman of the Governing Board of WASCAL, late Professor Modibo Haidara, the pioneer Director of the GSPs, Dr Mamadou Ouattara and the pioneer representative of Nigeria in the Governing Board of WASCAL, Professor Niyi Osuntogun, among others (See Figure 2).

Table 1 Break down of graduates and non-graduates

	MRP			DRP		TOTAL
	Batch 1	Batch 2	Batch 3	Batch 4	Batch 5	
Enrolled Students	10	10	10	11	12	53
Graduates	10	10	10	0	0	30
In Progress	0	0	0	10	*12	23

The country with the highest enrollment is Nigeria (eleven students) constituting about 21% of the total enrollment. Ghana and Niger Republic have the 2nd highest number of enrollment (seven students from each of the countries). The country with the least number of enrollments is Senegal with only one student that enrolled in the current Batch 5. However, no enrollment has been recorded for Cape Verde, the 11th WASCAL host country. In terms of gender, about 74% of the enrollees are males, but encouragingly, the female enrollment has picked up. Currently, five (5) of the twelve (12) enrollees of Batch 5 are females (See Figure 3). These students are taught and supervised by lecturers from across Nigeria, West Africa and Germany (See Table 2); under the guidance of two Boards, International Advisory/Academic Board (Chaired by the Director of the Centre) and FUT Minna Advisory/Academic Board (Chaired by the Dean of the Postgraduate School). Figure 4 shows the composition of these boards.



Figure 2 FUT Minna Batch A Graduates and dignitaries that attended the graduation ceremony

QUICK LOOK AT OUR FACTS AND FIGURES

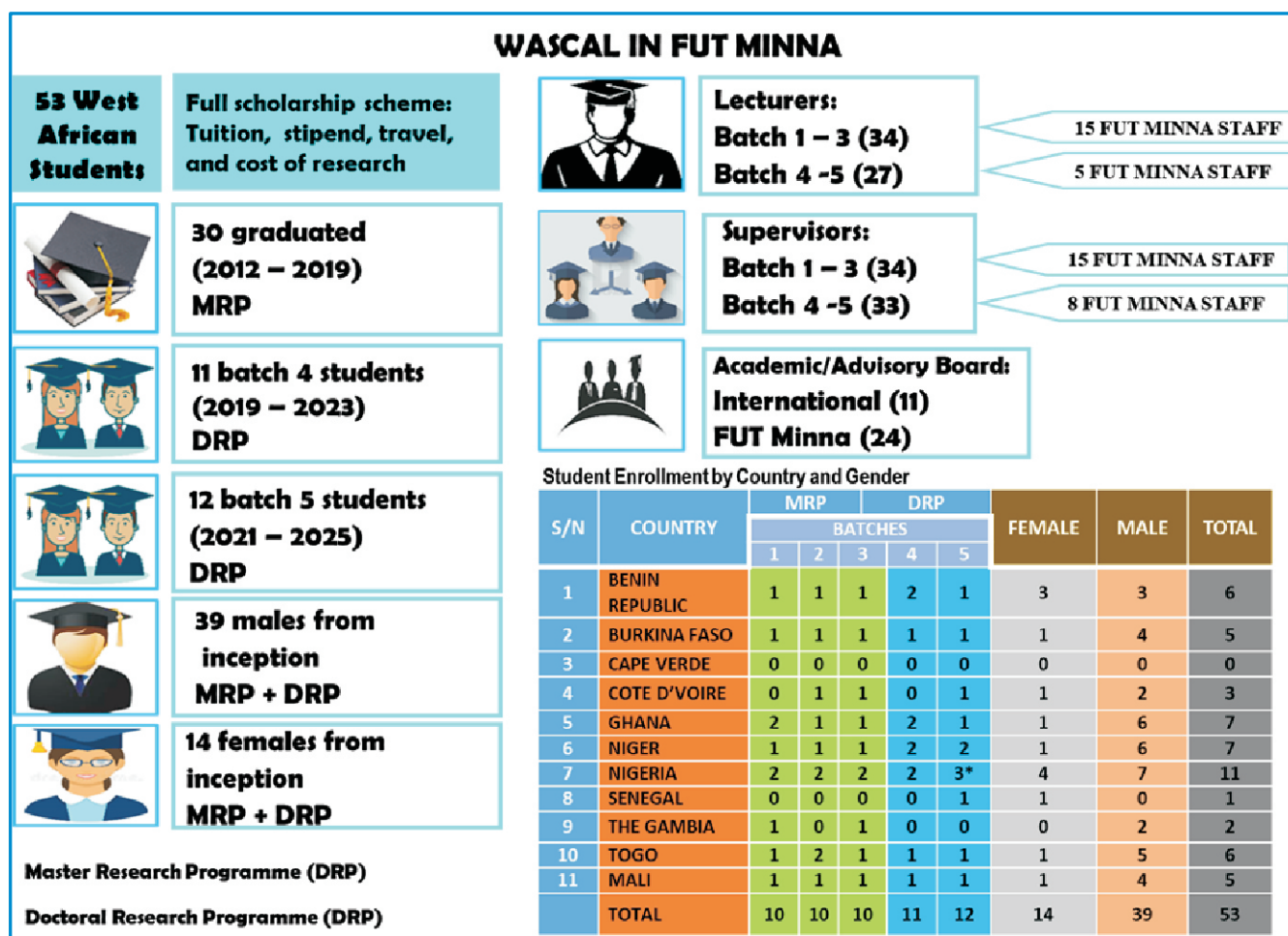


Figure 3 Factsheet on WASCAL in FUT Minna (CCALU and CCHH)

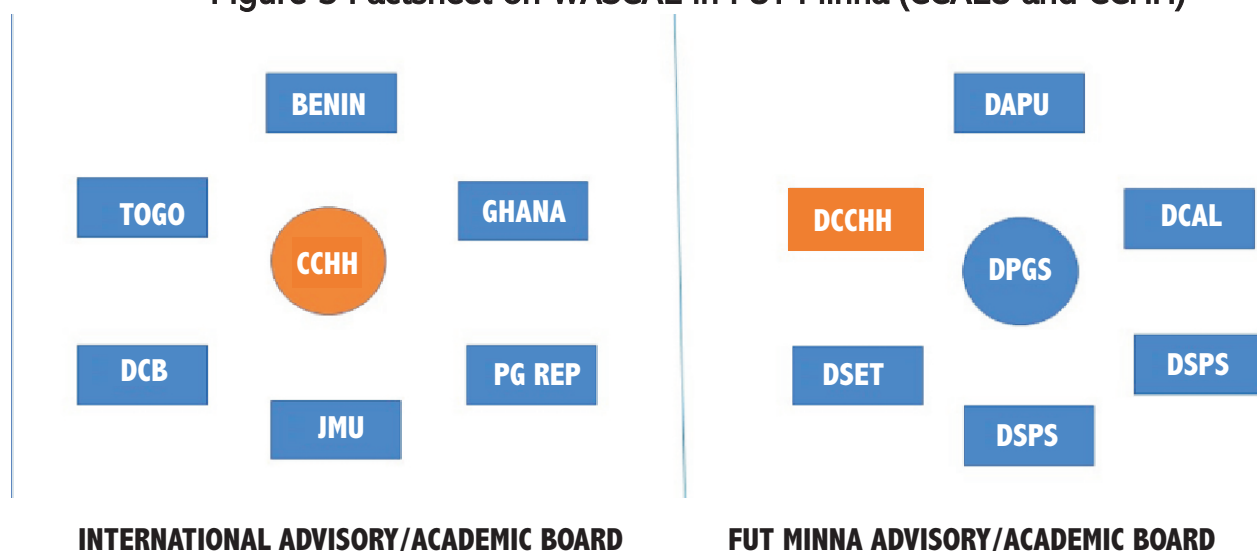
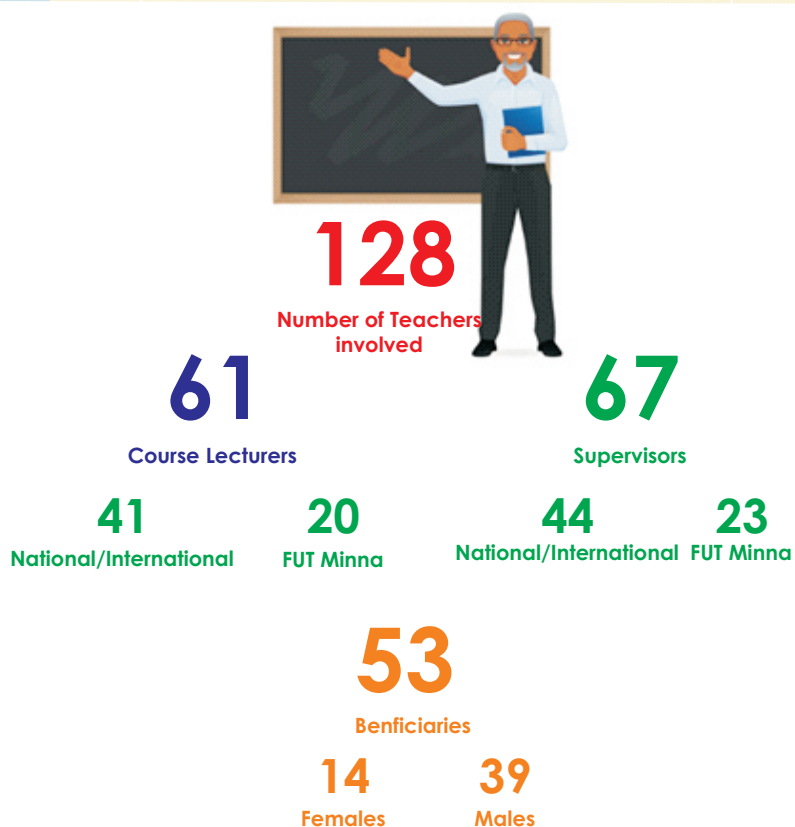


