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One Planet Fellowship Programme Advanced Science Training (AST) APPLICATION FORM

Personal and contact information

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Gender	Male
Date of Birth	Wednesday, March 30, 1988
Nationality	Kenya
Country of residence	Kenya
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Educational background

Highest educational attainment by the time of application	Master
Academic discipline	Meteorology
Name of the university, country and year when the degree was obtained	University of Nairobi

Professional status and research experience

Current position title, employer and country, if applicable. Otherwise, type N/A.	Climate scientist, IGAD Climate Prediction and Application Centre (ICPAC))

Briefly summarize your responsibility and achievements in your current position. (Maximum 200 words)

 General coordination and day to day running of Agricultural Climate Resilience Enhancement Initiative (ACREI) component 3 project activities that include packaging, interpretation and dissemination of subnational downscaled climate forecasts to smallholder farmers in Taita Taveta County, Kenya, East and West Hararghe, Ethiopia, and Isingiro and Sembabule districts, Uganda, through use of different

coproduction techniques including Participatory Scenario Planning (PSP) and Participatory Integrated Climate Services for Agriculture (PICSA).

- Due to this engagement, the following has been achieved and is being constantly improved through the coproduction approaches;
- Increased stakeholders awareness on the role and importance of climate services
- enriched understanding on the importance of coproduction process in supporting community Climate Change Adaptation (CCA) and contingency planning processes
- improved understand in the role and importance of meteorological services in CCA, and dissemination of climate information to end users
- informed, anticipatory, precautionary and flexible decisions to manage climate uncertainty, risks and opportunities made
- integration and implementation of effective climate risk management in all livelihood, sectoral and development planning processes
- enhanced climate resilience of livelihoods and development, through adaptation to a range of seasonal climatic possibilities

What are your key research areas/focus? List down up to 3 (Maximum 300 words)

My research focuses on managing climate risks within the smallholder farmers, particularly in rain-fed farming systems through enhancing access to quality tailored Climate Services (CS). Through my interaction with FAO and staff from the IGAD member states agricultural ministries, I have noted that CS is not strongly embedded in the Farmer Field School (FFS) approach and thus the need to build a strong nexus.

My research therefore aims at strengthening the nexus between climate and agriculture interface through incorporation more accurate and relevant localized climate services into
extension and advisory services for smallholder farmers.

I am also a PhD student researching on the title "Enhancing the Use of Climate Information Services for Resilience Building Among Smallholder Crop Farmers in Elgeiyo Marakwet County, Kenya, Under a Changing Climate"

My objectives are as follows:

i. Assess existing delivery and feedback mechanisms of climate information from providers to agriculture end-users in Elgeiyo Marakwet County.
ii. Characterize historical climate baselines over Elgeiyo Marakwet County.
iii. Analyse projected climate change trends using Representative Concentration Pathways (RCP) for near term (2030), midterm (2050) and long term (2100)
iv. Co-develop long-term adaptation options for agriculture resilient development that would be implemented to improve crop production among smallholder farmers.

Briefly describe your most recent (i.e., in the last two years) research project involvement and your role in its implementation. (Maximum 300 words)

Currently, I am in charge of coordination and day to day running of component 3 of Agricultural Climate Resilience Enhancement Initiative (ACREI) project. ACREI is a 3-year partnership program between the World Meteorological Organization (WMO), the Food and Agriculture Organization of the United Nations (FAO) and the Intergovernmental Authority on Development (IGAD) Climate Prediction and Applications Centre (ICPAC) and funded by the Adaptation Fund. The program targets Ethiopia, Kenya and Uganda and its overall objective is to improve adaptive capacity and resilience to current climate variability and change among targeted farmers, agro-pastoralists and pastoralist communities. It supports Community Adaption Practice (Component 1), Climate Proofing of Extension Systems (Component 2) and Climate Informed Decision Making (Component 3). Component 3 intended outcome is on “Improved climate informed decision making in regional, national and sub-national institutions”

