PERIPERI U | PARTNERS ENHANCING RESILIENCE FOR PEOPLE EXPOSED TO RISKS

RISK METHODS SCHOOL

10 – 22 SEPTEMBER 2018

ARDHI UNIVERSITY - DAR ES SALAAM, TANZANIA

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http://www.riskreductionafrica.org/events/periperi-u-risk-methods-school.html

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Why a methods school on risk and resilience?

As East Africa becomes increasingly urban, its risk profile is in rapid transition. This shift is interlinked with changing environmental conditions, including increasing climate variability and change. These factors, combined with fast-growing regional and continental mobility, have created new risk configurations that require inventive development and risk management strategies. They have also highlighted the urgency for grounded, integrated resilience research in risk-prone areas.

Recognising this imperative, the Periperi U partnership* is convening an intensive, two-week Risk Methods School from 10-22 September 2018 in Dar es Salaam, Tanzania. Hosted by Ardhi University, the School will offer seven x five-day courses in collaboration with the World Health Organisation, United Nations Development Programme and Stellenbosch University's African Doctoral Academy.

This collaboration responds to the call for Africa's scientists and researchers to work more closely with humanitarian action, development and disaster risk reduction practitioners, underlined by the 2015 global landmark agreements, including the Sendai Framework for Disaster Risk Reduction, the Agenda 2030 for Sustainable Development and the Paris Agreement. In response, the teaching team brings a wide range of academic and applied expertise in contemporary risk and resilience research in Africa.

About the courses – whom are they for?

The courses are designed for emerging researchers with an interest in the socially and intellectually compelling fields of disasters, risk and resilience. They have been developed for PhD (or prospective PhD) students in East Africa who are at proposal development stage, and/or are developing their research methodologies. The courses have also been crafted for senior risk managers outside of academia who wish to sharpen their risk and resilience research skills – to keep abreast of developments in the field.

From an interdisciplinary perspective, the courses are conceptualised to integrate the biophysical and social sciences. They intend to provide a two-way immersive bridge so that attendees with skill-sets in the natural sciences can strengthen their capabilities in research design and survey methodology, just as readily as emerging social science researchers with disaster, resilience or risk-related topics can fast-track their understanding of natural hazards processes and risks.

*Partners enhancing resilience of people exposed to risks (see www.riskreductionafrica.org)

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How are courses organised - what topics are covered?

The Risk Methods School is organised over two weeks, with four thematic streams running in parallel. Three streams will offer two x five-day intensive courses, while the specialised disaster methods course will only be offered in Week 2 (see table below). This choice of courses reflects many of the emergent risk and resilience research priorities in East Africa.

Risk Methods Stream	Week One 10 – 14 September	Week Two 17 – 21 September
Investigating Africa's Urban Risks: Geo-spatial applications	Assessment and Mapping of Urban Risks in Africa: Introduction to GIS & urban risk	Understanding & Managing African Urban Risks: Advanced Geospatial Analysis
Probing Risk and Vulnerability in the Health Sector	Integrated qualitative methods for disaster risk research in the health sector	Vulnerability and Risk Assessment in the health sector
Integrated Research Methods in Disaster Risk and Resilience Studies	Introduction to integrated research methods in disaster risk and resilience studies	Advanced research methods for disaster risk and resilience studies
Specialised Post-Disaster Research Methods		Post-Disaster Needs Assessment (PDNA) Methodology and Disaster Recovery Framework

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Overview of thematic streams

- STREAM ONE -
Investigating and Assessing Africa's Urban Risks: Geo-spatial applications

With urban risk a growing priority for researchers, planners and development practitioners, there is urgency to harness available geospatial analytic tools and methods to understand changing hazard, risk and vulnerability patterns. This two-step stream introduces urban risk, Geographical Information Systems (GIS) and Remote Sensing (RS) methods to strengthen urban risk assessment and planning. The second course provides instruction on advanced geospatial analysis for urban risk assessment.

This stream comprises two x five-day 'back-to-back' courses:
- *Assessment and Mapping of Urban Risks in Africa: Introduction to GIS and urban risk*
- *Understanding and Managing Urban Risks in Africa: Advanced Geospatial Analysis*

- STREAM TWO -
Probing Risk and Vulnerability in the Health Sector

Public health risks and emergencies represent a central and cross-cutting dimension of East Africa's risk and development context. They are integral to the experience of drought, floods, internal and cross-border displacement, as well as growing infrastructural risks and disease outbreaks. The region's rapid urban growth, combined with its growing connectivity and population mobility also underline the need for strengthened (sub) regional capacity in understanding and management of risk and vulnerability within the health sector.

This stream comprises two courses; the first provides training in research methods and analytical tools to design evidence-based studies to address health needs in the context of disasters. The second Health Vulnerability and Risk Assessment (HVRA) course aims to acquaint health practitioners, researchers and other actors with the methods of vulnerability and risk assessment in the health sector.

This stream comprises two x five-day 'back-to-back' courses:
- *Integrated qualitative methods for disaster risk research in the health sector*
- *Vulnerability and Risk Assessment in the health sector.*

Overview of thematic streams

- Stream Three -
Integrated Research Methods in Disaster Risk and Resilience Studies

Increasing awareness of risk and resilience as central themes for achieving the Sustainable Development Goals is also reflected in their emergence as important domains of contemporary research and scholarship. This stream is designed for emerging researchers with an interest or potential/actual study focus related to disasters, humanitarian action, risk and resilience. It is specifically developed for PhD (or prospective PhD) students in East Africa who are at proposal development stage, and/or are developing their research methodologies. It has also been crafted for senior risk managers and eligible Masters-qualified professionals outside of academia who wish to sharpen their risk and resilience research skills – to keep abreast of developments in the field.