Figure 4 Academic and Advisory Board Composition for WASCAL in FUT Minna

Table 2 The country and gender composition of the International Advisory/Academic Board, FUT Minna Advisory/Academic Board, Lecturers and Supervisors

COUNTRY	NO.	STATUS	MALE	FEMALE	TOTAL
NIGERIA	3	INTERNATIONAL ADVISORY/ACADEMIC BOARD	8	3	11
AFRICA	6				
GERMANY	2				
NIGERIA	24	FUT MINNA ADVISORY/ACADEMIC BOARD	23	1	24
FUT MINNA	15	LECTURERS (BATCHES 1-3)	29	5	34
NIGERIA	11				
AFRICA	5				
GERMANY	3				
FUT MINNA	15	SUPERVISORS (BATCHES 1-3)	30	4	34
NIGERIA	4				
AFRICA	14				
GERMANY	1				
FUT MINNA	5	LECTURERS (BATCHES 4 & 5)	21	6	27
NIGERIA	8				
AFRICA	6				
GERMANY	8				
FUT MINNA	8	SUPERVISORS (BATCHES 4 & 5)	25	8	33
NIGERIA	3				
AFRICA	13				
GERMANY	8				
U.S.A.	1				



THE GRADUATES

Table 3 MRP Batches 1 and 2 enrollees

BATCH 1			
SN	NAME	MATRICULATION NO	CONTACT
1	NYADZI Emmanuel	MTECH/SNAS/2012/3439	enyadzi@yahoo.com +31626750208, +233266413676
2	DAHGBETO Afiavi Pelagie	MTECH/SNAS/2012/3440	peldagbeto@yahoo.fr Afiavi.dahgbeto@gmail.com +241 02 73 22 02
3	AKPEOKHAI Agatha Ochuware	MTECH/SNAS/2012/3441	Agathaokhai@gmail.com
4	BESSAH Enoch	MTECH/SNAS/2012/3442	enoch.bessah@gmail.com +233 209455403
5	KIMA Sophie Agnes	MTECH/SNAS/2012/3443	kimagnesi@yahoo.fr +226 70 35 84 64
6	AKAMAH Abel Kokouvi	MTECH/SNAS/2012/3444	abelakamah@gmail.com abel_kokouvi.akamah.1@spaceforce.mil +1 347 493 9553
7	SONKO Ebrima	MTECH/SNAS/2012/3445	sonko78@yahoo.com +220 7711659
8	GARBA HIMMA Mamane Bello	MTECH/SNAS/2012/3446	mbello.hima@gmail.com +227 90909904
9	SANOGO K aramoko	MTECH/SNAS/2012/3447	karsanogo@yahoo.fr
10	ADENLE Ademola Andrew	MTECH/SNAS/2012/3448	ade.adenle@gmail.com +41 77 817 81 94, +234 8030564718
BATCH 2			
SN	NAME	MATRICULATION NO	CONTACT
1	ASONIBARE Femi Oluwatosin	M.TECH/SNAS/2013/4210	tosinasonibare@yahoo.com +234 7031572800
2	COULIBALY Gnenakantanhan	M.TECH/SNAS/2013/4211	tanhancool@yahoo.fr +226 75715001
3	OKAFOR Gloria Chiwendu	M.TECH/SNAS/2013/4212	gloriacokafor@yahoo.com +234 8068732560
4	MOUSSA Soule	M.TECH/SNAS/2013/4213	moussa_soulesama@yahoo.fr +233501589424
5	BISSADU Kossi Dodzi	M.TECH/SNAS/2013/4214	bissadukossi02@yahoo.fr
6	ALLAKONON M. Gloriosse Bignon	M.TECH/SNAS/2013/ 4215	gallakonon@gmail.com
7	KOGLO Yawovi Sena	M.TECH/SNAS/2013/4216	sena_koglo@yahoo.com
8	DAOU Assitan	M.TECH/SNAS/2013/4217	daouassi@yahoo.fr
9	GBANGOU Talardia	M.TECH/SNAS/2013/4218	talardia.gbangu@gmail.com +0782910122
10	LARBI Isaac	M.TECH/SNAS/2013/4219	ilarbi@uesd.edu.gh talarbi18@yahoo.com +233205793700

Table 4 MRP Batch 3enrollees

SN	NAME	MATRIC NO	CONTACT
1	ADET Lucette	MTECH/SPS/2015/65	lucetteadet@gmail.com +2250779596007
2	SANI ISSA Mahaman Sanoussi	MTECH/SPS/2015/66	mahamansanoussi@gmail.com +227 91 88 84 18
3	RAGATOA Dakega Saberma	MTECH/SPS/2015/67	rmandavid@gmail.com +228 92 21 21 87 +233 59 839 5351
4	SANOU Charles Lamoussa	MTECH/SPS/2015/68	sclamoussa@gmail.com +22 671287999
5	SIMON Susan Ojochide	MTECH/SPS/2015/69	susanojochide@yahoo.com +2348060804838
6	GUIDIGAN, Gidas Landry Meminvegni	MTECH/SPS/2015/70	glguidigan@gmail.com +229 96 77 60 32
7	MOHAMED Sidibe	MTECH/SPS/2015/71	sidibehamed31@yahoo.fr
8	IBOKO, Maduabuchi Paul	MTECH/SPS/2015/72	ibokopaul@gmail.com +234 803 871 7460
9	FAFA O. Cham	MTECH/SPS/2015/73	foc2112@gmail.com +228 92 66 80 78
10	ODOOM Peter Rock Ebo	MTECH/SPS/2015/74	podoom21@yahoo.com +233 27 919 5662

MRP Batch 1- 3

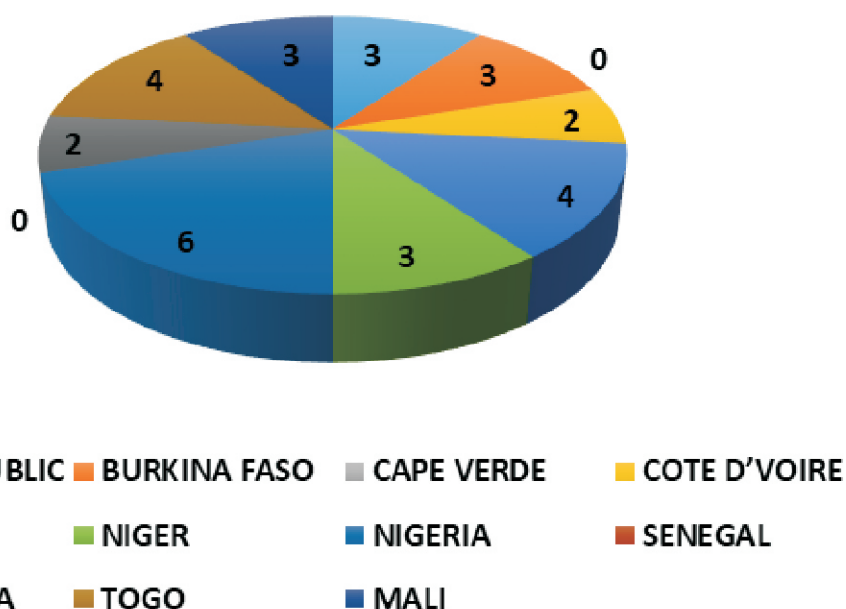


Figure 5 Distribution of MRP Students' Distribution by Country

MRP BATCH 1, 2 AND 3 PICTURE MEMORIES



Figure 6 Batch 1 Students' graduation ceremony and excursion in the South West of Nigeria