The project goal is to develop and implement adaptation strategies and measures that will strengthen the resilience of vulnerable smallholder farmers, agro-pastoralists and pastoralists in the Horn of Africa to

climate variability and change.
The rationale of component 3 comes from the fact that smallholder farmers in the Greater Horn of Africa face extreme weather and climate events which severely impact on food production and thus posing negative impacts to their livelihood. It focuses on:
• Downscaled and tailored location-specific seasonal climate forecasts and relevant agrometeorological products
• strengthening and designing an efficient agro-climatic advisory and feedback mechanism by utilizing existing models including Participatory Scenario Planning (PSP) pioneered by Care International and Participatory Integrated Climate Services for Agriculture (PICSA) approach pioneered by the University of Reading.
• Proper packaging and timely dissemination of Agro-climatic advisories
• Ensuring that evidence based climate information feeds into policy dialogues in the region

Provide details of your two (2) most recent publications, if applicable. Otherwise, type N/A.

Kipkogei, O., Mwanthi, A. M., Mwesigwa, J. B., Atheru, Z. K. K., Wanzala, M. A., & Artan, G. (2017): Improved Seasonal Prediction of Rainfall over East Africa for Application in Agriculture: Statistical Downscaling of CFSv2 and GFDL-FLOR. Journal of Applied Meteorology and Climatology, (2017).
http://journals.ametsoc.org/doi/abs/10.1175/JAMC-D-16-0365.1

Kipkogei, O., Bhardwaj, A., Kumar, V., Ogallo, L. A., Opijah, F. J., Mutemi, J. N., & Krishnamurti, T. N. (2016): Improving multimodel medium range forecasts over the Greater Horn of Africa using the FSU superensemble. Meteorology and Atmospheric Physics, 1-11.
http://link.springer.com/article/10.1007/s00703-015-0430-0

Kipkogei O, Siebert A, Jordan P, Cousin R, Jama A, Hansen J. 2018. Advancing the use of gridded, online climate information for risk management in the Horn of Africa, Mombasa, Kenya. 2018. CCAFS Workshop Report. Wageningen, Netherlands: CGIAR Research Program on Climate Change, Agriculture and Food Security (CCAFS).
https://hdl.handle.net/10568/92093
Kipkogei O, Ogallo L, Lore C, 2020. Involving Farmers and Other Local Stakeholders in Producing Seasonal Climate Advisories.https://medium.com/@icpac/involving-farmers-and-other-local-stakeholders-in-producing-seasonal-climate-advisories-f1d3c95377d5

Advanced Science Training (AST)

Have you ever been selected for a research placement before? If yes, please provide details of your research focus, period, host institution and the benefits of the program. Otherwise, type N/A. (Maximum 200 words)

Yes, I was selected to undertake my master's research on ensemble climate modelling at Florida State University, USA, from January to April, 2014 after a successful completion of course work at the University of Nairobi, Department of Meteorology. This is where I enhanced my modelling skills that I use till today including use of various software's to analyze huge climatic datasets. More importantly, this is where my first peer reviewed publication in an international journal was born and ever since I have not looked back.

Why are you interested in applying for OPFP Advanced Science Training (AST)? (Maximum 300 words)

I am currently a PhD student on Climate Change and Adaptation at the University of Nairobi. My research title is on "Enhancing the Use of Climate Information Services for Resilience Building among Smallholder Crop Farmers in Elgeiyo Marakwet County, Kenya, Under a Changing Climate". Part of my research objectives involves analysis of historical climate baselines and climate change projections (scenarios), mainly agro-meteorological based indices like onset, length of growing period, cessation etc., both in the

past to present and changes in the future to inform medium to long term adaptation planning in Elgeiyo Marakwet County and thus building resilience of farmers. There has been development from the current Coordinated Regional Downscaling Experiment (CORDEX) based Representative Concentration Pathways (RCPs) used in IPCC AR5 to the most recent model outputs from Coupled Model Intercomparison Projects 6 (CMIP6) that will be used in IPCC AR5. Does the CMIP6 resolve the "East African Climate Paradox" which is observed in CORDEX data? All this undertaking involves huge datasets, huge computations, processing, and needs specialised skills that I believe Advanced Science Training (AST) placement will provide. Further, graduating timely with my PhD is also crucial in my OPF journey as its part of my Purpose Road map of becoming a global leader in climate risk assessment and provision of climate change adaptation solutions and information for improvement of smallholder farmers.

