



PERIPERI U

PARTNERS ENHANCING RESILIENCE
FOR PEOPLE EXPOSED TO RISKS

EVALUATION REPORT: PERIPERI U CONSORTIUM – PHASE IV

Partners Enhancing Resilience for People Exposed to Risks

A COMPLEX COLLABORATION IN PROCESS:

STRENGTHENING HUMAN CAPACITY IN DISASTER RISK REDUCTION

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EXECUTIVE SUMMARY

This evaluation report focuses on Phase IV (26 May 2016 to 25 May 2019) of the work undertaken by the Partners Enhancing Resilience for People Exposed to Risks (Periperi U) consortium and its contributions in “reducing disaster risks in African countries through improved national and local disaster risk management, due to enhancing strategic human capacity to integrate risk reduction into critical developmental sectors and programs¹” (Periperi U website, <http://www.riskreductionafrica.org/>). The evaluation fulfills the accountability requirements for USAID Grant Number AID-OFDA-G-16- 00115 and SLA Contract number: S004781. In addition, it contributes to the important learning function provided by evaluations by offering fresh perspectives on the Periperi U consortium’s work. It offers lessons and recommendations as opportunities for critical reflection to inform future development.

Chapter One: Introduction and Framing sets the scene for an understanding of this phase within the history of Periperi U. While the consortium’s ongoing commitment to developing the role that higher education institutions (HEIs) play in human capacity building remained core, in Phase IV, Periperi U has given increased attention to developing human capacity in disaster risk reduction (DRR) authorities, as well as to creating catalytic contributions that go beyond the world of academia into the arena of civil society and serving the public good (McCowan, 2016).

Chapter One outlines the evaluation framework. The dual purpose of the evaluation is to a) contribute to an understanding of the consortium’s outcomes and the factors that influence value creation, both positive and negative, across space and time, and b) to ensure accountability to USAID and other stakeholders, including the partner universities, that have invested resources in the consortium. The overarching evaluation question addressed is:

“To what extent, and in what ways has the Periperi U consortium contributed to enhancing strategic human capacity to integrate risk reduction into key development activities, sectors and programs as well as (sub)national disaster risk management authorities?”

Additional sub-questions guided the work of the evaluation team. These dealt with project implementation against project plan, logic model and theory of change underlying this plan, achievements, and fresh perspectives and recommendations for future consideration.

The evaluation team adopted a utilization-focused approach (Patton, 1997) employing both quantitative and qualitative methods of data collection. An evaluation design matrix distinguished data according to planned and conducted activities, and results according to immediate outputs, intermediate outcomes, and potential for longer-term impact. Data has been aligned with broader contextual issues, such as those reflected in the Sendai Framework and the African Union’s Program of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 in Africa (PoA).

Chapter Two: Global Advocacy and Engagement in Disaster Risk Reduction – Focus on Higher Education outlines the findings of the evaluation as related to the following areas: defining higher education (HE) as a crucial player in DRR education, capacity building and research, identification and mobilization of funding mechanisms to advance DRR education and research for students (especially women) in HEIs, and the promotion of disaster risk-related education and research as legitimate domains in contemporary scholarship in and from Africa.

In providing the findings on the targets set in the funding proposal, this chapter of the report confirms that strategic engagement, an integral component of the Periperi U program, is key to enhancing DRM policy and practice, developing relevant capacity building programs and promoting HEIs as key partners in disaster risk related (DR-R) education and research.

¹ US English is used throughout this evaluation report (USAID/OFDA)

The report details Periperi U's achievements in these areas. The first of these relates to four targets set, demonstrating that the number of jointly organized events and the number of joint publications were fully achieved. High partial higher achievement was recorded for the number of attendees at jointly organized events and the number of documents, plans or agreements modified to include DRR language.

During Year 1 of this phase (2016/2017), Periperi U partners reported 41 local, national, regional and continental engagements, as well as a further 15 international engagements. At least 50% of partner universities were working with and through disaster risk management authorities during Year 1. During Year 2 (2017/2018), this grew to 100% of partner universities being actively engaged in demonstrating the crucial role HEIs can play in DRR education, capacity building and research. Engagements resulted in 61 consortium members (individually and collectively) participating in 17 regional, continental and international events, involving more than 1 000 people.

Additional details of the range and scale of these engagements are provided in the report, confirming the value of Periperi U's model of trans-boundary, adaptive disaster risk-related curricula that mobilize mutually reinforcing interventions which align disaster risk-related academic efforts with risk reduction needs. It is noted that while each of the individual partners has one or more focus areas of expertise, all Periperi U partners have worked with diverse stakeholders across multiple levels in diverse roles.

This chapter of the evaluation report also draws attention to Periperi U's strategic geographical position, both across Africa, as well as within and across faculties and knowledge disciplines within HEIs. The report finds that the consortium's multi- and transdisciplinary engagement with key local and global stakeholders has assisted in defining HE as a crucial player in DRR education, capacity building and research. In addition, it shows that the strategic blend of engagements with governments, humanitarian aid agencies and academic institutions from Africa and other continents has increased the awareness and diversification of Periperi U's activities during this phase. Collaborative research projects, student internships and short-course programs ensure local technical relevance, while conference presentations and other publications contribute to international visibility.

The evaluation highlights the importance of international research collaborations and publications that profile African scholarship in internationally recognized journals. Not only do these increase Periperi U's visibility, they also provide a platform for HEIs' role in effecting policy change. The full report includes a world map indicating the global presence achieved by Periperi U by the end of Phase IV. The acceptance of Periperi U's submission for funding by the World Bank (WB) marks recognition of its work, as does the invitation to partner with the United Nations Development Program (UNDP) in their proposal to the Swedish International Development Co-operation Agency (Sida). Both involve continuations and expansions from work developed and undertaken during Phase IV, signaling that Periperi U seeks to synergize making catalytic contributions to DRR with plans for financial self-reliance and sustainability.

The prioritization of purposive advocacy to extend and diversify support for continued and sustainable DRR in HE led to the inclusion of additional partners in Nigeria and Cameroon, as well as the provision of support to several African HEIs outside of the consortium. These new developments reflect the emphasis given to the concept of collaboration as highlighted in the Sendai Framework, PoA, and Sustainable Development Goals. Public and private sectors, civil society organizations, academia, scientific and research institutions need to work closely together. The evaluation report illustrates important linkages between global advocacy and the improvement of local conditions. Working with international risk and aid agencies, Periperi U has been able to enhance disaster risk resilience through social engagements, particularly with communities at risk.