Figure 7 Batch 2 students' excursion to Shiroro Dam in Niger State



Figure 8 Batch 3 students' striking fun poses and a visit to Busugi Village

THE STUDENTS

Table 5 DRP Batch 4enrollees

SN	NAME	MATRIC NO	CONTACT
1	TOHOUN Blewa Kehounbiova	PhD/SPS/FT/2019/11122	audreytohoun@gmail.com +229 64 16 05 96
2	OUEDRAOGO Valentin	PhD/SPS/FT/2019/11123	valentineoued@gmail.com +226 73 43 42 30
3	ADADE Richard	PhD/SPS/FT/2019/11124	richard.adade@ucc.edu.gh +233 24 253 0909
4	FOMBA Mohamed	PhD/SPS/FT/2019/11125	fonbamohamed@gmail.com +491633691857
5	MAMADOU IBRAHIM Ibrahim	PhD/SPS/FT/2019/11126	papussibmamadou@yahoo.fr +22799404949
6	SITHOU RANI Abdoul - Moumouni (withdrew himself)	PhD/SPS/FT/2019/11127	asithourani@gmail.com +22796477321
7	ASONIBARE Femi Oluwatosin	PhD/SPS/FT/2019/11128	tosinasonibare@yahoo.com +234 7031572800
8	OKELEYE Sunday Opeyemi	PhD/SPS/FT/2019/11129	okeleyesundayopeyemi@gmail.com +234 8131504734
9	KONKO Yawo	PhD/SPS/FT/2019/11130	konkoyawo2@gmail.com +22891958789
10	JERRY Assaana Anamzui -ya	PhD/SPS/FT/2019/11131	namzuiya@gmail.com +233 20 629 7736
11	AKAKPO Bokon Alexis	PhD/SPS/FT/2019/11132	ab_akakpo@yahoo.fr +22997612708

Table 6 DRP Batch 5enrollees

SN	NAME	MATRIC NO	CONTACT
1	AHOUANDJINOUE ENAGNON B��no��t Olivier	Ph.D/SPS/FT/2021/13000	olienagnon@gmail.com +229 95 44 7326; +234 9153698947
2	GADIAGA Aliou	Ph.D/SPS/FT/2021/13001	gadiagadliou@yahoo.fr +22676844199; +234 9153698955
3	KOFFI Alex Joel	Ph.D/SPS/FT/2021/13002	joelalexk@gmail.com +234 9158929406; +225757937036
4	DARKO Christiana Agyeiwaa	Ph.D/SPS/FT/2021/13003	christydarko@gmail.com +234 8054051872; +233245096632
5	DICKO Kagou	Ph.D/SPS/FT/2021/13004	kagoudicko@i.cloud.com +22376450828
6	DOULAY SEYDOU Kadiza	Ph.D/SPS/FT/2021/13005	kadidjadoulaye@gmail.com +2349156159805; +22796355451
7	DOULLA NOUHOU Youssoufa	Ph.D/SPS/FT/2021/13006	yousdoulla@gmail.com +227 92 16 94 63, +234 9153698944
8	OBATERU Rotimi Oluseyi	Ph.D/SPS/FT/2021/13007	obaterurotimi@gmail.com +2348169720255
9	ISHAKU Deborah	Ph.D/SPS/FT/2021/13008	justdebbie27@gmail.com +234 7038552726
10	CISSE Mariama	Ph.D/SPS/FT/2021/13009	cissemaria92@gmail.com +221781302076
11	TOSSOUKPE Adjowa Y��wa	Ph.D/SPS/FT/2021/13010	fossoukpermarie02@gmail.com +234 9153698946; +22891726900
12	*AWEDA Emmanuel Damilola	Ph.D/SPS/FT/2021/13011	emmanuelaweda@yahoo.com +2348068935913

DRP Batch 4 & 5

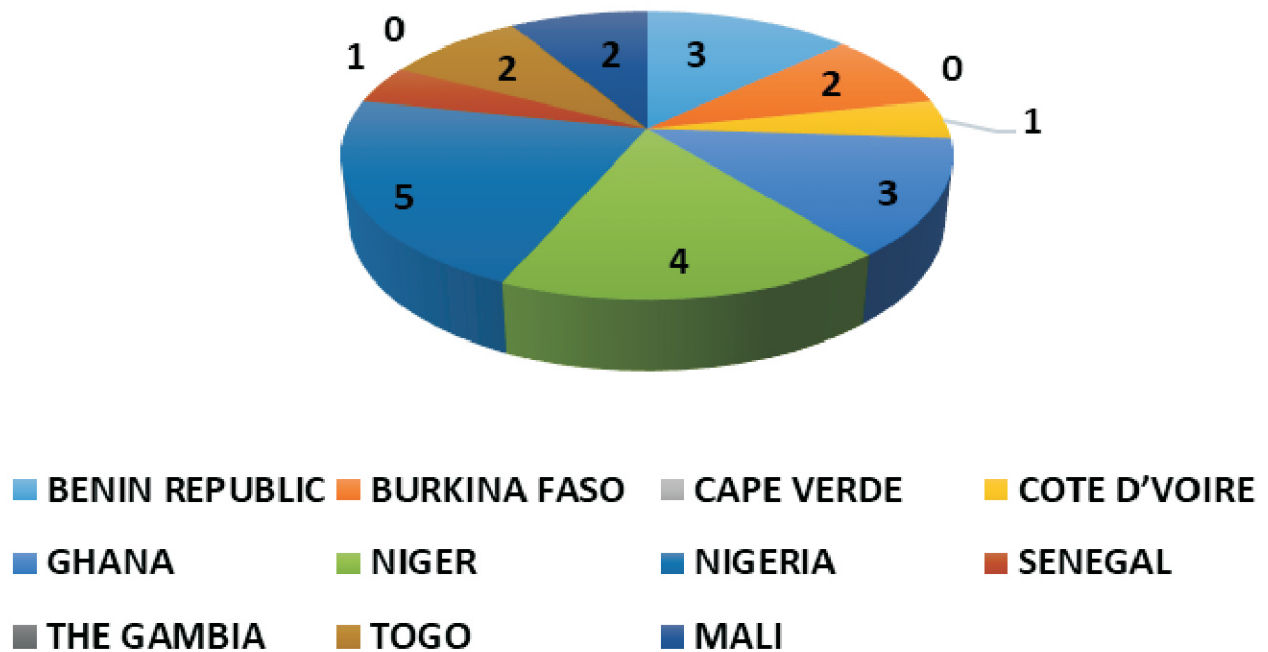


Figure 9 Distribution of MRP Students' Distribution by Country



Figure 10 Batch 5 students with Principal Officers of the University led by Prof Abdullahi Bala

DRP BATCH 4 AND 5 PICTURE MEMORIES



Figure 11 Batch 4 students with FUT Minna Advisory/Academic Board



(a)



(b)

Figure 12 Batch 5 students letting their hair down (a) and participating in online defense of proposal (b)



(a)



(b)

Figure 13 Batch 5 students with Prof Dauda Kone - Director of Capacity Building (a) and Community Based Field Data collection (b)