What specific research area(s) would you like to further develop through the OPFP AST and how do you envisage this collaboration? (Maximum 500 words)

As I work towards realization of being a global leader in climate risk assessment and provision of climate change adaptation solutions and information for improvement of smallholder farmers which is well articulated in my OPF Purpose Road Map, I also take note that this goes beyond academic achievements. Through AST placement, I will get a chance to network and create global linkages that will help me in navigating complex issues on climate change and thus be better equipped to lead focused research on helping Africa's smallholder farmers adapt to a changing climate. It will be like a global community for seeking professional advice on climate change issues affecting farmers.
Through this network, my vision is to jointly, together with my institution, co-develop a proposal for funding with a focus on improving resilience of smallholder farmers in the Greater Horn of Africa (a consortium of 11 countries) through enhanced used of climate information services, climate change adaptation and climate proofing of extension systems in the region. This will be done building on the previous initiatives in Greater Horn of Africa and Europe.
Further, I intend to increase my number of peer reviewed publications in international high impact journals through collaboration in areas of mutual interest. Finally, through the network created, I am hoping to attend and present my research findings in international climate change meetings. All these will no doubt play a part in realizing my Purpose Road Map in a holistic manner.

Please describe three (3) specific skills that you would like to learn or further develop during the OPFP AST. (Maximum 300 words)

1. Climate change modeling skills including use of various software's to downscale and analyze climate change data from global climate models. Downscaling is key for use at sub-national levels in order to inform long term adaptation options. My focus will be on CMIP6 models which is currently being used to generate AR6 report
2. Enhance my publication skills (peer reviewed). This is for my general scientific growth in my field and also as a requirement to graduate at the University of Nairobi
3. Enhance my resource mobilization skills through joint drafting of proposals for funding

How do you intend to use these skills to contribute to climate change adaptation and/or mitigation in agriculture in your area/country? (Maximum 300 words)

1. Generate agriculture based climate change projections based on CMIP6 model data to inform long term adaption planning as a result of future anticipated changes in temperature and precipitation.
2. Confidently participate in multidisciplinary and transdisciplinary discourse in the Intergovernmental Authority on Development (IGAD) region on climate change adaptation and mitigation debates
3. Mobilize resources to solve some of the climate change related problems affecting smallholder farmers in the IGAD region building on past and ongoing successful initiatives in IGAD region and Europe.

We are exploring with some European institutions the possibility of hosting One Planet Fellows in their organization. From choices provided in the dropdown menu, kindly identify for your 1st and 2nd choices. If selected, we will, to the extent possible, take into account your preference. Should this not be possible, you will be posted to a European institution that will be interested and available to host you

for the duration of your AST.

Click here to see the list of potential AST hosts.

First choice

Germany - Potsdam Institute for Climate Impact Research FutureLabs

2nd choice

Switzerland - ETH Zurich

How would the OPFP AST benefit and advance your research career goals? (Maximum 300 words).

Research is a continuous process and through AST, I get an opportunity to expand my horizon from regional to the global level. I will get an opportunity to learn some of the best practices in Europe and domesticated some them at my institution through joint collaboration

How could the OPFP AST benefit your host host and your home institution?(Maximum 300 words).

I will share my experience from Africa context, having worked as a researcher in Africa for a good number of years. This can lead to formulation of joint priority research areas that we can jointly and collaboratively work on

What does it means for you to be a researcher? What do you think are the responsibilities that come with it? What do you think is your role as a researcher in the society? (Maximum 300 words).

To me, a researcher strives to find solutions to problems affecting our society through systematic investigation. Researchers should collaborate and communicate their findings well. Additionally they should be honest and and be governed by research ethics. As a researcher, I should work closely with the society through co-production mode where multidisciplinary and transdiciplinary discourse are used to enable knowledge integration in order to find solutions to societal problems

One Planet Fellows are considered as ambassadors of the Programme. What does it mean to you to be an ambassador for this programme? What do you intend to do as one? (Maximum 300 words).

Firstly, I acknowledge the big role that the OPF has contributed so far in my career and professional growth. As an ambassador of the programme advocate and enhance its visibility in every opportunity I get to interact with during my AST placement, for instance, on its scientific framework and its unique training approach. As an ambassador, I will work hard to realize my objective of participating in the AST if given a chance

DECLARATION

By ticking this box, you declare that you have completed the application form by yourself and that all the information you have provided herein are true and correct.