This stream comprises two x five-day 'back-to-back' courses:
- *Proposal development for integrated disaster risk and resilience research*
- *Advanced research methods for risk and resilience studies.*

- Stream Four -
Assessing Post-Disaster Needs: Post-Disaster Needs Assessment (PDNA) Methodology and Disaster Recovery Framework

The Post-Disaster Needs Assessment course (PDNA) is a tool developed by the United Nations Development Group, the World Bank and the European Union in 2008. It enables government, national and international stakeholders to prepare, identify causes, assess impacts and effects and damages in a coordinated manner to avoid duplication of efforts, and to mitigate future disasters.

This intensive, introductory course introduces participants to the terminology, basic concepts and theories of disaster effects and impacts. It introduces a systematic way of identifying and prioritizing recovery needs following a disaster to enable effective disaster recovery actions. It therefore, also introduces participants on how to translate a recovery strategy into an actionable Disaster Recovery Framework.

The course includes practical exercises on understanding and identifying disaster effects and impacts and costing of these into recovery needs.

Who is teaching the courses – how many participants per course?

The Risk Methods School draws on at least ten academic teaching staff from African universities where successful disaster risk and resilience academic programmes are well-established and recognised. These include Ardhi University (Tanzania), Bahir Dar University (Ethiopia), Makerere University (Uganda), Stellenbosch University (South Africa) and the University of Buea (Cameroon). The health-related courses will be co-taught by WHO, while the Post Disaster Needs Assessment course will be delivered by UNDP. Among other sectors, it will include the health component, which will also be presented by WHO.

Class size is estimated at 15-20 participants/course to ensure in-depth learning. Qualified women applicants are particularly encouraged to apply.

Can you cross between streams - will there be a certificate of completion?

Course attendees may attend up to two courses (one per week). They can enrol in either one course only or two courses (back-to-back) within the same stream. They may also 'cross between streams', as long as they comply with pre-requisite criteria for course admission.

On successful completion of one or more courses, attendees will receive a certificate of completion from Ardhi University.

About Ardhi University in Dar es Salaam

Despite its relatively new status as a University, Ardhi University, established in 2007, has a long history dating back to the Colonial period of the mid-1950s. With approximately 4,500 students, the University is a pioneer of disaster risk management training and research in Tanzania. Ardhi's Disaster Management Training Centre (DMTC), established in 2002, coordinates training, research and public services pertinent to DRM at the University and will host the Risk Methods School.

DMTC staff members have vast experience in research, capacity building and outreach in disaster issues and have participated in policy formulation and preparation of various National Standard Operational Guidelines on DRR. All Risk Methods School classes will be conducted on campus. Field excursions to areas of interest will also be conducted.

Costs and Payments

The course fee of $800 per participant per week covers the course tuition, training materials, tea break refreshments, lunch, and study visits. If a participant takes two courses, one in each week, the course fee will be set at $ 1,300 in total ($650 per week).

Each successful applicant will be advised of Ardhi banking details, accompanied by an enrolment reference number to expedite their payment. This will be communicated after the application is approved.

All participants will additionally cater for their travel expenses, accommodation, visa application, insurance, and other personal expenses. Accommodation and shuttle services can be arranged upon request. The Risk Methods School Organisers will also provide invitation letters for the trainings should it be necessary.

How to apply or find out other practical information?

Information on application processes, costs, logistics, accommodation, visa or other information concerning the Risk Methods School, can be found by following this link **(http://www.riskreductionafrica.org/events/periperi-u-risk-methods-school.html)** or visiting our website www.riskreductionafrica.org.

Interested persons can apply for the Risk Methods School online through the above link. Participants must answer all questions required, as well as forward the following three documents to the email address (info@riskreductionafrica.org)

- *A recent copy of applicant's ACADEMIC TRANSCRIPT*
- *A recent copy of applicant's CURRICULUM VITAE (CV)*
- *A valid copy of applicant's PASSPORT*

Completing the application process does not mean automatic or immediate acceptance to the Risk Methods School. All applications are reviewed by the School organisers, who will respond back within a few days to inform whether an application has been successful or not.

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Stream One: Investigating and Assessing Africa's Urban Risks: Geo-spatial applications

Overview

The rapid growth of East Africa's cities and towns has led to a growing complexity of urban risks. These are wide-ranging, including urban flooding, fire, environmental and public health threats. With urban risk a growing priority for researchers, planners and development practitioners, there is urgency to harness available geospatial analytic tools and methods to understand changing hazard, risk and vulnerability patterns. This stream comprises two courses; the first introduces urban risk, Geographical Information Systems (GIS) and Remote Sensing (RS) methods to strengthen urban risk assessment and planning. The second course provides instruction on advanced geospatial analysis for urban risk assessment.

These courses are particularly useful for postgraduate students and emerging academics who have not previously studied geography or GIS, but whose research and teaching have a distinctive risk and resilience lens, and who wish to sharpen their research with a geospatial component.

They are also useful for development practitioners and urban planners who are keen to hone their GIS and RS skills to understand changing urban risk trends, and to strengthen resilience planning efforts – especially in at-risk urban settlements and those under pressure due to changing climatic conditions.