THE LECTURERS

Table 7 MRP Batches 1, 2 and 3 Lecturers

S/N	NAME	ADDRESS
1	Prof. G. N. Nsofor	Department of Geography, Federal University of Technology, Minna nsoforgn50@yahoo.com; +234 8035954620; +234 8029942787
2	Prof. D. N. Tsado	Department of Animal Production Federal University of Technology, Minna tsadonma@yahoo.com; +234 8037295616
3	Prof. J. N. Nmadu	Dean, School of Agriculture and Agricultural Technology Federal University of Technology, Minna job_nmadu@futminna.edu.ng job_nmadu@yahoo.co.uk; +234 8035861170; +234 8085392830
4	Prof. M.I S. Ezenwa	Department of Soil Science and Land Management (Retired) Federal University of Technology, Minna ezenwamatthew@yahoo.com; +234 8065515430
5	Prof. J. A. Omotosho	Federal University of Technology, Akure (Retired) omotoshojerome@gmail.com; bayoomotosho@yahoo.co.uk +234 8074119956; +234 7030077951
6	Prof. A. J. Odofin	Department of Soil Science Federal University of Technology, Minna odofin.ayodele@futminna.edu.ng odofinayo@yahoo.co.uk +234 8033795657; +234 8124547778
7	Prof. A. A. Okhimamhe	Department of Geography Federal University of Technology, Minna aaokhimamhe@futminna.edu.ng; Aimiosino@yahoo.com +234 8034526128
8	Dr. Anger Robert	Department of Geography Ahmadu Bello University, Zaria angerrobert@yahoo.com; +234 8034299048
9	Prof. J. M. Baba (late)	Department of Geography Federal University of Technology, Minna
10	Prof. F. Adesina	Department of Geography Obafemi Awolowo University, Ile-Ife faadesin@oauife.edu.ng faadesin@yahoo.com; +234 8037193141
11	Prof Benjamin Kofi Nyarko	Department of Geography and Regional Planning University of Cape Coast; Cape Coast bnyarko@yahoo.co.uk; + 233 332130680; + 233 206640183
12	Prof. A. S. Gana	Department of Crop Production Federal University of Technology, Minna andrewganasa_ba@yahoo.com; andrew.gana@futminna.edu.ng +234 -8036373556
13	Dr. Grace Vilamor	Department of Ecology and Natural Resource Management Centre for Development Research (ZEF) University of Bonn grace.villamor@uni.bonn; grace.villamor@gmail.com +49228-734947

Table 8 MRP Batches 1, 2 and 3 Lecturers (Continued)

S/N	NAME	ADDRESS
14	Dr. Luka F. Buba	Department of Geography Bayero University, Kano lfbuba454@gmail.com ; +234 8065725819
15	Prof. Ojonigu F. Ati	Federal University, Dutsin-Ma nigu30@yahoo.com; oati@fudutsinma.edu.ng +234 8184186626; +234 7030995552
16	Prof. K. R. Adeboye	Department of Mathematics (Retired) Federal University of Technology, Minna profadeboye@gmail.com +234 -8101884984
17	Prof. O. B. Adeniji	Federal University, Oye -Ekiti Ekiti State dimejiadeniji@gmail.com; +234 8065512696
18	Prof. R. S. Olaleye	Department of Agric Extension and Rural Development Federal University of Technology, Minna olaleyerotimidavid@yahoo.com; rotimi@futminna.edu.ng +234 8033583386; +234 8059356815
19	Prof. A. Ndanusa	Department of Mathematics Federal University of Technology, Minna as.ndanusa@futminna.edu.ng +234 8023736139
20	Dr. Michael Thiel	Department of Geography, Institute of Geography and Geology, Julius -Maximilians -University of Würzburg, Germany Michael.thiel@uni -wuerzburg.de; +4993145324048; +4915786804498
21	Prof. N. J. Bello	Department of Water Resources Management and Agrometeorology; Federal University of Agriculture Abeokuta njbello2003@yahoo.com ; njbello2003@gmail.com +234 8037295616
22	Dr. Bamba M. Sylla	African Institute for Mathematical Sciences (AIMS) Kigali, Rwanda
23	Prof. Temi Ologunorisha	Olusegun Agagu University of Science & Technology Okitipupa, Ondo State ologunorisatemi@yahoo.com; ologunorisa1966@gmail.com +2348160043052; +2348059986169
24	Prof. Ibrahim Y. Tudunwada	Zonal Advanced Space Technology Applications Laboratory, NASRDA; Bayero University Kano iyakuba@yahoo.com; +234 8035945174; +234 8050516563
25	Mr. Salihu Saidu	Department of Geography Federal University of Technology, Minna ssaidu@gmail.com ; +234 8053282650
26	Prof. Nana Ama Browne Klutse	Department of Physics; University of Ghana , Legon Accra, Ghana amabrowne@gmail.com; nklutse@ug.edu.gh +233244983637
27	Dr. Godstime Kadir James	National Space Research & Development Agency (NASRDA), Abuja Godstime@presidency.com; godstimej@gmail.com +234 8022739154

Table 9 MRP Batches 1, 2 and 3 Lecturers (Continued)

S/N	NAME	ADDRESS
28	Mrs. A. A. Onimole (late)	
29	Prof. Sandow Mark Yidana	Department of Earth Science University of Ghana Legon, Accra smyidana@ug.edu.gh;_(233) 302514041
30	Dr. Mayowa J. Fashona	Department of Geography University of Lagos; Akoka, Lagos mfasona@unilag.edu.ng; mfasona@yahoo.com +234 -802 -312 -7998
31	Dr. Benjamin Lamptey	Visiting Professor University of Leeds, UK Co-Strand Lead of Science Coordination, Science for Weather Information and Forecasting Techniques; (SWIFT) Project bllamptey@gmail.com; bllamptey@leeds.ac.uk +23 3 265121750; +447916076169
32	Alejandra Narvaez Valejo	University of Wurzburg, Germany a.narvaezval@yahoo.es; laleja_18@yahoo.es +49 931 31 -88493
33	Prof. K. M. Baba	Department of Agric Extension an Rural Development Federal University of Technology, Minna kmbaba2002@yahoo.com; kmbaba2002@futminna.edu.ng +234 7035983649; +234 8058933619
34	Prof. O. O. Morenikeji	Department of Urban & Regional Planning Federal University of Technology, Minna oluwole@futminna.edu.ng; +234 8121530747



“We shape our buildings, thereafter they shape us”.

--Winston Churchill --



Table 10 DRP Batches 4 and 5 Lecturers

S/N	NAME	ADDRESS
1	Prof. J. A. Omotosho	Federal University of Technology, Akure (Retired) omotoshojerome@gmail.com / bayoomotosho@yahoo.co.uk +234 7030077951
2	Prof. A. M. Aibinu	Summit University, Offa, Kwara State abiodyn.aibinu@futminna.edu.ng / maibinu@gmail.com +234 8029494164, +234 8132483940
3	Prof. O. O. Morenikeji	Department of Urban & Regional Planning Federal University of Technology, Minna oluwole@futminna.edu.ng +234 8121530747
4	Prof. Joel Izuchukwu Igbokwe	Department of Surveying and Geoinformatics Nnamdi Azikiwe University, Awka ji.igbokwe@unizik.edu.ng / jiiigbokwe@gmail.com +234 8033817170, +234 8057188810
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11	Prof. Nana Ama Browne Klutse	Department of Physics, University of Ghana Legon, Accra, Ghana amabrowne@gmail.com/nklutse@ug.edu.gh +233244983637
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Table 11 DRP Batches 4 and 5 Lecturers (Continued)

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16	Prof Leonard Amekudzi	College of Science, Kwame Nkrumah University of Science & Technology, Kumasi Ghana leonard.amekudzi@gmail.com +233(0)201842237 / +233(0)544706737
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18	Dr. David Gogishvili	Institute of Geography and Sustainability University of Lausanne david.gogishvili@unil.ch; +41772164376
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21	Prof. Dr. Elke Mertens	Prof. Dr. Elke Mertens, Department of Garden Architecture/Open Space Maintenance; Neubrandenburg, University of Applied Sciences (Hochschule Neubrandenburg), Brodaer Strasse 2: 17033, Neubrandenburg; Germany mertens@hs-nb.de
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23	Dr. Olasunkanmi Habeeb Okunola	United Nations University Institute for Environment and Human Security (UNU -EHS), Germany. okunola@ehs.unu.edu; +234 8060970640
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25	Ms Audrey Bourgoïn	Technische Universität Darmstadt, Institute of Geodesy, Franziska-Braun-Strasse 7, 64287 Darmstadt, Germany Bourgoïn@geod.tu-darmstadt.de ; +49 6151 16 21961



