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## CURRICULUM VITAE OF DR. LADISLAUS BENEDICT CHANG'A

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### 1. Personal Details

**Name** : Dr. Ladislaus B. Chang'a,  
**Profession:** Meteorologist, Climate and Climate Change Expert  
**Nationality:** Tanzanian  
**Telephone** : +255759349966

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### 2. Key Qualification and Experience

Dr. Chang'a has been working in the area of Climate, Meteorology and Climate Change since 1995. He has a wide range of experience in climate services including in climate observation and monitoring, climate data processing and analysis, weather forecasting, seasonal climate prediction, generation of climate information and products and in climate data management. He has participated in several research and project activities related to climate services, climate variability and climate change, and the role of Indigenous Knowledge in climate forecasting and climate change adaptation. Dr. Chang'a has participated in the preparation of National Communication to the United Nation Framework Convention on Climate Change (UNFCCC), preparation of the National Climate Change Strategies and National Climate Change Communication Strategies, and review of the IPCC reports (AR4 and AR5, AR6). He has computer skills and knowledge including programming language and statistical software such as FORTRAN and R. He has participated in a number of climate change projects and consultancy. His particular strength includes good leadership skills and experience in climate change negotiation, and in chairing climate change negotiation meetings at UNFCCC and IPCC. Dr. Chang'a is also working as a Part-time Lecturer at the University of Dar Es Salaam, teaching Climatology, Climate Monitoring and Prediction for BSc students, and the Science of Climate Change for MSc students. He is actively involved in supervision and mentoring of BSc, MSc and PhD students.

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### 3. Education:

University	Duration	Country	Award
University of Dar es Salaam	2009 - 2010	Dar es Salaam, Tanzania	Postdoctoral Certificate on climate variability
Russian State Hydrometeorological University	2004 - 2006	St. Petersburg, Russia	PhD in Physics and Mathematical Science (Meteorology)
Russian State Hydrometeorological University	2002 - 2004	St. Petersburg, Russia	MSc Meteorology
Russian State Hydrometeorological University	1998 - 2002	St. Petersburg, Russia	BSc Meteorology
Russian State Hydrometeorological University	1997 - 1998	St. Petersburg, Russia	Russian Language Certificate
National Meteorological Training Centre (NMTC)	1994 - 1995	Kigoma, Tanzania	Class IV Meteorological Certificate

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### 4. Professional Engagement and Membership in Professional Societies:

- 4.1. Secretary of Tanzania Meteorological Society **from 2016 to-date**.  
Co-Chair of the Expert Team on Operational Climate Monitoring of the WMO Commission of Climatology (WMO- CCL) **from 2018 to 2020**;
  - 4.2. Member of WMO –CCL implementation Coordination Team on Climate Services Information System (ICT-CSIS) **from 2018 to 2020**;
  - 4.3. Member of the WMO Executive Council Panel of Expert on Polar and High Mountain Observation, Research and Services **from 2016 to 2020**;
  - 4.4. Member of the World Meteorological Organization – Commission for from Climatology (WMO-CCL) Task Team on National Climate Monitoring Products from July 2014 to 2018;
  - 4.5. Co-Chair of the World Meteorological Organization – Commission for Climatology (WMO-CCL) Task Team on National Climate Monitoring Products from 2010 to 2014;
  - 4.6. IPCC Focal Point for Tanzania **from July 2013 to-date**.
  - 4.7. Board Members – Centre for Climate Change Studies of University of Dar es Salaam **from 2013 to-date**.
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## 5. Leadership and Management

- 5.1. Acting Director General -Tanzania Meteorological Authority from November 2022 to-date;
- 5.2. Director Research and Applied Meteorology from September 2014 to-date;
- 5.3. Manager – Environment and Research section- TMA : 2011 – 2014;
- 5.4. Head – Research Section, Tanzania Meteorological Agency – 2007 – 2011;
- 5.5. Meteorologist – from 2003, Principal Meteorologist - from 2007.

## 6. Other Leadership and Management credentials

Since 2014 in his capacity as the Director of Research and Meteorological Application, he has been involved in various strategic leadership assignments and positions and significantly contributing to the development and achievement of the Tanzania Meteorological Authority. Some of the Leadership assignments and achievements made are as follows:

**Chairman of the Tanzania Meteorological Authority Tender Board (From 2018 to 2022).** Contributed to enhanced and sustained performance in procurement activities and getting recognition from PPRA through their regular procurement audit.