This stream comprises two x five-day 'back-to-back' courses:

Risk Methods School: Stream One	
Week 1: 10 -14 Sept 2018	Assessment and Mapping of Urban Risks in Africa: Introduction to GIS and urban risk
Week 2: 17 - 21 Sept 2018	Understanding and Managing Urban Risks in Africa: Advanced Geospatial Analysis

<u>Note:</u> Participants do not have to take both courses, and that they may elect to take one or the other, based on their level of competence and skill in this field. For example, a prospective applicant with a clear understanding of urban risk and foundational competence in GIS may not need to take Course I.

Stream One: Investigating and Assessing Africa's Urban Risks: Geo-spatial applications

Course I: *Assessment and Mapping of Urban Risks in Africa: Introduction to urban risk and Geographic Information Systems (GIS)*

Date: *10 -14 September, 2018*

This intensive, introductory course introduces participants to the terminology, basic concepts and theories of urban risk, including urban risk trends in East Africa. It introduces both Geographic Information Systems (GIS) and Remote Sensing and their application to urban risk management in Africa. The course includes practical exercises on risk and vulnerability assessment, using GIS and Remote Sensing applications.

This course is useful for post-graduate students and emerging academics and practitioners who have had no prior or limited experience with GIS, and who require an introduction to urban risk mapping, analysis and modelling.

On completion of the course, participants will be able to:
- Explain core concepts related to urban risk as these apply to rapidly changing African towns and cities.
- Understand and apply core elements of GIS and Remote Sensing tools and methods, including ArcGIS software (also ArcCatalog, ArcMap and ArcToolbox).
- Apply geospatial tools to map flood hazards, vulnerability and risks for the purposes of urban risk assessment and management.
- Create a flood risk map for selected informal settlements in Dar es Salaam.

Course content
- Introduction to urban risks, DRM and GIS & RS concepts
- Introduction to ArcGIS software, including ArcCatalog, ArcMap and ArcToolbox
- GIS and Remote Sensing analysis, and applications to urban risks
- Hazard, Vulnerability and Risk Assessment Practical

Entry prerequisites and requirements
- Minimum of a Masters degree in Geography, Urban Planning, Disaster (Risk) Management, Development Studies or related field.
- Participants should be fluent in reading and speaking English.

Equipment implications
While Ardhi will provide access to GIS computer laboratory facilities, participants are also encouraged to bring their own laptops or other equipment. Please check the Administrator Rights, to ensure that settings can be adjusted if necessary.

Stream One: Investigating and Assessing Africa's Urban Risks: Geo-spatial applications

Course II: *Understanding & Managing Urban Risks in Africa: Advanced Geospatial Analysis*

Date: *17 -21 September, 2018*

This second more advanced course teaches participants how to use high resolution satellite images and a digital elevation terrain model to map flood and fire hazards, and then model flood and fire hazards. This course also involves a field visit to familiarize participants with the flood-modelled site, and for the purposes of flood vulnerability assessment.

This course is useful for post-graduate students and emerging academics and practitioners who already have basic GIS skills, and who wish to advance their capability in urban risk mapping, analysis and modelling.

On completion of the course, participants will be able to:
- Define urban risk, DRM concepts, GIS and Remote Sensing Concepts
- Apply core elements of GIS and Remote Sensing tools and methods, including ArcGIS software (also ArcCatalog, ArcMap and ArcToolbox).
- Apply GIS and Remote sensing tools to assess urban (flood and fire) risks, including the use of a Digital Elevation Model.
- Understood and apply risk modelling techniques, using HecRAS, GIS and Remote Sensing.
- Complete a flood risk assessment in Dar es Salaam, incorporating flood inundation maps and elements at risk.

Course content
- Revision of urban risk, DRM, GIS & RS concepts
- Urban flood and fire hazard mapping using RS and a Digital Elevation Model (DEM).
- Flood hazard modelling (using HecRAS)
- Physical vulnerability assessment (field visit)
- Flood risk assessment

Entry prerequisites and requirements
- Minimum of a Masters degree in Geography, Geomatics, Urban Planning, Disaster (Risk) Management, Development or related field.
- Participants should be fluent in reading and speaking English.
- Proof of completion of a relevant GIS/Remote Sensing course (comparable to the content of Course I: Assessment and Mapping of Urban Risks in Africa: Introduction to urban risk and Geographic Information Systems (GIS)

Equipment implications
While Ardhi will provide access to GIS computer laboratory facilities, participants are also encouraged to bring their own laptops or other equipment. Please check the Administrator Rights, to ensure that settings can be adjusted if necessary.

Stream One: Investigating and Assessing Africa's Urban Risks: Geo-spatial applications

Course presenters

Dr Guido Uhinga

Dr. Uhinga is a Geomatician and a climate change expert. He holds a PhD in Climate Change Studies, specializing in Climate Change Modeling, from Ardhi University and a Master of Science (M.Sc.) degree in GIS and Remote Sensing from the International Institute for Geo-Information Sciences and Earth Observation (ITC) of the Netherlands.

Dr Uhinga has fifteen years' experiences in teaching, research and consultancy activities related to GIS, Remote Sensing and Disaster risk management (DRM). His consultancy activities include National Hazard and Vulnerability Assessment Project, Phase II; Disaster Risks and Capacity Needs Assessment for Tanzania Mainland and Zanzibar; Advancing the use of ICT for Disaster Risk Management in Africa (AIDA) – African and European institutions using ICT to meet disaster challenges; and Participatory Community Risk Assessment and Mapping.