Figure 14 Batch 5 students with Dr Olasunkanmi Okunola from United Nations University (UNU), Bonn



Figure 15 Batch 5 students with Professor Albert Abegunda from Obafemi Awolowo University (OAU), Ile-Ife

THE SUPERVISORS

Table 12 MRP Batches 1, 2 and 3 Supervisors

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5	Prof. M. I. S. Ezenwa	Department of Soil Science and Land Management (Retired) Federal University of Technology, Minna ezenwamathew@yahoo.com +234 8065515430
6	Prof. J. M. Baba (late)	-
7	Dr. Arss Secka	International Trypanotolerance Centre (ITC) Banjul, The Gambia arssecka@yahoo.com; seckaarss@gmail.com +220 446 29 28
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9	Prof. Samson K. Agodzo	Department of Agricultural and Biosystems Engineering Kwame Nkrumah University of Science and Technology Kumasi, Ghana skagodzo7@usa.net skagodzo.coe@knust.edu.gh +233 20 8165505, +233 3220 60242/62168 +233 3220 60328
10	Dr. Andre Kiema	Animal Husbandry/Pastoral Institute de L'environnement et de la Reserche Agronomiquen (INERA) Department Productions Animales INERA/CNRST/MRSI, Burkina Faso andre_kiema@yahoo.fr (+226) 70113038

Table 13 MRP Batches 1, 2 and 3 Supervisors (Continued)

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18	Dr. Maman Nafiou Malam Maman	Faculty of Economics Sciences and Law University of Abdou Moumouni of Niamey mnafiou@yahoo.fr; (227) 93 91 47 18
19	Dr. Cheick Hamala Diakite	BP 262 LaboSep, CRRS Sotuba Bamako Republic of Mali cheikhamallafr@yahoo.fr; +(223) 76 36 54 84
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Table 14 MRP Batches 1, 2 and 3 Supervisors (contiuned)

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32	Prof. Kehinde Ogunjobi	WASCAL Competence Centre Ouagadougou, Burkina Faso ogunjobi.k@wascal.org; kenog2010@gmail.com +234 7031145866
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Table 17 DRP Batches 4 and 5 Supervisors (Continued)

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THE ADVISORY/ACADEMIC BOARDS

Table 18 Federal University of Technology, Minna Advisory/Academic Board

SN	NAME	ADDRESS
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2	Prof. M. G. M. Kolo Dean PGS: 2015 - 2019	School of Agriculture and Agricultural Technology (SAAT) mgmkolo@yahoo.com; +234 8035041750
3	Engr. Prof. O. K. Abubakre Dean PGS: 2020 to date	School of Infrastructure, Process Engineering and Technology (SIPET) diranabubakre@futminna.edu.ng, +234 7061691109
4	Prof. A. A. Okhimamhe Director CCALU/CCHH 2012 to date	School of Physical Sciences (SPS) aaokhimamhe@futminna.edu.ng; aimiosino@yahoo.com +234 8034526128
5	Prof. O. O. Morenikeji Dean SET: 20 12 – 2013	School of Environmental Technology (SET) oluwole@futminna.edu.ng; +234 8121530747
6	Prof. O. B. Awojoyogbe Director DAP: 20 12 – 2015	School of Physical Sciences (SPS) awojoyogbe@yahoo.com; +234 8059995405
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8	Prof. Chukwu Ogbonnaya DCAL: 2012 - 2016	School of Engineering and Engineering Technology (SEET) ochukwu@futminna.edu.ng; +234 8035507929
9	Prof. A. S. Abubakar DCCCFR: 2012 - 2015	School of Physical Sciences Sadauki@futminna.edu.ng; +234 8034518108; +234 8059465385
10	Prof. R. J. Kolo Dean SAAT : 2015 - 2019	Crawford University; Igbesa, Ogun State reubenjiyakolo@yahoo.com; vc@crawforduniversity.edu.ng +234 803 6585931
11	Prof. A. M. Junaid Dean SET: 2016 - 2019	School of Environmental Technology (SET) jinaduola@futminna.edu.ng; +234 8034052367
12	Prof. Y. A. Yahaya DAP: 2015 - 2019	School of Physical Sciences (SPS) amuda_yahaya@futminna.edu.ng; +234 8070800763
13	Prof. E. E. Udensi DCAL: 2016 - 2019	School of Physical Sciences (SPS) emmanuel.udensi@futminna.edu.ng; +234 8035960957
14	Prof. Y. A. Sanusi Dean SET: 2013 - 2016	School of Environmental Technology (SET) yasanusi@futminna.edu.ng; +234 7063846372
15	Prof. G. N. Nsofor Dean SNAS : 2014	School of Physical Sciences (SP) nsoforgn50@yahoo.com +234 8035954620; +234 0829942787
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17	Engr. Prof. S. Sadiku	Confluence University, Lokoja profssadikov@gmail.com; vc@custech.edu.ng; +234 8069805416
18	Prof. A. J. Odofin Dean SAAT: 2019	School of Agriculture and Agricultural Technology (SAAT) odofinayo@yahoo.co.uk Odofin.ayodele@futminna.edu.ng +234 8033795657; +234 8124547778
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THE ADVISORY/ACADEMIC BOARDS

Table 19 International Advisory/Academic Board

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2	Prof. Julien Adoukpe (Director, CCWR, Benin Republic) 2012 to date	School of Environment Planning and Management University of Abomey, Calavi; Benin Republic juvictoire@yahoo.com; +22995963541
3	Dr. Georges A. Abbey (Representative of CCDRM, Togo) 2012 to date	University of Lome, Togo abbey_georges@hotmail.com; georges_abbey2@yahoo.fr +228 91 35 38 10; +228 99 44 75 98
4	Prof. Wilson Agyare (Representative of Director, CCLU, KNUST, Ghana) 2012 – 2015	Kwame Nkrumah University of Science and Technology Kumasi, Ghana; wagyare.coe@knust.edu.gh;
5	Mrs. Minnattallah Boutros (2014)	minboutros@gmail.com +491713478142
6	Ms. Christine K. 2012 – 2018	Formerly with Heinrich Bo II Foundation, Abuja
7	Dr. Michael Thiel 2012 to date	Julius -Maximilians-University, Würzburg, Germany Michael.thiel@uni-wuerzburg.de +49 (0) 931 31 84 690, +49 (0) 162 7205933
8	Prof. Eric Kwabena Forkuo (Representative of Director, CCLU, KNUST, Ghana) (2015 – 2016)	Kwame Nkrumah University of Science and Technology Kumasi Eric.forkuo@gmail.com; +233266315338
9	Prof. Leonard Amekudzi (Representative of Director, CCLU, KNUST, Ghana) 2017 to date	Kwame Nkrumah University of Science & Technology Kumasi -Ghana leonard.amekudzi@gmail.com; +233(0)201842237, +233(0)544706737
10	Prof. Kehinde Ogunjobi (Former Director, WACS in FUT Akure): 2017 - 2018	WASCAL Competence Centre Ouagadougou, Burkina Faso ogunjobi.k@wascal.org +234 7031145866
11	Representative of Honorable Minister, Federal Ministry of Environment, Abuja (2012 to date)	Department of Climate Change Federal Ministry of Environment, Abuja
12	Mrs. Lucy Y. Peter (Secretary) 2012 to date	Registry Department Federal University of Technology, Minna luciyiye@futminna.edu.ng ; +234 9095027667

PICTURE MEMORIES OF ADVISORY BOARDS MEETINGS



Figure 16 FUT Minna Advisory/Academic Board members in a meeting.



Figure 17 International Advisory/Academic Board members on a courtesy on University Management

THE INFRASTRUCTURE/FACILITY (RESEARCH EQUIPMENT)



(a)



(b)



(c)



(d)



(e)



(f)



(g)



(h)

Figure 18 "Before and after" pictures of the infrastructural transformation of the Centre from being housed in a temporary building in the Bosso Campus of the University (a) to the compact, serene and simple but beautiful structure in Gidan Kwano Campus. Figures (b) - (d) show the empty plot of land approved for the Centre being assessed by the pioneer members of the International Advisory/ Academic Board to the serene landscape existing today, whose beauty peaks during the raining season.