Chapter Three: Integration / Enhancement of DRR within Education Systems and Research - Focus on Africa gives attention to the internal operations and achievements of the partner universities in the Periperi U consortium during Phase IV, complementing the broader and external focus of Chapter Two. Chapter Three considers seven quantitative indicators associated with curricula, students, programs, non-formal courses, participants at these courses, community interaction/outreach events, and engagement with community and other stakeholders. It

highlights Periperi U's achievements in relation to these indicators and the targets set, as well as outlining the factors that enabled and/or inhibited such achievements.

While a slower than anticipated development was noted in the numbers of curricula, programs, short courses and events, the data collected indicates that the number of beneficiaries across all these categories met and exceeded expectations. The number of students disaggregated by gender met expectations. University curriculum approval processes were deemed to have influenced the lower than anticipated development in the number of new curricula. It was noted that inter-institutional support offered by partner universities via responsive, collaborative relationships to non-partner HEIs, played a significant role in embedding DRR within education systems.

The lower numbers of non-formal DRR-related short courses and participants were influenced by lack of and/or delays in funding in Year 1. Coupled with this factor was another – students seeking courses towards qualifications rather than non-formal courses. While the number of community engagement and outreach programs was lower than anticipated, the number of beneficiaries reached was five times higher than the projected number. This points to that perhaps more can be done with less, a finding that requires consideration during future planning by Periperi U.

Although the above funder criteria aligned indicators do not refer to research activities per se, Chapter Three highlights the invaluable achievements of the research undertaken in the Periperi U universities during Phase IV. Research outputs in the form of postgraduate research projects, publications in peer-reviewed journal articles, and book chapters, were noted by the evaluation team. Research projects were frequently collaborative, engaging multiple stakeholders and influencing capacity-building in communities and across the continent. Authors listed as contact persons in publications citing Periperi U work were based in 25 countries indicative of global visibility. Periperi U has collaborated with nearly 80 institutions in 39 countries as well as with prestigious and globally renowned institutions. In addition, Periperi U's work with the World Health Organization (WHO) and the World Food Program (WFP) attests to the commitment to engage with government and policy makers to enhance the use of scientific data in planning, policy development and implementation in order to reduce disaster risk and enhance resilience.

Factors identified as driving integration/enhancement of DRR in HEIs included the degree of access to influential and authoritative university leaders and managers, the credibility of monitoring and reporting systems, and the extent of DRR-relevant knowledge generated and disseminated. Factors which were in some cases enabling and in others restraining included resources allocated to building relationships within and between departments, faculties and universities, to securing funding from internal and external sources.

Chapter Four: Complex Collaborations in Process reviews and develops the logic model and theory of change that informs and guides Periperi U in the design, planning, implementation, monitoring and reporting of their work. In doing so it foregrounds the learning purpose of the evaluation and offers fresh perspectives.

The evaluation found that Periperi U has been guided by an evolving, rather than rigid and static logic model and theory of change since inception. In outlining the history of Periperi U's logic model, the evaluation report highlights its development over the phases and the ways in which it has provided coherence with flexibility, thus enabling Periperi U to remain relevant to shifts in the HE landscape as well as in the DRR field. The initial linear logic model of Phase II linked activities to outputs, mapping outputs to outcomes. In Phase III the logic model and theory of change exhibited increasing complexity, represented by a focus on spheres of control, influence and interest.

By Phase IV, Periperi U had developed a theory of change closer to a web of interconnected factors in dynamic interplay characterized by spirals of evolving stability and change. Aligned with many of the principles of complex (adaptive) evolving systems (CAS/CES)², the evaluation recognized the challenges arising for Periperi U in engaging with and navigating the command and control hierarchical systems common in HEIs. The latter tend to be rigidly

² While much of the literature does not distinguish between CAS and CES, when systems are observed to be learning via adaptation, they are referred to as '**complex evolving systems**' to distinguish from 'complex adaptive systems' without signs of learning. The data provided multiple examples of Periperi U's capability not just to adapt but also to evolve via learning. Hence the term complex (adaptive) evolving system is used in this report.

rule-bound, structure and protocol sensitive, stability-seeking via homeostasis, risk-minimizing, and failure averse. In contrast, CAS/CES work systems are agile, opportunity sensitive and demonstrate flexibility guided by principles. They are pragmatic, bold and courageous in taking action when faced with uncertainty, open to learning through experimentation, and view failure as an opportunity to innovate and learn. The inherent similarities between the concept of resilience and CAS/CES are noted in the full report as providing practical and theoretical contributions to the field of disaster risk studies.

The evaluation found that the Phase IV logic model and theory of change offer insights into how factors act as dynamic variables in an interplay that gives rise to outcomes/results with potential for impact. Connectivity trumps structure. The interplay amongst variables highlight which act as enabling, bottle-necking or restraining, thus offering insights for decision-making about priorities and resources required. Relationships amongst variables are critical and more important than the individual components. In addition, relationships with stakeholders play a significant role in increasing the complexity that the logic model and theory of change need to accommodate.

The remainder of Chapter Four describes five collaborations emergent from the data. These are collaborations internal to the consortium, institutional collaborations, inter-institutional collaborations, institutional collaborations with external stakeholders, and consortium collaborations with external stakeholders. In addition to interactions within the collaborations, the data attests to Periperi U achieving its aims through interactions that take place across the five collaborations. This has required taking cognizance of differing structures evident in traditional hierarchical institutions such as universities and governments, as opposed to the structures in more organic, agile, fit-for-purpose organizations.

The data collected for this evaluation points to key leverage points and activities viewed as catalysts that encourage synergies across the collaborations and are utilized to good effect for all the stakeholders involved. For example, Phase IV has seen Periperi U make significant catalytic contributions in relation to (sub)national disaster risk management authorities through a multi-pronged approach. These achievements align with the PoA's call for actions that can reduce disaster risks in African countries through improved national and local disaster risk management (DRM).

Chapter Five: Conclusions, Lessons and Recommendations returns to the overarching evaluation question, then focuses on the lessons learned and recommendations made on the basis of the analysis and interpretations of the data gathered and reported on in this evaluation. General lessons and recommendations are provided, as well as thematic clusters aligned with each of the five collaborations outlined earlier.