Dr Joseph Mayunga

Dr Joseph Mayunga is a Supporting Lecturer at Ardhi University, Dar es salaam, Tanzania. He is a Disaster Risk Management expert with more than 15 years' experience. He holds a PhD in Urban and Regional Sciences specializing in Environmental Hazard Management, from Texas A&M University in the United States. He also holds an MSc. degree in Urban Planning and Management, specializing in Geographical Information Systems and Remote Sensing from the International Institute for Geo-Information Sciences and Earth Observation (ITC), the Netherlands. Dr Mayunga has been involved in various training, research and consultancy projects related to urban and regional sciences, disaster risk management and the application of geographical information system and remote sensing.

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Stream Two: Probing Risk and Vulnerability in the Health Sector

Overview

Public health risks and emergencies represent a central and cross-cutting dimension of East Africa's risk and development context. They are integral to the experience of drought, floods, internal and cross-border displacement, as well as growing infrastructural risks and disease outbreaks. The region's rapid urban growth, combined with its growing connectivity and population mobility also underline the need for strengthened (sub) regional capacity in understanding and management of risk and vulnerability within the health sector.

This stream comprises two courses; the first provides training in research methods and analytical tools to design evidence-based studies to address health needs in the context of disasters. The course covers research methods used in disaster and humanitarian settings. The second Health Vulnerability and Risk Assessment (HVRA) course aims to acquaint health practitioners, researchers and other actors with the methods of vulnerability and risk assessment in the health sector. It recognises that HVRA is a crucial element for health risk management throughout the disaster cycle (mitigation, preparedness, response and recovery).

These courses are designed for individuals studying and working in health, policy, education and humanitarian sectors or postgraduate students of closely-related disciplines. They are specifically applicable to those who play critical roles in public health emergency management, coordination and research – including groups concerned with the health implications of disasters and emergencies (eg health professionals, humanitarian workers, academics and researchers, health advisors and practitioners).

This stream comprises two x five-day 'back-to-back' courses:

Risk Methods School: Stream Two	
Week 1: 10 -14 Sept 2018	Integrated qualitative methods for disaster risk research in the health sector
Week 2: 17 - 21 Sept 2018	Vulnerability and Risk assessment in the health sector

Note: *Participants do not have to take both courses, and that they may elect to take one or the other, based on their level of competence and skill in this field.*

Stream Two: Probing Risk and Vulnerability in the Health Sector

Course 1: *Integrated qualitative methods for disaster risk research in the health sector*

Date: *10 -14 September, 2018*

Understanding human behaviour and its socio-cultural context is key for effective public health response during disasters. Qualitative research provides a means to assess unquantifiable details and gain an in-depth understanding of the individual, groups and socio-cultural settings in which disasters and Public Health Emergencies (PHE) takes place.

This course will introduce participants to the philosophical foundations, characteristics and different approaches to designing and conducting qualitative research for disaster risks in the health sector. Participants will receive training in research methods and analytical tools to examine and design evidence-based study to address health needs in the context of disasters. The course covers research methods used in disaster and humanitarian settings.

This course is designed for a wide range of individuals including; health professionals, humanitarian workers, academics and researchers, health advisors and practitioners. The course is also applicable to individuals studying and working in health, policy, education and humanitarian sectors or postgraduate students of closely-related disciplines.

On completion of the course, participants are expected to:
- Demonstrate knowledge about disasters, their associated public health risks, impacts and outcomes.
- Describe the characteristics of qualitative research, as well as recognise and describe the major theoretical perspectives and principles which inform qualitative research.
- Identify the major research methods used in qualitative research, their application and critique the advantages and disadvantages of each.
- Understand the rationale and be able to identify qualitative research problems in disasters and associated PHEs.
- Demonstrate skills for designing, implementing qualitative research and data collection and analysis to examine health impacts of disasters.
- Demonstrate ability to effectively communicate qualitative research results.

Course content
- Introduction to disasters and Public Health emergencies
- Concepts and models for qualitative research
    - Basic concepts in disasters and PHE research: cultural diversity, beliefs, community, ethnicity, mobility, stigma and social exclusion, access to care, medical pluralism, social vulnerability, and adherence.
    - Theoretical research models

Stream Two: Probing Risk and Vulnerability in the Health Sector

Course I: *Integrated qualitative methods for disaster risk research in the health sector*

Date: *10 -14 September, 2018*

Course content (continued…)

- Qualitative research methods problem analysis in disasters and PHEs
- Qualitative data collection techniques in disasters and PHEs
    - Qualitative interviewing, theory and practice
    - Focus Group Discussions, theory and practice
    - Observations, theory and practice
    - Text analysis
    - Delphi technique
- Participatory action research methods in disasters and PHEs
- Qualitative research methodology (including basic concepts, triangulation, iteration and research process flexibility)
- Sampling techniques (including the logic and application of qualitative sampling techniques)
    - Non-probability sampling
    - Purposive, theoretical and snow-ball sampling
- Qualitative data analysis and interpretation
    - Sequential, interim, abductive analysis; context analysis; coding
    - Grounded theory: applicability and limitations for health research
    - Qualitative Data Analysis software
- Writing qualitative research reports and publications.