- 6.1. **Secretary of the Tanzania Meteorological Authority Board Committee on Audit, Risk and Quality Management (From 2018 to 2022).** The key achievement includes strengthening of Internal Control for ensuring enhanced quality, efficiency and effectiveness of operational activities and services, and for adhering to standards and requirements. TMA operational activities and the associated products have progressively improved in-terms of quality and accuracy and in adhering to both National and International Standards and Requirements leading to retaining QMS ISO-9001 2015 certification.
- 6.2. **Acting Director General.** Since 2022, he has been working as Acting Director General of the Tanzania Meteorological Authority responsible for overall Leadership and Management of the Authority with 530 staff.
- 6.3. **Secretary of TMA Research Committee (From 2015 to 2022):** He contributed to the Establishment of TMA Research Journal that serve to promote meteorological and climate change research and the science of Meteorology across the region.
- 6.4. **Establishment of TMA Statement on the Status of Tanzania Climate.** He **pioneered** the establishment of the Annual Publication on the status of Tanzania Climate. This publication is a catalyst for enhanced climate change monitoring and analysis, and is available online.
- 6.5. **Secretary of Tanzania Meteorological Society (TMS):** He has been serving as the secretary of the Tanzania Meteorological Society since 2014 and contributed

to the strengthening of the Society by recruiting more members and by participating in climate change research and development projects and Interventions, including raising public awareness about climate change. TMS is now a Member of the International Forum for Meteorological Society (IFMS) and also a co-founder of the African Meteorological Society (AMS).

**6.6. Teaching and Mentorship:** Since 2011, He has been participating in teaching, supervising and mentoring undergraduate students, MSc and PhD students at the University of Dar es Salaam, Sokoine University of Agriculture and Ardhi University (ARU). Some of the subjects (Modules) he has been teaching includes: Climatology (BSc Students – UDSM), Climate Monitoring and Prediction (BSc Students – UDSM), Science of Climate Change (MSc students – UDSM), and Meteorology (BSc Students - ARU).

**6.7. Expert and member of Tanzania Team of Climate Change Negotiation at UNFCCC.** He has been participating and actively involved in UNFCCC COP meetings since 2009 during COP 15. Since then, He has been co-chairing negotiation session related to agenda item on Research and Systematic Observation under the Subsidiary Body for Scientific and Technological Advice (SBSTA). These includes during COP 25, COP 26 and COP 27 in Madrid, Glasgow and Sharm El Sheikh respectively.

**6.8. Intergovernmental Panel on Climate Change (IPCC) Focal Point for Tanzania:** Since 2013, He has been actively working as IPCC Focal Point for the United Republic of Tanzania and have been actively participating in the IPCC Sessions including in providing leadership in coordinating the participation of Africa in IPCC, and in co-facilitating several Contact Group meetings during approval of IPCC reports.

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## **7. Students Mentoring and Supervision**

Over the last twenty years he has been actively involved in counselling and mentoring young people to inspire them to achieve excellence and fulfil their potential and play significant role in sustainable development. He has been also involved in promoting climate and climate change science and IPCC through teaching and supervision of students in their research work. Some of the recent students supervised by Dr. Chang'a include:

**7.1. Pasvolo Mwinuka (2017 – 2022) – PhD in Physics – Current and projected rainfall variability and the associated moisture transport pattern in Tanzania.** To be completed by 2022.

**7.2. Loula Mahamoud Ahmed (2021 – 2022).** Postgraduate Diploma in Meteorology. Project Title: Assessing the Spatial and Temporal variability of rainfall over Djibouti.