For transportation, the Centre has two well-maintained vehicles that have been very useful means of transport for the Centre's guests to and from Nnamdi Azikiwe International Airport in Abuja, which is, at least, three hours' drive to Minna. Also, the bus is very useful for conducting the Community Based Field Course, which is a very mandatory course for all the students.

The bore hole drilled within the premises of the Centre in 2015 is the sole source of uninterrupted water supply. A 50KVA power generating plant that was installed within the premises in 2014 has become the most reliable source of electricity due of the frequent power outages nationwide. **Here lies the need for using renewable energy to power the Centre.**

The Centre has well equipped offices for the staff, a board room, classroom, a compact library space with a reasonable collection of current books (approximately 60 relevant textbooks) to support the University's central library. However, the Centre relies on the University and WASCAL repository for online journals, having submitted a list of relevant journals to be subscribed to. **This in-house library option is usually a requirement for accreditation.**

In lieu of a full-fledged functional geospatial analysis laboratory, a research room has been created out of the board room for use by both students and staff. **This was a recent undertaken in 2022, alongside the upgrades done in the classroom, board room, library and landscape of the Centre courtesy funding from BMBF and the Federal University of Technology, Minna.**

Outside the basic furniture required in the Centre, there are field equipment such as GPS, Multi-gas Detector, Soil Sampling Equipment, CO2 Detector, Water Quality Test Kit, Digital Cameras, Digital Video Recorders, Audio Recorders and Binoculars (See Figure 19) and eBee Geo Drone for Mapping and Surveying (See Figure 20). Others are laboratory equipment, namely, Digitizer, 3-in-one A3 Printer, Copier and Scanner (See Figure 21); and a Compact Ultrasonic Weather Sensor (for measuring temperature, relative humidity, air pressure, wind direction, wind speed, precipitation intensity, precipitation quantity, radiation and lightning strikes).

The Centre has improved its online access to international lecturers especially colleagues from Germany, through the acquisition of the necessary equipment, having spent approximately, 90% of BMBF's 1st Priority Investment Funds released in 2022 (€65,000.00 Euros) to purchase a Server to host a Learning Management System, Vibe Interactive Smartboard and Logitech Video Conferencing equipment, among others, that were listed earlier. **The balance of the priority funds approved for the Centre, when released, will be used for acquiring renewable energy infrastructure and an 18 or 30-seater bus. These are very important infrastructure that would improve electricity supply and mobility outside the Campus.**

With funding assistance from the host University, Federal University of Technology, Minna, fiber optics cables have been connected to the Centre to facilitate high speed access to the Internet. **These investments are meant to improve the ability of the Centre to attract further funding to actualize its research vision.**



Figure 19 Field Equipment necessary for field survey and geospatial data collection



Figure 20 Sensefly eBee Geo Drone for Aerial Mapping



(a)



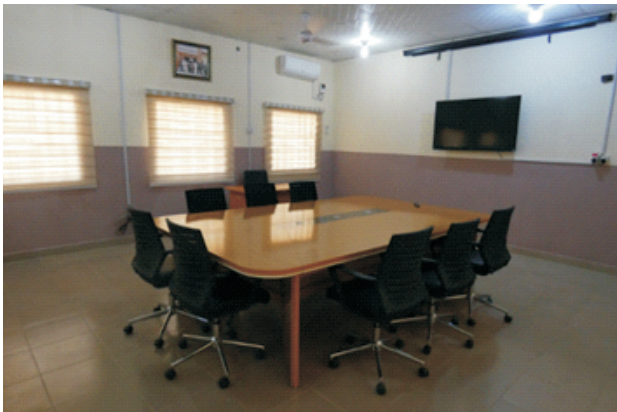
(b)



(c)



(d)



(e)



(f)

Figure 21 Library (a) - (b), Classroom (c) - (d), Board room (e) and Research room (f) for use by students and staff.

OUR RESEARCH

20 Summary

- (a) **Atlas for Green Hydrogen Potential in Africa:** The **H2 ALTAS - AFRICA**, project was the first phase of a joint initiative of the German Federal Ministry of Education and Research (BMBF) and African partners in the sub-Saharan region (SADC and ECOWAS countries). In West Africa, this project is coordinated by the West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) to explore the potentials of green hydrogen production from the enormous renewable energy sources within the sub-region. Currently, a master's degree programme is ongoing in four West African countries. The **H2 ATLAS in NIGERIA** was handled by a team of experts from relevant disciplines under the supervision and coordination of **WASCAL CCHH, Federal University of Technology, Minna, Nigeria**.



Figure 22 The Nigerian H2 Atlas Team led by Prof A. A. Okhimamhe and the Overall Coordinator, Dr Solomon Agbo in an intense discussion on the way forward.

Valuable data were collected, collated, analyzed, and an H2 ATLAS for West Africa, where countries can extract their own result has been produced. The project was funded by the German Ministry of Education and Research and coordinated by Forschungszentrum Julich GmbH. In Nigeria, the data collection phase was concluded with a workshop on the validation and dissemination of atlas of green hydrogen generation potentials in Nigeria. The workshop held in the board room of the Wells Carlton Hotel and Apartments, Abuja from 7th - 8th March 2022 (See Figure 22). The African Coordinator of the Project presented the Atlas that was developed for West Africa, with emphasis on Nigeria. The relevant stakeholders such as Federal Ministry of Power, Federal Ministry of Environment, the Energy Commission of Nigeria, Academia and Researchers, discussed the results, while appreciating the tremendous opportunity this avails Nigeria. However, the way forward requires active participation and genuine political will from the decision and policy makers as well as private sector actors.

- (b) **Rural-urban and cross-border migration in West Africa - an integrated assessment framework of drivers, processes and sustainable Responses (MIGRAWARE):** This is ongoing research being conducted by a consortium comprising Universities in Germany, Burkina Faso, Ghana and Nigeria. The key aspects of the

research include analysis of the reasons (Drivers and Factors) for migration; implementing advanced tools for mobile devices for mobility tracking and mapping and apps supporting citizen science approaches; inquiring and developing, based on participatory scenarios, suggestions for suitable governance instruments that address migration decisions, mobility pathways and re-migration, among others.

In Nigeria, the partner in **MIGRAWARE** is **WASCAL DOCTORAL RESEARCH PROGRAMME (DRP) IN CLIMATE CHANGE AND HUMAN HABITAT (CCHH)** in the Federal University of Technology, Minna, Niger State. It is the hub that will consider the training of future decision makers and knowledge holders for climate-migration interactions in Nigeria. A modular teaching and training program for knowledge and skills in how to assess and manage the impacts of climate and global change on rural-urban and cross-boundary migration will be jointly developed and implemented. Currently, the Centre is preparing to analyse data collected about migration from 2217 households, 17 Focus Group Discussions and 20 In-depth Interviews in collaboration with other partners. Figure 23 shows one of the seventeen Focus Group Discussions that were conducted during the field data collection. It is worthy of mention that MIGRAWARE research funded the purchase of most of the existing field equipment. Figure 24 shows the Nigerian MIGRAWARE team.

MIGRAWARE is sponsored by the German Ministry of Education and Research in Germany (BMBF) through the West African Science Service Centre on Climate Change and Adapted Land Use (WASCAL) in Accra, Ghana.



Figure 23 Focused Group Discussion Session in Sagin-Lemu Community in Adamawa State



Figure 24 MIGRAWARE Team in FUT Minna and Field Assistants

(c) Research by students: Efforts are made to ensure that the students' research topics are relevant to the sub-region. Batch 1 MRP students conducted their master's degree research in their home countries. This was viewed as an anomaly by WASCAL as it is meant to provide multicultural research experience for the students. This was rectified with Batch 2 MRP as they chose topics relevant to the "food basket" of Nigeria, the North Central States of Niger, Kogi, Kwara and Nasarawa States.

However, prior to the commencement of Batch C's programme, WASCAL developed its Research Agenda and this served as a guide for the research topics selected by the students. The students spent between four and five months in their respective field locations spanned across six countries. While five students worked in Nigeria, the other students conducted their field work in The Gambia, Benin Republic, Niger Republic, Burkina Faso and Mali.

It suffices to mention that current research topics were chosen collectively by the students, with slight modifications made by the International Advisory/Academic Board, to reflect not only West African research needs, but also, German based colleagues' research interests in West Africa. **The current PhD students (Batch 5) have taken research to a higher level by choosing cross country topics that will provide them with the multicultural experience that could broaden their horizon as young Africans researchers.** In this case, both host and home countries will benefit from their research output. Figure 21 (d) shows online Proposal defense in progress.