Entry prerequisites and requirements
- Minimum of a Bachelors degree in the Health Sciences, Geography, Urban Planning, Disaster (Risk) Management, Development Studies or related field (but preferably – evidence of current enrolment in an approved Masters/PhD programme).
- Participants should be fluent in reading and speaking English.
- Relevant experience (especially for health professionals, humanitarian workers, researchers, disaster risk managers, health advisors and practitioners) in development and emergency contexts.

Equipment implications
While Ardhi will provide access to GIS computer laboratory facilities, participants are also encouraged to bring their own laptops or other equipment. Please check the Administrator Rights on your equipment, to ensure that settings can be adjusted if necessary.

Stream Two: Probing Risk and Vulnerability in the Health Sector

Course II: *Vulnerability and Risk Assessment in the health sector*

Date: *17 - 21 September, 2018*

The Health Vulnerability and Risk Assessment (HVRA) course aims to acquaint health practitioners, researchers and other actors with the methods of vulnerability and risk assessment in the health sector. It recognises that HVRA is a crucial element for health risk management throughout the disaster cycle (mitigation, preparedness, response and recovery).

It specifically intends to familiarize participants with the concepts and process of the Health Vulnerability and Risk Assessment (HVRA) within the health sector as well as within the global and regional frameworks on DRM, and as this applies to the Bangkok principles for the implementation of the health aspects of the Sendai Framework for Disaster Risk Reduction 2015-2030.

The course, which aims to strengthen participant health vulnerability risk assessment capabilities to improve disaster and emergency management in the health sector, is designed for those who play critical roles in public health emergency management, coordination and research, including the health risks in disasters.

On completion of the course, participants will be able to:
- Apply key terminology and concepts underpinning Vulnerability and Risk Assessment and Mapping.
- Explain components and the process of the vulnerability and risk assessment.
- Design and manage a project for vulnerability and risk assessment.
- Use existing tools to conduct vulnerability and risk assessment.
- Use the results from the vulnerability and risk assessment to formulate operational and policy level recommendations.

Course content
- Public Health Emergencies and disasters in the African region (PHE)
- Overview of Disaster Risk Management cycle, principles, and Frameworks
- Theoretical Framework of vulnerability and risk assessment
- Health sector Vulnerability and risk assessment framework and tools
  - Vulnerability and risk assessment framework for the health sector
  - Vulnerability and risk assessment tools

Stream Two: Probing Risk and Vulnerability in the Health Sector

Course II: *Vulnerability and Risk Assessment in the health sector*

Date: *17 - 21 September, 2018*

Course content (continued…)
- Vulnerability and risk assessment process
    - Hazard analysis
    - Vulnerability analysis
    - Capacity analysis
- Risk computing
- Risk Mapping
- Risk assessment outputs
- Management of a risk assessment project

Entry prerequisites and requirements
- Minimum of a Bachelors degree in the Health Sciences, Geography, Urban Planning, Disaster (Risk) Management, Development Studies or related field (but preferably evidence of current enrolment in an approved Masters/PhD programme).
- Participants should be fluent in reading and speaking English.
- Relevant experience (especially for health professionals, humanitarian workers, researchers, disaster risk managers, health advisors and practitioners) in development and emergency contexts.
- Computer literacy.

Note: The course involves extensive reading and participatory learning methods. Participants will receive pre-reading materials before arriving at the course. The course will be delivered through in-class sessions and an interactive simulation exercise.

Equipment implications
While Ardhi will provide access to GIS computer laboratory facilities, participants are also encouraged to bring their own laptops or other equipment. Please check the Administrator Rights on your equipment, to ensure that settings can be adjusted if necessary.

Stream Two: Probing Risk and Vulnerability in the Health Sector

Course presenters

The facilitators for Stream Two courses are leading international and regional experts with a wide variety of field experiences in disaster risk management and emergency health programming. Facilitators hold a range of expertise, knowledge and backgrounds from the World Health Organization (WHO), academic institutions, NGOs and research centres. These have immense experience and many have trained and practised for many years in complex emergencies.

Dr Ngoy Nsenga

Dr Ngoy Nsenga is currently the Team Lead of WHO Emergency Program for East and Southern Africa. He has previously served as Senior Regional Advisor on Emergency Preparedness and Risk Assessment at the Regional office for Africa of the World Health Organization (WHO). Dr Nsenga holds a degree in medicine (MD) and a Master's degree in Public Health (MPH) with more than 25 years of experience in managing public health programs. He is now completing his PhD in Public Health at Walden University, USA. His thesis is exploring a predictive effect of social vulnerability and health system capacity on the incidence of cholera in African countries. His area of research interest is on vulnerability and risk assessment and predictive models for infectious diseases. Dr Nsenga is fluent in French and English.

Professor Garimoi Chris Orach

Dr Christopher Garimoi Orach is a Professor of Community Health, departmental chair of Community Health and Behavioural Sciences, and Deputy Dean at Makerere University School of Public Health. He holds a PhD in Public Health from Vrije Universiteit Brussels; Master of Public Health (MPH) from the Institute of Tropical Medicine Antwerp; and Master of Medicine in Public Health (MMed PH), Diploma in Public Health (DPH), and Bachelor of Medicine and Bachelor of Surgery (MBChB) from Makerere University, Kampala. His research interests and publications include public health in complex emergencies, reproductive health, and community risk reduction. Professor Orach is the Coordinator of the Periperi U programme based at Makerere University.