Periperi U is to be commended for succeeding during Phase IV in enhancing the strategic human capacity to integrate risk reduction into key development activities, sectors and programs. It has done so as intended both through traditional HEI pursuits of scholarly research, academic teaching, and peer-reviewed publication, as well as by undertaking community interaction/outreach amongst people vulnerable to risk. The 12 partner universities worked to their strengths, developing niche areas relevant to DRR, and creating an exponentially larger presence through collaboration at multiple levels. In this way, they were able to each maintain their scholarly and scientific focus, while, as an interdependent consortium, collaborating to create contributions that no one partner could have created independently.

General lessons and recommendations

Amongst the general lessons and recommendations are those that speak to possibilities for a book publication in which the history and experience gained by Periperi U from inception to the end of Phase IV is documented for wide dissemination through a variety of channels, and a leadership event where the collaborative leadership and management approach evolved by Periperi U be made visible and further developed.

The use of a utilization-focused approach (Patton, 1997) for the Phase IV evaluation offered some significant lessons about opportunities and challenges in relation to real time communication, particularly in providing timeous access

to information and feedback. The team noted the great lengths that many Periperi U members went to in order to participate in individual and group/team interviews - making use of personal mobile phones and internet access contracts in order to conduct their HEI and Periperi U activities. It was also noted that RADAR personnel performing secretariat duties were particularly under-resourced in terms of appropriate technological equipment to support real time engagement, and on-demand access to information.

It is recommended that funding make provision for appropriate and relevant technology, especially for those undertaking secretariat functions. This includes appropriate secure database systems and software that allow on-demand access to Periperi U partners to share information, as well as enabling real-time monitoring and reporting.

In addition, funding is recommended to provide dedicated support to the already existing technology-driven achievements developed by Periperi U. The Online Resource Centre (ORC) is an excellent example of how Periperi U increased access to and visibility of DRR knowledge. Besides acting as a repository, it has potential to become a virtual meeting place for visitors to the site. It is recommended that funding be provided, possibly by the academic institutions themselves, to maintain and grow this significant contribution to disseminating DRR knowledge being generated by Africa-led HEIs, as well as internal and external stakeholders in the DRR field.

Lessons and recommendations related to consortium collaborations

Key amongst the set of lessons learned about consortium development is that changing existing relationships between a central coordinating structure and its collaborating partners takes time and requires a set of steps, including building new capacity and capabilities in the partners. This can be achieved in a variety of ways, including via a structured coaching and mentoring process. The recommendation is that the Periperi U consortium continues with its development towards a more distributed modus operandi in relation to administration, management and leadership. This evolution to a more distributed web of inter-dependencies will make it possible to identify roles and functions that might be more widely shared amongst the university partners.

It is recommended that a careful review of the current roles and functions of the central secretariat based at RADAR be done alongside an audit of the mini secretariats that are being developed in some of the partner universities. This will shed light on decisions for the central secretariat's future functions - what it needs to provide, to whom, and in what ways.

It is also recommended that priority be given in the next phase to improving the storing of the raw and processed data so that decisions and variations are easily accessible when making sense of data over time or by different members in a team.

Lessons and recommendations related to institutional collaborations

It is recommended that each university partner develops its own plan of action for fostering both horizontal and vertical institutional collaborations. This plan could include the establishment of a mini secretariat which markets, promotes and advocates for Periperi U within the home institution, optimizing opportunities for raising awareness through a variety of authoritative as well as popular channels, including but not limited to, institutional newsletters and websites.

It is also recommended that institutions be provided with forums to share their experiences and lessons learned about the ways in which vertical and horizontal institutional collaborations can be fostered. For example, workshops with stakeholders, leading to the dissemination of the awareness and knowledge generated via a variety of channels ranging from peer-reviewed journals and books, through to social media such as a LinkedIn group, Twitter, YouTube and the popular press.

Lessons and recommendations related to inter-institutional collaborations

The evaluation report highlights the value of inter-institutional collaborations in expanding the available expertise required to build knowledge of and capacity in DRR, both within the partner universities and beyond. Complementary areas of expertise strengthen collaborations and accelerate efforts to build knowledge and capacity. It is recommended that the Periperi U partner universities consider conducting an audit of their niche areas, even where these are still under development, along with their knowledge gaps and needs for the next phase of work. Where appropriate, the names and contacts of associated experts can be included in a summary spreadsheet of the findings of the audit.

It is also recommended that instead of a structured Affiliate Program centrally coordinated by the Periperi U secretariat, the partner universities be encouraged to continue their interactions and collaborations with other universities in relation to their relative strengths and needs. These relationships can continue to be monitored and their effects measured in future evaluations.

Lessons and recommendations related to institutional collaborations with external stakeholders

The evaluation report teaches that while collaborations between individual university partners and their immediate external partners have commenced at many of the institutions, these interactions still need to gain momentum in others

In addition, even where such interactions have begun, these could be extended and further developed. It is recommended that opportunities for learning about different partnership models with external stakeholders be explored with and by all the university partners.

It is recommended that each Periperi U partner undertake one or more stakeholder mapping exercises in order to identify stakeholders and then invite these stakeholders to participate in developing a shared awareness of the interdependencies that exist among them and with Periperi U.

Sharing expertise in negotiating and concluding MoUs, as well as having real-time/on-demand access to examples of well-structured MoUs is recommended. It is also recommended that opportunities for learning skills related to grant proposal writing and report writing for non-academic audiences be provided to all the university partners.

Lessons and recommendations related to consortium collaborations with external stakeholders

The evaluation teaches that Periperi U is not sufficiently well known as an entity – it lacks brand visibility. This is not a credibility or legitimacy dilemma. Both informal and formal interviews with external stakeholders surfaced that many of the individual members of the Periperi U consortium are known by name, and, in some cases, personality/presence. They are held in high regard and are recognized as established scientists and even as thought leaders.

This lesson gives rise to the recommendation that collaborations with external stakeholders be expanded from a technical focus at regional level to a high-level strategic engagement with senior executives in key agencies. As a Pan-African consortium, Periperi U is well placed to engage the most senior people in the AU for funding, and to advocate for the explicit inclusion of the value and role of HEIs and DRR when future frameworks like the Sendai Framework and the PoA are reviewed or developed.

The evaluation confirms the high level of staff capabilities within the central secretariat to take forward interactions with external stakeholders. This bodes well for the future sustainability of the consortium.