COMMUNITY SERVICE

Summary

One of the mandatory courses that the students must take is the Community Based Field work. The objective of the course is to provide an avenue for the students to, not only carry out field data collection in practical terms, but also to learn the skills necessary for successful interaction with communities within the various settlements visited. The communities studied by the students include Busugi (Batch 1), Chikodna (Batch 2) and Kataeregi (Batch 3).

Out of these three sites, Busugi community (see Figure 25) was selected for a small community development project involving renovation of two classrooms and was sponsored by Batch 3 students, WASCAL CCALU/CCHH staff and some International Advisory Board members. This was due to the debilitating state of the classrooms in the community primary school that exposed developing young brains to climate change induced high temperature (See Figure 26) and the renovated classroom block (See Figure 27).



Figure 25 Interaction with members of Busugi Community in Niger State



Figure 26 Busugi Primary School sole classroom block before the renovation



Figure 27 Members of the International Advisory Board, Staff of WASCAL and Busugi Primary School staff and pupils, their parents and other members of the community at the commissioning of the renovated classroom block.

AWARDS AND RESEARCH GRANTS

Summary

The renovation of a classroom block in Busugi Community led by Batch 3 students earned WASCAL in FUT Minna an award from the Head Office in Accra, Ghana (See Figure 28) called "WASCAL Alumni Community Impact Award" in 2018. Additionally, in 2021, the Centre received the "Vice Chancellor's Commendation for Exceptional Performance in University Governance" from the 8th Substantive Vice Chancellor of the Institution, Professor Abdullahi Bala FSSN (see Figure 29). **Furthermore, the Centre has benefitted from research grants from BMBF sponsored projects, namely MIGRAWARE and H2Atlas, amounting to €186,586.14 among other benefits.**



Figure 28 A plaque awarded in recognition of the initiative of Batch 3 students of WASCAL CCALU in 2017.



Figure 29 The certificate awarded to WASCAL titled "Vice Chancellor's Commendation for Exceptional Performance in University Governance"

PUBLICATIONS (BOOKS, JOURNAL, COMMUNICATION, TECHNICAL PAPER, POLICY BRIEF)

Summary

Figure 30 shows the number and type of publications per batch. In summary, there are 7 journal articles, 2 communications, 23 posters, 4 policy briefs and 10 conference papers. These are all publications emanating from the MRP research projects, at a time that it was not mandatory for them to publish before graduating with their degrees.

- 1) Ragatoa, D.S., Ogunjobi, K.O., Klutse, N.A.B., A. A. Okhimamhe, Julia o. Eichie, "A change comparison of heat wave aspects in climatic zones of Nigeria". *Environ Earth Sci* 78, 111 (2019). <https://doi.org/10.1007/s12665-019-8112-8>
- 2) Saberma Ragatoa, K.O. Ogunjobi, A.A. Okhimamhe, N.A. Browne Klutse & B.L. Iamptey "A predictive Study of Heat Wave Characteristics and their spatio-temporal trends in Climatic Zones of Nigeria: Modelling Earth Systems and Environment" *Modeling Earth Systems and Environment*, Vol. 4, No. 3, pp. 1125-1151, 2018.
- 3) T. Gbangou, A.A. Okhimamhe, M. Bamba Sylla, O.D. Jimoh "Assessment of Projected Agro-climatic indices over Awun River Basin, Nigeria for the late Twenty-first century" *Climatic Change*, vol. 151, No. 3, pp. 445-462, 2018.
- 4) M.L.G. Guidigan, Fortune Azihou, Rodrigue Idohou, Appollonia Aimiosino Okhimamhe and Adande Belarmain Fandohan "Modelling the current and Future Distribution of *Kigelia africana* under Climate Change in Benin, West Africa: Modelling Earth Systems and Environment" *Modeling Earth Systems and Environment*, Vol. 4, No 3, pp. 1225-1238, 2018.
- 5) M.L.G. Guidigan, F. Azihou, A.A. Okhimamhe, B. Sinsin, S.U. Ibrahim, L. Adet "Examining the Effectiveness of a Protected Areas Network in the Conservation of *Kigelia Africana* under Climatic Change by 2050 in Benin", *Open Access Library Journal*. Vol. 5, No. 2, pp. 1-15, 2018.
- 6) Enoch Bessah, Abdullahi Bala, Sampson Kweku Agodzo, Appollonia Aimiosino Okhimamhe, Emmanuel Amoah Boakye, Saratu Usman Ibrahim (2019) "The Impact of crop Farmers Decision on Future Land use, Land Cover in Kintampo North Municipality of Ghana" *International journal of Climate Change Strategies and Management* Vol. 11 issue: 1 PP 72-87, <https://doi.org/10.1108/IJCCSM-05-2017-0114>
- 7) Karamoko Sanogo, Abdulkadir Aishetu, A. A. Okhimamhe and Cheick H. Diakité (2015); Spatio-temporal Change in Land Use and Land Cover: Implications for Conservation of Fina Faunal Reserve in Mali" *Nigerian Journal of Technological Research*, Vol.10/2: pp 34-42
- 8) Sophie Agnes Kima, A. A. Okhimamhe, Andre Kiema, Nouhoun Zampaligre, Isaiah Sule (2015); Adapting to the impacts of climate change in the sub-humid zone of Burkina Faso, West Africa: Perception of Agro-Pastoralists, *Pastoralism Research, Policy and Practice* 2015 Vol5: pp 1-14
- 9) Nyazi, Emmanuel, Ezenwa, I. S. Mathew, Nyarko, K. Benjamin, A. A. Okhimamhe, Bagamsah, T. Thomas and Okelola, O. Francis (2015); Assessment of Trace Gas Emissions from WildFires in Different Vegetation Types in Northern Ghana: Implications for Global Warming: *Environment and Natural Resources Research* Vol. 5/2: pp 37-48
- 10) Sophie Agnes Kima, A. A. Okhimamhe and Andre Kiema (2016) Assessing the impacts of land use and land cover change on pastoral livestock farming in South-Eastern Burkina Faso; *Environment and Natural Resources Research* Vol. 6/1: pp 110-124
- 11) Ebrima Sonko, Daniel N. Tsado, Sidat Yaffa, Appollonia A. Okhimamhe and Julia Eichie (2016); Wet and Dry Season Effects on Select Soil Nutrient Contents of Upland Farms in North Bank Region of the Gambia; *Open Journal of Soil Science* Vol.6: pp 45-51