Stream Two: Probing Risk and Vulnerability in the Health Sector

Course presenters (continued…)

Dr. Frederick Salukele

Fredrick Mathew Salukele, PhD, is an Environmental Engineer. He has a strong academic background as well as qualifications and professional experience in the field of Environmental Engineering. Eng. Dr. Salukele is an Employee of Ardhi University (formerly known as University College of Lands and Architectural Studies – UCLAS) since 2001. He is currently working as a Lecturer in the School of Environmental Science and Technology - Department of Environmental Engineering since 2013. Eng. Dr. Salukele's major fields of specialization are Solid Waste Technology and Management, Wastewater Engineering, Environmental Pollution, Water Supply, Disaster Risk Management and Environmental Impact Assessment. He has carried out numerous consultancies and research in the same fields. Eng. Dr. Salukele is a registered EIA expert with NEMC, registered with Engineers Registration Board (ERB) as a Professional Engineer and a resource person at the Disaster Management Training Centre at Ardhi University. Eng. Dr. Salukele holds a PhD in Environmental Technology from Wageningen University, The Netherlands, and an MSc and BSc. in Environmental Engineering from University of Dar es Salaam.

Stream Three: Integrated Research Methods in Disaster Risk and Resilience Studies

Overview

Increasing awareness of risk and resilience as central themes for achieving the sustainable development goals is also reflected in their emergence as important domains of contemporary research and scholarship. In response, and in the context of Africa's highly dynamic and complex risk profile, the continent's science and academic community is increasingly called on to conduct integrated risk and resilience research in risk-prone urban and rural areas.

This stream is designed for emerging researchers with an interest or potential/actual study focus related to disasters, humanitarian action, risk and resilience. It is specifically developed for PhD (or prospective PhD) students in East Africa who are at proposal development stage, and/or are developing their research methodologies. It has also been crafted for senior risk managers outside of academia who wish to sharpen their risk and resilience research skills – to keep abreast of developments in the field.

This stream comprises two 'back-to-back' courses. The first focuses on PhD proposal development for topics that have a risk and resilience lens. It purposefully integrates the elements involved in proposal development with the theoretical, conceptual and empirical dimensions of the disaster risk and resilience fields. The first course also includes an in-depth two-day methodological immersion for two parallel sub-streams: Drought hazard analysis and vulnerability & resilience assessment, and landslide and flood risk assessment.

The second, more advanced course gives focused attention to the rigour and robustness of the research methods and tools used in studying risk and resilience themes. It recognises that the cross-disciplinary nature of disaster risk research often involves the application of mixed methods approaches, including the integration of both quantitative and qualitative methods. This course gives particular attention to survey design, with a focus on questionnaire design and data analysis. It also covers inferential statistical methods (including hypothesis testing and significance testing), as well as communicating research findings – with a focus on writing robust and accessible research reports, preparing policy briefs and producing peer-reviewed articles.

These courses are particularly useful for postgraduate students and emerging academics who are developing their PhD research proposals and who wish to strengthen their proposals with an integrated risk and resilience component.

They are also useful for development practitioners and senior risk managers who are keen to hone their integrated disaster risk and resilience skills, and who wish to update their conceptual and methodological knowledge in an intensive course.

Stream Three: Integrated Research Methods in Disaster Risk and Resilience Studies

Overview (continued…)

This stream comprises two x five-day 'back-to-back' courses:

Risk Methods School: Stream Three	
Week 1: 10 -14 Sept 2018	Proposal development for integrated disaster risk and resilience research
Week 2: 17 - 21 Sept 2018	Advanced research methods for risk and resilience studies

Note: Participants are not required to complete both courses and (depending on participant skill level) they may elect to take one course only.

Course I: Proposal development for integrated disaster risk and resilience research
Date: 10 - 14 September, 2018

This intensive course aims to strengthen postgraduate students' understanding of the theoretical, empirical and methodological approaches/methods that can be applied in risk and resilience related research. It specifically focuses on PhD proposal development for topics that have a risk and resilience lens. The course integrates the elements involved in proposal development with the theoretical, conceptual and empirical dimensions of disaster risk and resilience. For the final two days of the course, participants will separate into two parallel sub-streams for methodological immersion in either drought or flood/landslide analysis themes. This reflects East Africa's recognised drought risk profile, along with its changing geophysical risk profile associated with land pressures and urbanisation as well as climate change.

This course is highly relevant for postgraduate students and emerging academics who are developing their PhD research proposals, particularly those who wish to strengthen their proposals with an integrated risk and resilience component. It is applicable to postgraduate students with interests in drought and disasters/risks associated with rapid development in Africa (e.g. food security, rural development work, engineering and or architectural, urban planning, climate change adaptation).

Stream Three: Integrated Research Methods in Disaster Risk and Resilience Studies

Course I: *Proposal development for integrated disaster risk and resilience research*

Date: *10 - 14 September, 2018*

This course is also useful for development practitioners and senior risk managers who are keen to hone their integrated disaster risk and resilience skills, and who wish to update their conceptual and methodological knowledge in an intensive course.

On completion of the course, participants will be able to:
- Understand the core elements of a robust research proposal and plan.
- Understand and be able to integrate the elements of disaster risk research proposal.
- Understand and be able to apply different theoretical and empirical approaches to disaster risk and resilience research.
- Develop skills to apply to specific risk & resilience research methods, with particular focus on drought, landslide and flood risk.