- 7.3.Theu Sizwane (2021 – 2022).** Postgraduate Diploma in Meteorology. Assessing the spatial and temporal distribution of temperature and rainfall and its impacts on maize yield in Mzimba district in Malawi.
- 7.4.Amran Msonga (2020 – 2021) –** Postgraduate Diploma in Meteorology. Project Title: Evaluation of Wind Potential for Power Generation in Madewa, Singida.
- 7.5.Praksed Rafael (2020 – 2021) –** Postgraduate Diploma in Meteorology. Project Title: Spatial and Temporal variability of rainfall over central Tanzania.
- 7.6.Salama Said (2019 – 2020) –** Postgraduate Diploma in Meteorology. Project Title: Assessing the Trend of extreme rainfall and the associated socio-economic impacts in Dar es Salaam.
- 7.7.Kitilu Mganga (2016 – 2019) –** PhD in Botany. An investigation on yield performance and Optimal Moisture requirements of selected upland and lowland rainfed rice for increasing productivity of moisture stressed environment in Ifakara, Tanzania.
- 7.8.Shaban Yasin Kondo (2018 -2019) –** Post Graduate Diploma in Meteorology. Project Title: Assessment of the Effects of climate variability on maize production in Tanga.
- 7.9.Riziki Ally Suleiman (2018 -2019) –** Analysis of recent trends of rainfall and temperature in Zanzibar.
- 7.10. Uzeir Hemed Abdallah (2018 – 2019)** Assessing rainfall variability and its impacts on cloves production in Pemba.
- 7.11. Msolo Onditi (2013 – 2016) –** MSc in climate Change and Sustainable Development. Dissertation Title: **“The Role of Indigenous Knowledge in Weather and Climate Prediction in Longido districts”**.
- 7.12. Agatha Kiama (2013 – 2016) –** MSc in Climate Change and Sustainable Development. Dissertation Title: **“The role of Indigenous Knowledge in weather prediction and environmental conservation in Mvomero”**.
- 7.13. Richard Senkondo (from October 2016 to November 2018) –** MSc in Climate Change and Sustainable Development. Dissertation Title: **“Pastoral Adaptation to Climate Change and Variability and to Non-Climatic Factors in Simanjiro District, Tanzania”**.

He has participated in supervising several undergraduate students including six students in 2021 – 2022, six students in 2020 – 2021. He has also participated in the peer review of more than 17 research papers.

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## 8. Selected publication:

### Book on Climate Variability:

Changa L. B. Book on Climate Variability and its Impacts in Tanzania. <https://www.amazon.com/Climate-Variability-its-Impacts-Tanzania/dp/1664110127>. Rev. date: 10/04/2021, Xlibris: 844-714-8691, available at [www.Xlibris.com](http://www.Xlibris.com)

- 8.1. Rita D. Roberts, Steven J. Goodman, James W. Wilson, Paul Watkiss, Robert Powell, Ralph A. Petersen, Caroline Bain, John Faragher, **Ladislaus B. Chang'a**, Julius Kiprop Kapkwomu, Paul N. Oloo, Joseph N. Sebaziga, Andrew Hartley, Timothy Donovan, Marion Mittermaier, Lee Cronce, and Katrina S. Virts. (2022). Taking the Highway to Save lives on Lake Victoria. Bulletin of American Meteorological Society, Vol. 103, Issue No. 2., <https://doi.org/10.1175/BAMS-D-20-0290.1>
- 8.2. Chang'a, L. , Kijazi, A. , Mafuru, K. , Kondowe, A. , Osima, S. , Mtongori, H. , Ng'ongolo, H. , Juma, O. and Michael, E. (2020) Assessment of the Evolution and Socio-Economic Impacts of Extreme Rainfall Events in October 2019 over the East Africa. *Atmospheric and Climate Sciences*, **10**, 319-338. doi: [10.4236/acs.2020.103018](https://doi.org/10.4236/acs.2020.103018).
- 8.3. Chang'a, L. , Kijazi, A. , Mafuru, K. , Nying'uro, P. , Ssemujju, M. , Deus, B. , Kondowe, A. , Yonah, I. , Ngwali, M. , Kisama, S. , Aimable, G. , Sebaziga, J. and Mukamana, B. (2020) Understanding the Evolution and Socio-Economic Impacts of the Extreme Rainfall Events in March-May 2017 to 2020 in East Africa. *Atmospheric and Climate Sciences*, **10**, 553-572. doi: [10.4236/acs.2020.104029](https://doi.org/10.4236/acs.2020.104029).
- 8.4. Japheth, L. , Tan, G. , Chang'a, L. , Kijazi, A. , Mafuru, K. and Yonah, I. (2021) Assessing the Variability of Heavy Rainfall during October to December Rainfall Season in Tanzania. *Atmospheric and Climate Sciences*, **11**, 267-283. doi: [10.4236/acs.2021.112016](https://doi.org/10.4236/acs.2021.112016).
- 8.5. Ladislaus B. Chang'a, Agnes L. Kijazi, Philbert M. Luhunga, Hashim K. Ng'ongolo, Habiba I. Mtongori. **Spatial and Temporal Analysis of Rainfall and Temperature Extreme Indices in Tanzania. Journal of Atmospheric and Climate Sciences. Vol.7 No. 4, 2017, pp. 525 – 539.**
- 8.6. Ame, H. , Kijazi, A. , Changa, L. , Mafuru, K. , Ngwali, M. , Faki, M. , Hmad, A. and Miraji, M. (2021) Rainfall Variability over Tanzania during October to December and Its Association with Sea Surface Temperature (SST). *Atmospheric and Climate Sciences*, **11**, 324-341. doi: [10.4236/acs.2021.112019](https://doi.org/10.4236/acs.2021.112019)
- 8.7. Chang'a, L.B., P.Z. Yanda and J. Ngana : **Spatial and temporal analysis of recent climatological data in Tanzania.** Journal of Geography and Regional Planning. Vol. 3(3), pp. 44 – 65, March 2010.