The full report has highlighted several activities in process that have catalytic effects across the various collaborations. In this way, one key activity may have wide-spread results if it is optimized. With this in mind, it is recommended that the Periperi U consortium reviews and revises the current logic model and theory of change to

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ABBREVIATIONS AND ACRONYMS

The following list is offered to readers as a quick reference. Only the abbreviations in use in this report are shown. Where more than one abbreviation is in common use, duplicate entries have been provided for ease of locating in the alphabetically ordered list. For example, each of GBU/UBG and UGB/GBU are listed for the University of Gaston Berger in Senegal.

ABU	Ahmadu Bello University - Nigeria
AFARP-DRR	Africa-Arab Platform on Disaster Risk Reduction
ARMS	African Risks Method School
ARU / Ardhi	Ardhi University - Tanzania
A-STAG	African Science and Technology Advisory Group
AU / AUC	African Union / African Union Commission
AWGDRR	African Working Group on Disaster Risk Reduction
BDU	Bahir Dar University - Ethiopia
BNGRC	Bureau National de Gestion des Risques et des Catastrophes
CAS / CES	Complex Adaptive Systems / Complex Evolving Systems
CCA / UNDAF	Common Country Assessment / UN Development Assistance Framework
CERED	Centre d'Etudes et de Recherches Economiques pour le Développement / Centre for Economic Research in Development at University of Antananarivo - Madagascar
CRAAG	Centre of Research of Astronomy, Astrophysics and Geophysics
Dept. ESS & ET	Department of Earth System Science and Environmental Technologies
DFID	Department for International Development, United Kingdom of Great Britain
DR	Disaster Risk
DR Congo	Democratic Republic of Congo
DRM	Disaster Risk Management
DRR	Disaster Risk Reduction
DR-R	Disaster Risk Related
DRS	Disaster Risk Science (scholarship)
EAC	East African Community
ECCAS	Economic Community of Central African States
ERRA	Earthquake Reconstruction and Rehabilitation Authority
FAO	Food and Agriculture Organization
GBU / UGB	University of Gaston Berger - Senegal
GFDRR	Global Facility for Disaster Reduction and Recovery
GRA	Global Risk Assessment
GRETHA	Research Group for Theoretical and Applied Economics
HE	Higher Education

HEI	Higher Education Institution
HFA	Hyogo Framework for Action
ICSU	International Council for Science
IDNDR	International Decade for Natural Disaster Reduction
IFAD	International Fund for Agricultural Development
IFPRI	International Food Policy Research Institute
IFRC	International Federation of Red Cross and Red Crescent Societies
IGG	Instituto di Geoscienze e Georisorse
IIEP-UNESCO	UNESCO International Institute for Educational Planning - UNESCO
INGC	Instituto Nacional de Gestão de Calamidades (INGC)
IRDR	Integrated Research on Disaster Risk
ISDR	International Strategy for Disaster Response
KAN	Knowledge Action Network
Makerere	Makerere University -Uganda
Moi	Moi University – Kenya
MoU	Memorandum of Understanding
MSc	Master of Science (degree)
NADMO	National Disaster Management Organization
NDMR	National Delegation for Major Risks
NEMA	National Environmental Management Act (South Africa)
NEMA	National Emergency Management Agency (Nigeria[GM4])
NEPAD	New Partnership for Africa’s Development
NEPAD/ARCH	New Partnership for Africa’s Development African Resilience Coordination Hub
NGO	Non-Governmental Organization
NWU	North-West University – South Africa
OFDA	Office of US Foreign Disaster Assistance
ORC	Online Resource Centre
OXFAM	Oxford Committee for Famine Relief
PARM	The Platform for Agricultural Risk Management
PDF	Portable Document Format
Periperi U	Partners Enhancing Resilience for People Exposed to Risks
PhD	Doctor of Philosophy (degree)
PoA	Program of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 in Africa
RADAR	Research Alliance for Disaster and Risk Reduction at University of Stellenbosch, South Africa
RECs	Regional Economic Communities

RIASCO	Africa Regional Intra-Agency Standing Committee
ROA	Regional Office for Africa
RRT	Rapid Response Team
SADC	Southern African Development Community
SADC-DRR	Southern African Development Community Disaster Risk Reduction (Unit)
SC	Sub-County
SDGs	Sustainable Development Goals
SU	Stellenbosch University
TRCS	Tanzania Red Cross Society
UBuea	University of Buea - Cameroon
UCL	University College London
UDM	Universidade Técnica de Moçambique / Technical University of Mozambique - Mozambique
UG	University of Ghana - Ghana
UGB / GBU	University of Gaston Berger - Senegal
UK	United Kingdom
UN	United Nations
UNDP	United Nations Development Program
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNISDR	United Nations International Strategy for Disaster Reduction
UNSTAG	United Nations Science and Technology Advisory Group
USA	United States of America
USAID	United States Agency for International Development
USTHB	University of Science and Technology Houari Boumediene - Algeria
WB	World Bank
WCDRR	World Conference on Disaster Risk Reduction
WFP	World Food Program
WHO	World Health Organization
WHO/AFRO	World Health Organization Regional Office for Africa

CHAPTER 1 | INTRODUCTION AND FRAMING

1. INTRODUCTION

This evaluation report is focused on Phase IV (26 May 2016 to 25 May 2019) of the Partners Enhancing Resilience for People Exposed to Risks (Periperi U) consortium and its contributions in “reducing disaster risks in African countries through improved national and local disaster risk management, due to enhancing strategic human capacity to integrate risk reduction into critical developmental sectors and programs³” (Periperi U website, <http://www.riskreductionafrica.org/>). The evaluation fulfills the accountability requirements for USAID Grant Number AID-OFDA-G-16- 00115 and SLA Contract number: S004781. This evaluation goes beyond accountability by offering findings and recommendations to inform learning for the future development of Periperi U.

The introduction to this chapter sets the scene for an understanding of this phase within the history of Periperi U, which came into being in 2006. It begins by considering the over-arching purpose and aims of Periperi U, and how these align with changing global views of both the role of higher education, as well as views of the field of Disaster Risk Reduction (DRR).

This chapter then outlines the purpose of the evaluation, the key evaluation questions, approach, design, and methods. A brief overview of the building blocks created to collect, process and analyze data is also included. The chapter offers readers an outline of the other chapters of the evaluation report, before closing with a short synthesis of this chapter.