Course content
- Introducing/revisiting the core elements of a robust research proposal
- Conceptual/theoretical developments of the "disaster construct"
- Understanding hazards/shocks- focus on environmental & physical hazards
- Disaster (Risk) research agenda: Theoretical, methodological and empirical issues.
- Vulnerability &resilience: Organizing concepts for empirical research on disaster risk

❑ **Drought risk sub-stream (13-14 September)**
- Ground-based and satellite drought Indicators
- Modelling extreme drought events using STATA
- Drought vulnerability vs drought Resilience
- Measuring vulnerability or resilience as a multi-dimensional latent construct
- Measuring vulnerability or resilience as a probability to fall below or above a wellbeing threshold.
- Measuring vulnerability or resilience as the ratio of consequence to the total exposed units threshold.

❑ **Landslide and flood risk sub-stream (13-14 September)**
- Understanding the impacts of climate change on floods and landslide risks globally and in Africa
- Factors used in determining areas prone to floods and landslides hazards
- Flood vulnerability vs resilience
- Landslide vulnerability vs resilience
- Conceptual approaches of designing research proposals on floods and on landslide risks assessments based on factors such as impacts of climate change, land pressures and urbanization.

Stream Three: Integrated Research Methods in Disaster Risk and Resilience Studies

Course I: *Proposal development for integrated disaster risk and resilience research*

Date: *10 - 14 September, 2018*

Entry prerequisites and requirements

- Minimum of a Bachelors degree in the Health Sciences, Geography, Urban Planning, Disaster (Risk) Management, Development Studies or related field (but preferably – evidence of current enrolment in an approved Masters/PhD programme).
- Participants should be fluent in reading and speaking English.
- Relevant experience (especially for health professionals, humanitarian workers, researchers, disaster risk managers, health advisors and practitioners) in development and emergency contexts.

Equipment implications

While Ardhi will provide access to GIS computer laboratory facilities, participants are also encouraged to bring their own laptops or other equipment. Please check the Administrator Rights on your equipment, to ensure that settings can be adjusted if necessary.

Stream Three: Integrated Research Methods in Disaster Risk and Resilience Studies

Course II: *Advanced Research Methods for Risk and Resilience Studies*
Date: *17 – 21 September, 2018*

This is an intensive course to ensure rigour and robustness in the application of research methods and tools used in studying risk and resilience themes. It recognises that the cross-disciplinary nature of disaster risk research often involves the application of mixed methods approaches, including the integration of both quantitative and qualitative methods. The course gives particular attention to survey design, with a focus on questionnaire design and data analysis.

It will also cover inferential statistical methods (including hypothesis testing and significance testing), as well as communicating research findings – with a focus on writing robust and accessible research reports, preparing policy briefs and producing peer-reviewed articles.

This course is highly relevant for postgraduate students and emerging academics who are designing their PhD study methodologies, and who aim for rigour in their research. It is applicable to both social science students as well as physical and engineering science students intending to include a critical social dimension to their risk research.

This course is also useful for development practitioners, more advanced researchers and senior risk managers who are leading disaster risk and resilience, especially in a transdisciplinary and multi or transnational context.

At the completion of the course, participants will be able to:
- Understand approaches to effective and ethical research across disciplines and countries
- Prepare feasible and fundable research proposals
- Understand how to conduct quality research with appropriate methods
- Analyse, present and interpret complex data
- Communicate written and oral research scientifically and effectively

Stream Three: Integrated Research Methods in Disaster Risk and Resilience Studies

Course II: *Advanced Research Methods for Risk and Resilience Studies*
Date: *17 – 21 September, 2018*

Course content
- Research approaches and methods (review approaches from Introductory course).
  - Overview of Quantitative research designs
  - Overview of Qualitative research designs
  - Overview of Mixed methods designs
- Survey research design, including advanced methods in survey research
  - Overview, origins and selection of methods
  - Fundamentals of sampling
- Research ethics, Intellectual property and data protection
- Theory and practice of Instrument design and development focusing primarily on questionnaires.
  - Overview of analytical methods in relation to questionnaire data.
  - Data analysis, presentation and interpretation of quantitative data.
- Communicating written and oral research scientifically and effectively

Entry prerequisites and requirements
Admission requirements into these courses varies:
- For post-graduate students, applicants should be currently enrolled in a doctorate (PhD) programme. Special exception will be made for a limited number of a Masters level graduates, or individuals with significant or impressive field experience.
- For disaster risk management, urban planning, engineering, architecture or development practitioners, applicants should have at least a Master's level degree and/or demonstrable skill in previous research related to these themes.
- Participants should be fluent in reading and speaking English.

Equipment implications
While Ardhi will provide access to GIS computer laboratory facilities, participants are also encouraged to bring their own laptops or other equipment. Please check the Administrator Rights on your equipment, to ensure that settings can be adjusted if necessary.

Stream Three: Integrated Research Methods in Disaster Risk and Resilience Studies

Course presenters

Professor Sam Ayonghe

Born in Cameroon, Professor Ayonghe obtained a PhD in Geophysics from the Imperial College, University of London in 1998, taught in the University of Yaoundé, from 1990, in the University of Buea from 1993 to present, and was promoted to full Professor in 2008. He has published over 60 articles on volcanology, landslides, climate change, hydrogeology and seismology, supervised six PhDs and over 35 MSc theses. Professor Ayonghe has been the Dean of the Faculty of Science at the University of Buea since 2016, is President of the National Scientific Committee on Monitoring Eruptions of Mt Cameroon, Fellow of the Cameroon Academy of Sciences and Coordinator of the USAID Periperi U Grant UBuea Consortium.