- 8.8. Kijazi A. L., Chang'a L. B., Liwenga E. T., Kanemba A. and Nindi S. J. **The use of Indigenous Knowledge in weather and climate prediction in Mahenge and Ismani wards, Tanzania.** Journal Of Geography and Regional Planning. Vol. 6(7), pp. 274-280, September, 2013.
- 8.9. Hussen Seid Endris, Philip Omondi, Suman Jain, Christopher Lennard, Bruce Hewitson, Ladislaus Chang'a, J. L. Awange, Alessandro Dosio, Patrick Ketiem, Grigory Nikulin, Hans-Jürgen Panitz, Matthias Büchner, Frode Stordal, and Lukiya Tazalika, 2013: **Assessment of the Performance of CORDEX Regional Climate Models in Simulating East African Rainfall.** *J. Climate*, **26**, 8453–8475.
- 8.10. James Hansen, Katiuscia Fara, Kathryn Milliken, Clement Boyce, Ladislaus Chang'a. and Erica Allis. Strengthening Climate Services for the Food Security Sector. WMO Bulletin, Vol 67 (2), 2018.
- 8.11. Chang'a, L.B., P.Z. Yanda and J. Ngana. **Indigenous Knowledge in seasonal rainfall prediction in Tanzania: A case of South-Western Highland of Tanzania.** Journal of Geography and Regional Planning. Vol.3(4), pp. 66 – 72, April 2010.

## 9. Selected IPCC Sessions, UNFCCC COP meetings, Seminars and Meetings attended

DURATION	THEME	ORGANIZATION	VENUE
13 <sup>th</sup> to 18 <sup>th</sup> March, 2023	58 <sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Interlaken, Switzerland
6 <sup>th</sup> November to 18 <sup>th</sup> November 2022	Climate Change Meeting - COP 27	United Nation Framework Convention on Climate Change (UNFCCC)	Sharm El - Sheikh, Egypt
25 October to 14 <sup>th</sup> November 2021	Climate Change Meeting - COP 26	UNFCCC	Glasgow, Scotand
3 <sup>rd</sup> to 13 <sup>th</sup> December 2019	Climate Change Meeting - COP 25	UNFCCC	Madrid, Poland
3 <sup>rd</sup> to 14 <sup>th</sup> December 2018	Climate Change Meeting - COP 24	UNFCCC	Katowice, Poland
6 <sup>th</sup> to 18 <sup>th</sup> November 2017	Climate Change Meeting - COP 23	UNFCCC	Bonn, Germany
7 <sup>th</sup> to 18 <sup>th</sup> November 2016	Climate Change Meeting - COP 22	UNFCCC	Marrakesh, Morocco
24 <sup>th</sup> to 25 <sup>th</sup> October, 2019	Intergovernmental Panel on Climate Change (IPCC) Bureau	IPCC	Singapole
24 <sup>th</sup> to 28 <sup>th</sup> February, 2020	52 <sup>nd</sup> Session of the Intergovernmental Panel on Climate	IPCC	Paris, France