1.1 OVERVIEW OF PERIPERI U

1.1.1 The purpose and aims of Periperi U

Periperi U was designed as a progressive and innovative initiative to demonstrate and advocate for the contribution that the African-based higher education (HE) sector offers to strengthen human capacity and knowledge generation in the disaster risk related (DR-R) domain. Periperi U’s focus has been on advocating for the value of disaster risk science (DRS) scholarship, as well as educating people to become capable of taking up continental, national, and sub-national roles in DR-R organizations and agencies. This responds to the call to action of the Sendai Framework (UNISDR, 2015) and the accompanying African Union’s Program of Action for the Implementation of the Sendai Framework for Disaster Risk Reduction 2015-2030 in Africa (PoA) (African Union Commission, 2016). The PoA gives direction to actions that can reduce disaster risks in African countries through improved national and local disaster risk management (DRM).

The purpose pursued by Periperi U, that of growing policy-informing and influencing scientists and trusted technical advisors at the local, national, continental and global levels, is one that involves commitment and sustained action over decades rather than a few years. This has implications for the appropriateness and alignment of the time periods involved, for example, those for cycles of planning, financial investment, and impact evaluation. The Phase IV evaluation forms part of a pattern of a three-yearly cycle of evaluation that began when Periperi U had been in existence for just half a decade. While impact evaluation is beyond the scope of this summative evaluation, the Phase IV evaluation does surface outcomes that act, or might act, as catalytic contributions towards the impact that Periperi U intends to make over the longer term period that developing human capacity in DRR requires.

Periperi U’s founding partners shared a strong conviction that Africa’s universities should become more involved in advancing DRR efforts. They were alive to the value that their academic programs could produce graduates with new skill sets to tackle local risks, and that new curricula could transform local and national risk reduction and management practice across the continent. The platform built through the pursuit of these early aspirations and

³ US English is used throughout this evaluation report (USAID/OFDA).

convictions has proved invaluable in preparing Africa-based and Africa-led higher education institutions (HEIs) to be fit for purpose to be significant contributors in the global arena of DRR. The vision and foresight evident in the early phases of Periperi U may well become recognized as part of Periperi U's capability to create catalytic contributions.

Periperi U's early commitment to enhancing strategic human capacity to integrate risk reduction into critical developmental sectors and programs was well aligned with the increased realization, globally, that "the professional formation provided by universities is an essential piece in the puzzle of providing basic public services to the whole population" (McCowan, 2016, p. 505). McGowan argues for the role of higher education as being in the service of the public good, rather than being a mechanism for reproducing the privileges of the individual members of the elite.

The Hyogo Framework 2005 – 2015, which resulted from the 2005 World Conference on Disaster Reduction (WCDRR), was released under the auspices of the United Nations International Strategy for Disaster Reduction (UNISDR). It offered a framework to the DRR field until 2015, when the Sendai Framework for Disaster Risk Reduction succeeded the Hyogo Framework.

While neither of these guiding frameworks foregrounds the role of HEIs, both highlight the value of education, training, capacity development, and knowledge generation and dissemination through DR-R research. These frameworks also recognize the need for greater access to and involvement in knowledge generation via research for communities and local authorities in the DR-R sphere, along with the importance of international and regional cooperation. The ways in which technological advancements can assist in knowledge management and complex collaborations are also highlighted. The PoA (African Union Commission, 2016) specifies more about the potential role for higher education in the African context. The evaluation considers to what extent, and in what ways, Periperi U's achievements act as catalytic contributions towards the impacts envisaged by these frameworks.

1.1.2 Periperi U's university partners

Periperi U began in 2006 with five university partners, namely:

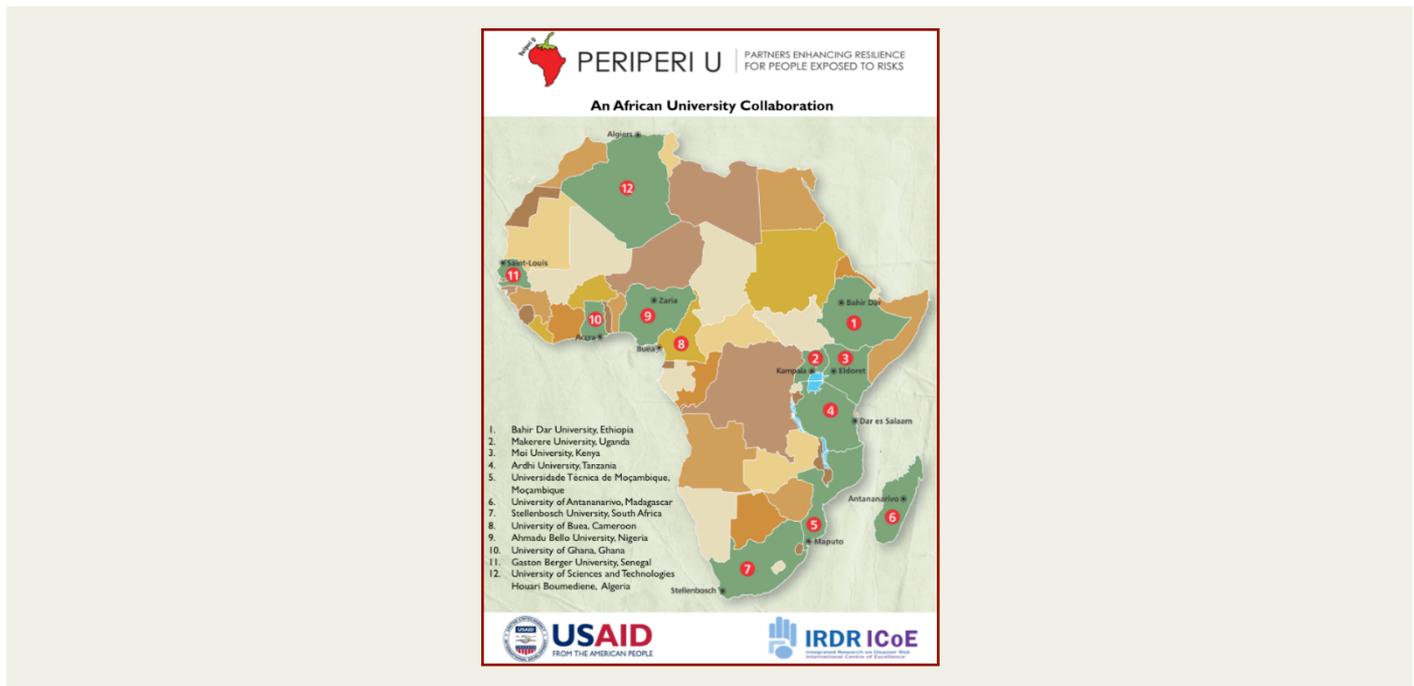
- Research Alliance for Disaster and Risk Reduction at Stellenbosch University (SU/RADAR) in South Africa – 2006
- Ardhi University (ARU/Ardhi) in Tanzania - 2006/7
- Bahir Dar University (BDU) in Ethiopia – 2006/7
- University of Science and Technology Houari Boumediene (USTHB) in Algeria – 2006/7
- University of Ghana (UG) in Ghana – 2007/8.