Professor Sarah Howie

Sarah Howie is the Director of the Africa Centre for Scholarship and Professor at the University of Stellenbosch, South Africa. She is the Deputy Chair of the board of the South African Qualifications Authority; member of the Assessment and Standards Committee at Umalusi and member of the Universities South Africa Admissions Committee. Internationally, she was a member of the UNESCO-Brookings Institute international Learning Metrics Task Force for Post-primary (in preparation for Education for All 2015). She is also a member of four international technical research committees associated with design and development of international large-scale assessments of the International Association for Evaluation of Educational Achievement (IEA) and the Organisation for Economic Cooperation Development (OECD). She is a member of a number of Editorial Boards of international Journals including those in the Taylor and Francis and Elsevier publishing houses.

Assoc. Professor Tesfahun Kasie

Tesfahun Kasie is a PhD graduate and associate professor at the Institute of Disaster Risk Management & Food Security Studies at Bahir Dar University, Ethiopia. He is currently teaching disaster risk and food security related courses for postgraduate students. His research interests include food security and livelihood resilience in risky environments. Tesfahun has served in several positions, including Chair of Disaster and Development related course systems, and Head of the Department of Disaster Risk Management & Sustainable Development at Bahir Dar University.

Stream Four: Assessing Post-Disaster Needs - Post-Disaster Needs Assessment (PDNA) Methodology and Disaster Recovery Framework

Overview

The Post-Disaster Needs Assessment (PDNA) is a tool developed by the United Nations Development Group, the World Bank and the European Union in 2008. The tool enables government, national and international stakeholders to prepare, identify causes, assess impacts and effects and damages in a coordinated manner to avoid duplication of efforts, and to mitigate future disasters.

Objectives of the PDNA

To Support country-led assessments to initiate recovery planning processes through a coordinated inter-institutional platform integrating the concerted efforts of national and international partners. The goal of the PDNA is to support government to mobilize funds and design a disaster recovery programme with provisions to Build Back Better.

The PDNA encompasses two perspectives: (i) the valuation of physical damages and economic losses; and, (ii) the identification of human recovery needs based on information obtained from the affected population. These perspectives are integrated into a single assessment process to support the identification and selection of response options covering recovery interventions from short to long-term recovery in a Disaster Recovery Framework (DRF) ensuring that recover is resilient.

PDNA is conducted to:
- Quantify social and financial recovery needs.
- Define government priorities of intervention by geographic areas, sectors and population groups.
- Identify in-country or international financial mechanisms for recovery.
- Provide basis for M&E in recovery programs.
- Provide guidance for ex ante DRR schemes

A PDNA should commence as soon as possible after the disaster onset, ideally within the first weeks. A first objective for the PDNA is to support the elaboration of the Recovery Framework in time for the revision of a humanitarian flash appeal - normally within five to six weeks following the onset of a disaster. This provides the foundation for more in-depth assessments, ongoing recovery and transition to development as the Recovery Framework continues to be more fully elaborated. Needs identified by the PDNA beyond national capacity may be used as an evidence base for the mobilization of further international resources in support of recovery, e.g. in connection with an international donor conference in response to a disaster.

Stream Four: Assessing Post-Disaster Needs - Post-Disaster Needs Assessment (PDNA) Methodology and Disaster Recovery Framework

Objectives of the PDNA (continued…)

The PDNA framework is useful in assisting governments to estimate the extent of disaster's effects and impact across all sectors and social groups on the basis of which findings, an actionable and sustainable recovery strategy is produced for mobilizing financial and technical resources for recovery interventions.

Description

This intensive, introductory course introduces participants to the terminology, basic concepts and theories of disaster effects and impacts. It introduces a systematic way of identifying and prioritizing recovery needs following a disaster to enable effective disaster recovery actions. It therefore, also introduces participants on how to translate a recovery strategy into an actionable Disaster Recovery Framework.

The course includes practical exercises on understanding and identifying disaster effects and impacts and costing of these into recovery needs.

On completion of the course, participants will be able to:
- Explain core concepts related to disaster for example: effects and impacts
- Link Post Disaster Needs Assessment with recovery preparedness to mitigate future disasters
- Understand and apply core elements of recovery needs in each disaster context.
- Link humanitarian to development to achieve Sustainable Development Goals
- Apply multi-sectoral prioritization and costing of recovery needs in a recovery strategy
- Translate a recovery strategy into an actionable disaster recovery framework as a strategic plan for guiding and reflecting all the decisions that are needed to coordinate the recovery of a geographical area after a disaster.

Course content
- Context analysis of a Disaster
- Understanding Disaster effects
- Understanding Disaster Impacts
- Identifying and prioritizing Recovery needs
- Developing a Recovery Strategy
- Developing a Recovery Framework
- Translating the Recovery Strategy into a Disaster Recovery framework

Stream Four: Assessing Post-Disaster Needs - Post-Disaster Needs Assessment (PDNA) Methodology and Disaster Recovery Framework

Entry prerequisites and requirements

Admission requirements into these courses vary for different groups;

- Applicants should be holders of Master Degree or currently enrolled in a doctorate (PhD) programme. Special exception will be made for a limited number of a Masters level graduates, or individuals with field experience.
- For disaster risk management and recovery, urban planning, engineering, architecture or development practitioners, applicants should have at least a Master's level degree and/or demonstrable skill in previous research related to these themes.

Equipment implications

Own laptops with basic operating systems and programmes. Please check the Administrator Rights on your equipment, to ensure that settings can be adjusted if necessary.

Course presenters

Details and information to be made available