	Change (IPCC)		
20 <sup>th</sup> to 23 <sup>rd</sup> September, 2019	51 <sup>st</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Monaco
2 <sup>th</sup> to 6 <sup>th</sup> August, 2019	50 <sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Geneva, Switzerland
8 <sup>th</sup> to 12 <sup>th</sup> May, 2019	49 <sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Kyoto, Japan
1 <sup>st</sup> to 5 <sup>th</sup> October, 2018	48 <sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Incheon Republic of Korea
13 <sup>th</sup> to 16 <sup>th</sup> March, 2018	47 <sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Paris, France
6 <sup>th</sup> to 10 <sup>th</sup> September, 2017	46 <sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Montreal, Canada
28 <sup>th</sup> to 31 <sup>st</sup> March, 2017	45 <sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Guadajara, Mexico
17 <sup>th</sup> to 20 <sup>th</sup> October, 2016	44 <sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Bangkok, Thailand
11 <sup>th</sup> to 13 <sup>th</sup> April, 2016	43 <sup>rd</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Nairobi, Kenya
5 <sup>th</sup> to 8 <sup>th</sup> October, 2015	42 <sup>nd</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Dubrovnik, Croatia
1 <sup>st</sup> to 12 <sup>th</sup> December 2014	Climate Change Meeting - COP 20	United Nation Framework Convention on Climate Change (UNFCCC)	Lima, Peru
24 <sup>th</sup> to 31 <sup>st</sup> October, 2014	40 <sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Copenhagen, Denmark



25 <sup>th</sup> to 29 <sup>th</sup> March, 2014	38 <sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Yokohama, Japan
11 <sup>th</sup> to 23 November 2013	Climate Change Meeting - COP 19	UNFCCC	Warsal, Poland
14 <sup>th</sup> to 18 <sup>th</sup> October, 2013	37 <sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Batumi, Georgia
23 <sup>rd</sup> to 26 <sup>th</sup> September 2013	36 <sup>th</sup> Session of the Intergovernmental Panel on Climate Change (IPCC)	IPCC	Stokholm, Sweden
12 <sup>th</sup> to 14 <sup>th</sup> September, 2012	National Climate Monitoring Products	World Meteorological Organization (WMO)	Geneva, Switzerland
20 <sup>th</sup> August to 8 <sup>th</sup> September, 2012	National Appropriate Mitigation Action (NAMA)	WMO, JAICA	Osaka, Japan
20 <sup>th</sup> to 24 <sup>th</sup> February, 2012	Climate Downscaling, CORDEX Africa Workshop	CORDEX Africa	Trieste, Italy
28 <sup>th</sup> November to 2 <sup>nd</sup> December, 2011	Climate Downscaling, CORDEX Africa Workshop	CORDEX Africa	Capetown, South Africa
12 <sup>th</sup> to 14 <sup>th</sup> September, 2011	National Climate Monitoring Products	World Meteorological Organization (WMO)	Geneva, Switzerland
5 <sup>th</sup> to 8 <sup>th</sup> October 2009	Seasonal rainfall forecasting	WM, THORPEX Africa	Trieste, Italy
31 <sup>st</sup> August to 4 <sup>th</sup> September 2009	World Climate Conference (WCC3)	World Meteorological Organization (WMO)	Geneva, Switzeland
26 <sup>th</sup> – 30 <sup>th</sup> April, 2009	7 <sup>th</sup> International Science conference on the Human Dimensions of Global Environmental Change	UN,	Bonn, Germany
3 <sup>rd</sup> – 28 <sup>th</sup> November, 2008	Advanced International Training Programme on climate change – Mitigation and Adaptation	SIDA	Norrkoping, Sweden

2 <sup>nd</sup> to 6 <sup>th</sup> June, 2008	Conference on African Drought: Observations, Modelling, Predictability, Impacts	International Centre for Theoretical Physics (ICTP)	Trieste, Italy
22 <sup>nd</sup> to 24 <sup>th</sup> March, 2007	Milankovitch cycles over the past five years	International Centre for Theoretical Physics (ICTP)	Trieste, Italy

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#### 10. Languages:

	Speaking	Reading	Writing
English	Excellent	Excellent	Excellent
Swahili	Excellent	Excellent	Excellent
Russian	Good	Good	Good

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