By the end of Phase IV, the Periperi U consortium had reached 12 university partners, the additional seven university partners being:

- Makerere University (Makerere) in Uganda - 2008
- Universidade Técnica de Moçambique / Technical University of Mozambique (UDM) in Mozambique – 2008
- Gaston Berger University (GBU/UGB) in Senegal - 2009
- Moi University (Moi) in Kenya - 2009
- University of Antananarivo (Tanà) in Madagascar - 2009
- Ahmadu Bello University in Nigeria – 2016
- University of Buea (UBuea) in Cameroon - 2016

The map of Africa below illustrates the Africa-wide reach that the Periperi U consortium has achieved.

The Periperi U Consortium – Phase IV



The expansion of the Periperi U consortium to cover all the Regional Economic Communities (RECs) in Africa is in line with the PoA's alert to consider the reach required to create the desired impact. The consortium has strategically positioned itself to provide an excellent platform for acting as a catalytic contributor within Africa, as well as enabling Africa-led influence towards global impact through knowledge generation and scientifically grounded applied practice in DRR.

Periperi U partners are located across existing traditional disciplines within these universities. The transdisciplinary nature of Periperi U's work is in response to the complexity of the DR-R field, and key to understanding and generating relevant knowledge. It also alerts to the challenges likely to be experienced in introducing changes in university curricula and programs, where HEIs are more familiar with organizational structures built around single disciplines. The challenges and opportunities that emerge from the complexity characteristic of both Periperi U's work and the context in which they aspire to make catalytic contributions, act as a backdrop to this report.

1.1.3 Periperi U's stakeholders

In addition to the transdisciplinary focus, much of the consortium's work is about building bridges between Africa's universities and the practice of DRR and humanitarian action. Key stakeholders include members of local communities, government officials across all levels, regional and continental institutions and organizations, and key continental actors, such as the African Union. The various challenges involved when HEIs work with external stakeholders at multiple levels and across multiple contexts add to the complexity of Periperi U's work.

The emphasis given to generating, utilizing and sharing local knowledge provides yet another complexity. DRR knowledge is being developed through research conducted in local communities outside the university, as opposed to relying on existing academic frameworks and theories. Practice is being used to shape scholarly knowledge, and scholarly knowledge is informing government and civil society policy, as well as on-the-ground practice.

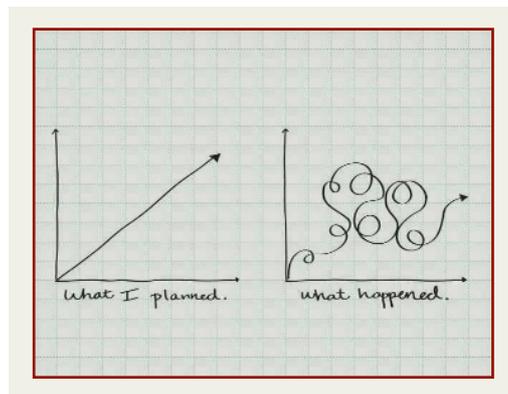
In addition to external stakeholders, Periperi U's work exists within a context of intricate interplay with a variety of internal institutional stakeholders. This interplay encompasses diversity across a number of factors, including, but not limited to, variety in agendas, desired outcomes, accountabilities, and expertise.

1.1.4 The first three phases of Periperi U's work

Periperi U's work has evolved across four phases. Phase I was the start-up phase extending from 2006 to mid-2008. Phase II was a developmental phase from mid-2008 to mid-2011. Phase III focused on embedding as well as expanding and took place from mid-2012 to mid-2015. Phase IV, from mid-2016 to mid-2019, brought new attention to going beyond the institutional focus, to that of acting globally as advocate for the significant role that HEIs can and should play in strengthening human capacity in DRR. This change in focus is expanded on in subsequent chapters, noting in particular Periperi U's exposure to operating under conditions characterized by volatility, uncertainty, complexity and ambiguity.

While there have been interruptions in executing plans, for example, due to delays in receiving funding, the work and delivery by Periperi U has steadily continued. This ability to continue evolving, rather than becoming stuck when the planned trajectory stalls or fails, is a strength displayed by Periperi U. It points to sustainability.