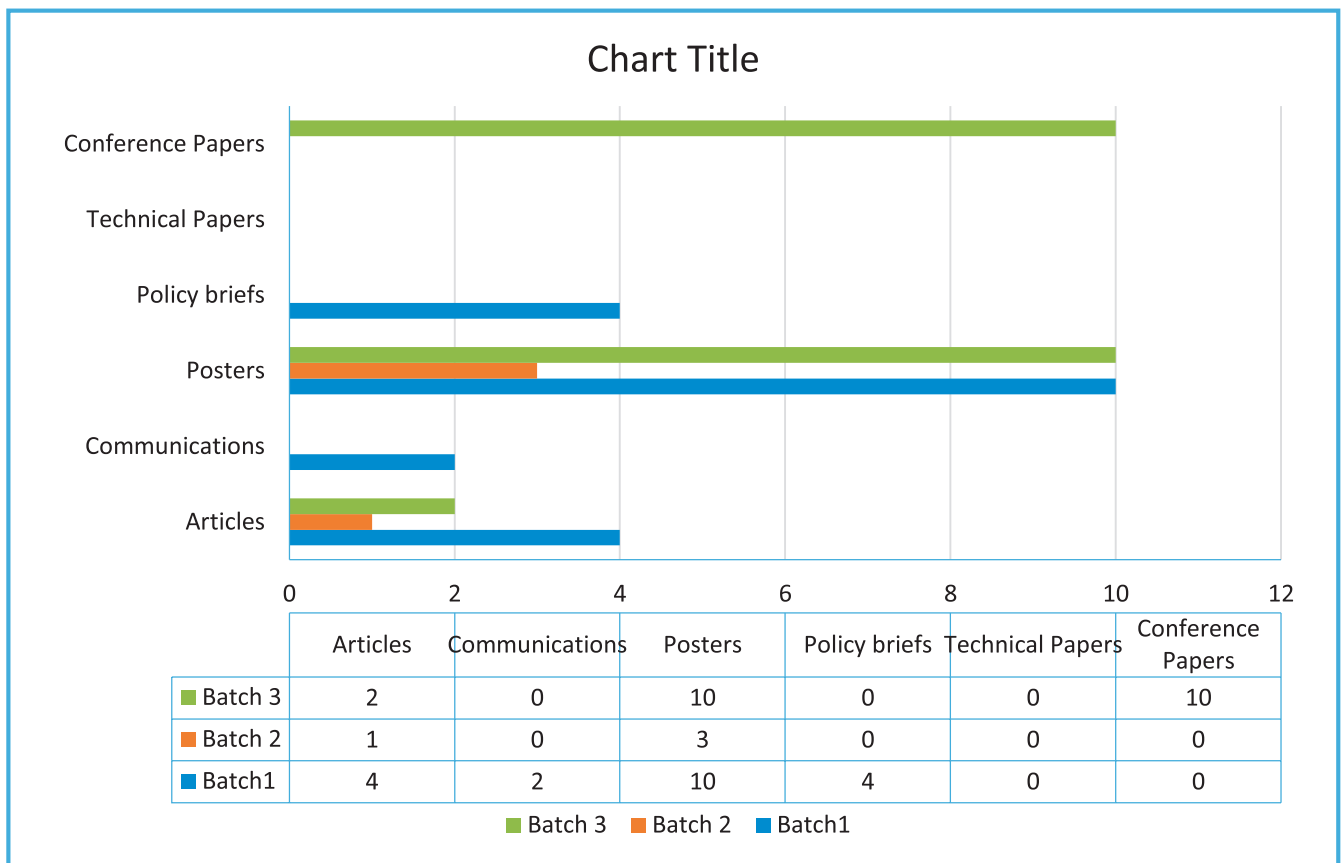


Figure 30 Number of publications from the MRP Graduates (Batches1-3)

THE NETWORK

21 WASCAL Host Universities and Programmes

WASCAL in FUT Minna belongs to a network of WASCAL host Universities coordinated by the Head Office in Accra, Ghana (See Figure 31).

 <p>Master Research Programme on Informatics for Climate Change</p>	 <p>Master Research Programme on Climate Change and Marine Sciences</p>	 <p>Doctoral Research Programme on West African Climate Systems</p>
 <p>Doctoral Research Programme on Climate Change and Water Resources</p>	 <p>Doctoral Research Programme on Climate Change and Economics</p>	 <p>Doctoral Research Programme on Climate Change and Land Use</p>
 <p>Doctoral Research Programme on Climate Change and Agriculture</p>	 <p>Doctoral Research Programme on Climate Change and Biodiversity</p>	 <p>Doctoral Research Programme on Climate Change and Disaster Risks Management</p>
 <p>Doctoral Research Programme on Climate Change and Human Habitat</p>	 <p>Doctoral Research Programme on Climate Change and Education</p>	 <p>Doctoral Research Programme on Climate Change and Energy</p>

Figure 31 WASCAL Host Universities and Programmes

WASCAL STAFF (2012 - 2022)

Core Staff recruitment in WASCAL in FUT Minna follows the guidelines for staff recruitment requested by the Head Office in Accra, Ghana. The Director and Deputy Director are required to be University staff, while others can be recruited internally or externally. The staff work as a team in a cordial atmosphere (see Table 19 and Figure 32).

Table 19 WASCAL Staff within 2012 - 2022

SN	NAME	CONTACT
1	Prof. A. A. Okhimamhe Director	Department of Geography: aaokhimamhe@futminna.edu.ng; Aimiosino@yahoo.com +234 8034526128
2	Dr. Saratu U. Ibrahim Deputy Director (Served from 2012 – August 2022)	Department of Water Aquaculture & Fisheries Technology suibrahim@futminna.edu.ng; +234 07039025846
3	Dr. Emmanuel T. Umaru Deputy Director (2022 to date)	Department of Urban & Regional Planning eumaru@futminna.edu.ng; eumaru2001@yahoo.com +234-8036530536
4	Engr. Femi Erunkulu I. T. Officer (Served from 2012 - 2019)	Botswana International University of Science & Technology +234 8034529048
5	Engr. Raphael Agboola I. T. Officer (2019 to date)	Information Technology Services ralph@futminna.edu.ng; +234 7068359088; +234 8058991784
6	Mr. Edward Stephen Sunday Finance Officer (Served from 2012 - 2020)	Bursary Department +234 8065940207
7	Mr. Yahaya Abdulrahman Finance Officer (2020 to date)	Bursary Department asipitaay2008@futminna.edu.ng; +234 8063685846
8	Dr. Anita Z. Adamu Scientific Coordinator (Served from March 2021 – Feb 2022)	Department of Quantity Surveying ninadzi@futminna.edu.ng; +234 8037036163
9	Mrs. Mary Odekunle Scientific Coordinator (2022 to date)	Department of Geography odemary@futminna.edu.ng; +234 8035957159
10	Dr. Julia Eichie (Formerly a full staff but now a volunteer)	Department of Physics juliaeichie@futminna.edu.ng; +234 8035758402
11	Mr. Isaiah Sule (Formerly full staff but now a volunteer)	Department of Geography isaiah.sule@futminna.edu.ng; Marissz2002@yahoo.com +234 8035900182
12	Mrs. Lucy Y. Peter Office Manager & Secretary	Registry Department luciyiye@futminna.edu.ng; +234 9095027667
13	Mr. Ademola Adenle Academic Assistant (Leave of Absence)	Department of Geography Ade.adenle@gmail.com; +234 8030564718; +41778178194
14	Mr. Francis Mayokun (late) Logistics Assistant (2012-2015)	
15	Mr. Yamma Wakili Driver	Works Department +234 8036471512
16	Mrs. Florence Adam Cleaner	FUTMIN Ventures +234 8072570058
17	Mr. Ayuba S. Noma (Formerly a full staff but now a gardener)	FUTMIN Ventures +234 7068359312
18	Mrs. Rahab Mamman Cleaner (2014 – 2018)	Registry Department +234 8136868010



Prof Appollonia A. Okhimamhe
Director



Dr Emmanuel Umaru
Deputy Director



Mrs. Lucy Peter
Secretary



Abdulranhman Yahaya
Finance Officer



Engr Ralph Agboola
IT Officer



Mary Odekunle
Scientific Coordinator



Dr Julia Eichie
*Associate Researcher



Isaiah Sule
Adhoc Staff (Academic Assistant)



Sidikat Aliyu
MIGRAWARE Project Assistant



Florence Adam
Cleaner



Ayuba Noma
Gardener



Wakili Yamma
Driver

Figure 32 WASCAL CCHH Family

VISION FOR THE FUTURE

Highlights

- ❖ SDG 13 states that Cities and Human Settlements should be designed to be inclusive, safe, resilient and sustainable, **the curriculum of CCHH was designed, in 2018, to tackle the gaps in this SDG implementation in West Africa.** Periodic reviews will ensure we maintain the relevance of our content.
- ❖ While efforts are being made to ensure visibility and sustainability, the need to practice what we teach requires that our WASCAL BUILDING is an example of a smart and renewable energy powered Centre...so a **“living laboratory”** is required for practical demonstrations.
- ❖ Efforts will be made to **attract, encourage, maintain and retrain qualified, dedicated, hardworking and committed staff, who are willing to make the necessary sacrifices to continue to innovate to fortify the strong foundations that hold up WASCAL GSP in FUT Minna (MRP CCALU and DRP CCHH).**
- ❖ **Online access to more textbooks and relevant international journals in the areas of focus of the Centre.**
- ❖ **Re-activate the MRP CCALU degree** as an online academic programme, having already secured University Senate’s approval to conduct its programme virtually, where necessary.



“Where there is no vision, the people perish”.

----Proverbs 29:18 -----





By far the greatest and most admirable form of wisdom is that which is needed to plan and beautify cities and human communities.

–Socrates --



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CELEBRATING 10 YEARS OF

dedication to become one of
Africa's leading Science-based
Institutions in the provision of climate
service in and for West Africa.

OUR CONTACT



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<https://www.youtube.com/@wascalcchh>

Facebook: <http://facebook.com/wascal.cchh>