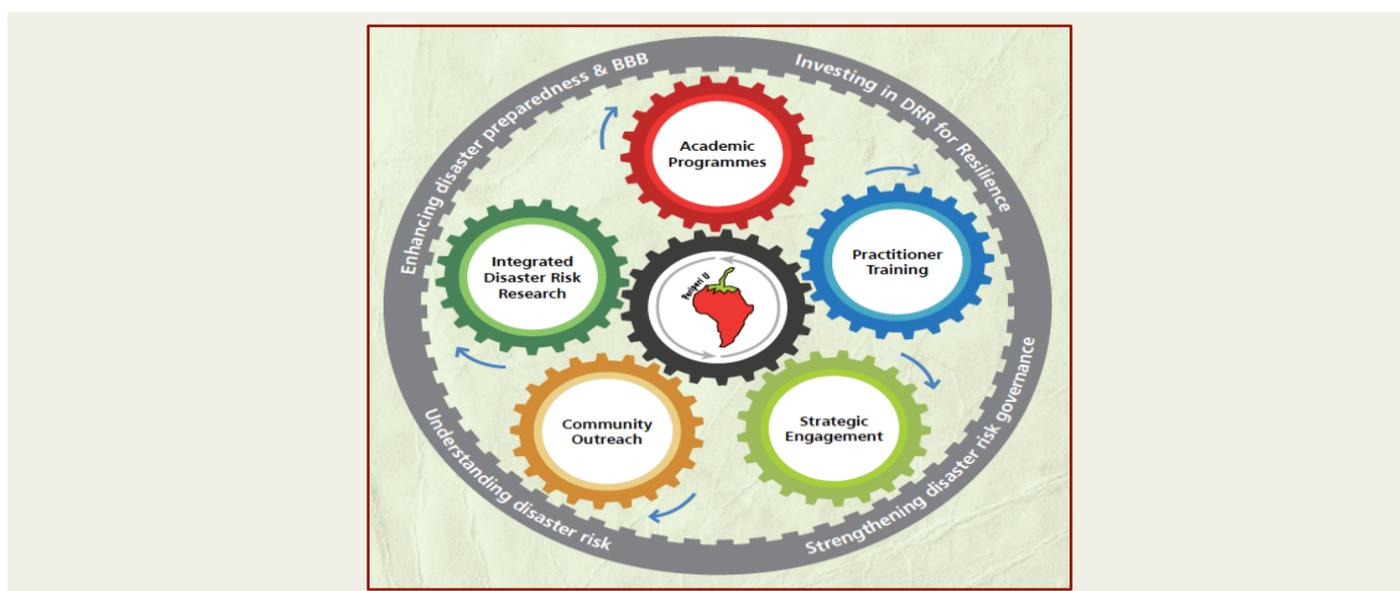
As might be expected, the earlier phases of the Periperi U consortium's efforts focused on building capacity within the partner universities. Activities included facilitating exchanges, developing curricula - for new and existing programs at undergraduate and postgraduate levels, conducting research in local communities to generate new situated knowledge, and providing short courses.



The evaluation reports of the earlier phases highlighted Periperi U's successes in design and implementation, but also noted insufficient attention being given to strategic positioning. The recommendations of the Phase III Evaluation Report pointed to a number of areas for improvement and development. These have been included into the indicators used for the Phase IV evaluation.

Towards the end of the Phase III period, Periperi U developed a visual display of a human capacity building model illustrating assumptions about how HEIs can be, and are, key to building skilled human capacity in DRR. The model is aligned with the Sendai Framework. It displays five cogs, signaling the opportunity for mutually reinforcing ripples of influence to be created. In this way a single activity in any of the cogs can act as a catalytic contributor to ripples of influence more impactful than what could be achieved by the single cogs.

Periperi U capacity building model



The model embeds university action in local and national risk contexts and ensures grounded connection with a wide range of community, practitioner and policy-making groups. In essence, the Periperi U capacity building model captures the key elements of the Sendai Framework. Periperi U presented this capacity building model at the May 2017 Global Platform for DRR in Cancun, Mexico. The presentation entitled “ReAL innovation in DRR: Insights on risk education and learnings from Africa” was well received and established the consortium as an Africa-based and Africa-led thought leader.

The historical and developmental path of Periperi U’s logic model and theory of change/action will be outlined and discussed in Chapter Four.

1.1.5 The purpose and aims of the Periperi U consortium during Phase IV

The Periperi U Phase IV funding grant work period was 26 May 2016 to 25 May 2019. During this phase, Periperi U continued with its commitment to developing and strengthening strategic human capacity in DRR, via particular focus areas and nuances. This can be seen in the following statement from the funding proposal:

Periperi U aims at (contributing to) reducing disaster risks in at least 12 selected African countries by mobilizing the Periperi U consortium to enhance human capacity to integrate risk reduction into key development activities, sectors and programs as well as the (sub) national disaster risk and management authorities (RADAR/Stellenbosch University, 2016).

The commitment to developing the role that HEIs can play in human capacity building remained, but in Phase IV there was a particular focus on human capacity in DRR authorities, as well creating catalytic contributions that go beyond the intellectual world of academia and scholarship into the arena of civil society and serving the public good.

Two specific sub-sectors were identified from the funder’s criteria for the Phase IV work:

- Global advocacy and engagement in DRR – with a focus on higher education
- Integration/enhancement within education systems and research with a focus on Africa.

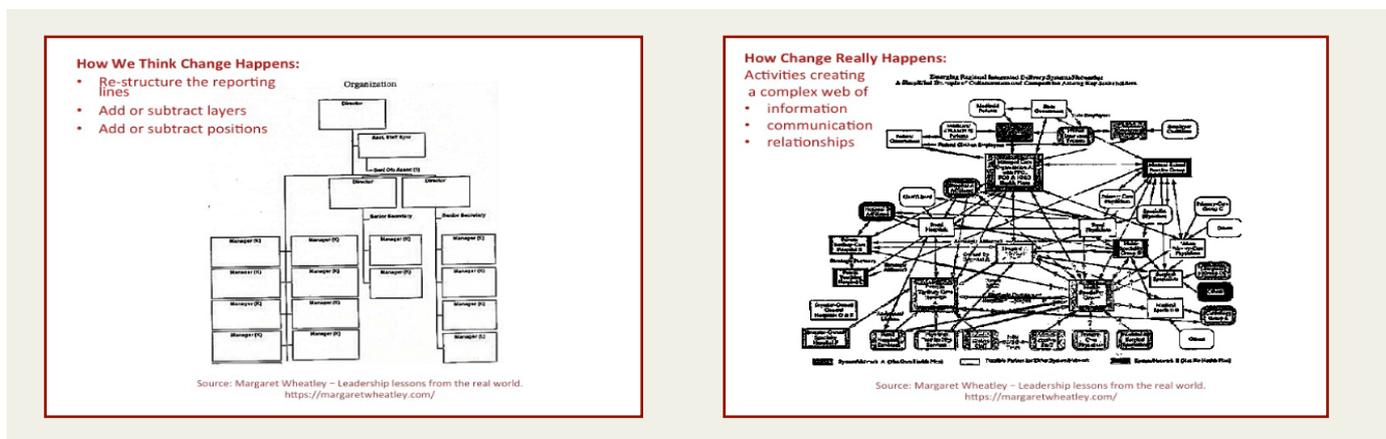
This phase prioritized purposive advocacy to extend and diversify support for continued and sustainable DRR higher education efforts, both within Africa and beyond. In addition, the consortium took into account the need to include additional partners in Nigeria and Cameroon, as well as to offer support to other African countries via HEIs outside of the consortium partner universities. The latter was envisaged as perhaps requiring an affiliate program, which would enable the incremental, organic inclusion of new members to the consortium.

Once again, synergies between Periperi U’s work in Phase IV and the 2015 Sendai Framework are noticeable. The Sendai Framework gives greater emphasis to the concept of collaboration across wide networks, recognizing “the need for public and private sectors and civil society organizations, as well as academia and scientific and research institutions, to work more closely together, and to create opportunities for collaboration, and for businesses to integrate disaster risk into their management practices” (UNISDR, 2015, p.10). Collaboration in wide DRR networks requires “a multi-hazard approach and inclusive risk-informed decision-making based on the open exchange and dissemination of disaggregated data, including by sex, age and disability, as well as on easily accessible, up-to-date, comprehensible, science-based risk information, complemented by traditional knowledge” (UNISDR, 2015, p. 13).

Complex collaborations are increasingly a focus of attention for researchers investigating the link between higher education and the public good. As McCowan writes, “there is a conceptual and theoretical lack, in terms of developing understandings of what the university is, and is for, and how the systems interact with and impact the rest of society” (McCowan, 2016, p. 506). Periperi U is well positioned to contribute significant Africa-based scholarship on how catalytic contributions by HEIs can and do strengthen human capacity in DRR, and hence serve civil society and the public good.

Navigating complex collaborations brings with it logic model and argument-building challenges. Margaret Wheatley's diagrams illustrate the importance of drawing on and generating theory that is alive to the emergent web of influence arising from the interplay amongst factors in complex systems, rather than staying with the linear causality logic of traditional root cause analysis approach to problem-solving.

Logic models: Linear change versus complexity change



This evaluation draws on complex adaptive systems/complex evolving systems theory (CAS/CES) (Coetzee, Van Niekerk & Raju, 2016; Health Foundation, 2010; Holland, 1992) to accommodate the need for a conceptual framework that foregrounds complexity and non-linear logic to allow for creativity, iterative tendencies and emergent properties likely to be part of understanding and successfully navigating complex collaborations.

In identifying the web of factors that create catalytic contributions, this evaluation report seeks to offer recommendations that can inform Periperi U's future planning and actions around shaping and strengthening collaborative practice.

1.1.6 Financial support

The Periperi U consortium has received financial support for Phase IV from the United States Agency for International Development (USAID) through the Office of US Foreign Disaster Assistance (OFDA). USAID/OFDA's main goals are to assist in combating extreme poverty, as well as to promote the development of resilient, democratic societies globally. USAID believes it is essential to invest in building human capital, creating inclusive, sustainable and self-reliant societies and reaching out to the poorest and most vulnerable in the world, in order to create a more prosperous and stable future for all.

The USAID/OFDA grant supplements the financial support provided by the universities themselves. Within the consortium there is variation in this university provided financial support, adding complexity to the Periperi U secretariat's task to enable smooth, reliable and equitable distribution of finances. Academic programs have been able to continue between funding grants and/or when there have been delays in distribution of funds, thus providing stability and sustainability for Periperi U's outputs. Some activities, such as travel for international exchange visits and engagements, as well as subsidizing short courses and enabling research, have been negatively affected by delays in funding availability and/or distribution.

In Phase IV of the consortium's work, attention has been given to the suggestion that reliance on one funder constitutes a risk to sustainability. Developing and implementing a donor engagement strategy to diversify funding sources beyond USAID/OFDA was deemed an essential, important and urgent part of the Phase IV activities.

The issue of longer-term sustainability continues to be an important one for the Periperi U consortium. 2019 provides for a transition period, one in which various questions about the future of the consortium – its structures and models, as well as future resourcing - will require attention. It is clear from this evaluation that Periperi U should be supported in continuing its work and its role in ensuring HE's contributions to DRR.

1.2 PURPOSE, QUESTIONS AND FOCUS AREAS OF THE PHASE IV EVALUATION

1.2.1 Purpose of the evaluation

As specified in the grant agreement (Grant Number AID-OFDA-G-16-00115), USAID requires an evaluation of Phase IV of the Periperi U consortium May 2016 – May 2019 (RADAR/Stellenbosch University, 2016). The purpose for this evaluation, is two-fold:

- To ensure accountability to USAID/OFDA and other stakeholders, including the partner universities, that have invested resources in the consortium. This aspect of the evaluation might be termed the accountability function.
- To contribute to an understanding of the consortium's benefits, impacts and the factors that influence the value creation, both positively and negatively, across space and time. This purpose might be termed the learning purpose of the evaluation in that drivers and outcomes are identified and the complex interplay between them is explored. Lessons learned can be used to strengthen the consortium in the future.

1.2.2 Evaluation questions

The overarching evaluation question for Phase IV:

To what extent, and in what ways has the Periperi U consortium contributed to enhancing strategic human capacity to integrate risk reduction into key development activities, sectors and programs as well as (sub)national disaster risk management authorities?

After an initial document review and consultations with the primary users of the evaluation, six evaluation questions emerged, which speak to both the accountability purpose and the learning purpose of this evaluation:

- EQ1 To what extent has the funding application proposal been implemented as planned, and with what intended and unintended results? (The accountability purpose)
- EQ2 To what extent is the underlying theory useful in relation to Periperi U achieving its aims and purpose? (The learning purpose)
- EQ3 What fresh perspectives and recommendations can be offered to Periperi U and their funders for consideration as they move into the next phase of work? (The learning purpose)
- EQ4 To what extent and in what ways has the Periperi U consortium contributed to enhancing strategic human capacity to integrate risk reduction into key development activities, sectors and programs, as well as (sub) national disaster risk management authorities? (The accountability purpose)
- EQ5 What are the implications and recommendations for supporting the sustainability of the achievements of Periperi U in the future? (The learning purpose)
- EQ6 What are the recommendations about how to strengthen in areas of missed opportunity, vulnerability and/or under-development? (The accountability purpose; the learning purpose).

1.3 EVALUATION APPROACH, DESIGN, METHODS AND DELIVERABLES

The Phase IV evaluation was undertaken by an evaluation team working under the leadership of Dr Svea van der Hoorn⁴.

1.3.1 Approach to and design of the evaluation

A utilization-focused approach (Patton, 1997) was adopted. The approach is deemed to address both the learning and accountability purposes of the evaluation. A combination of quantitative and qualitative methods used. Data about each Periperi U partner was gathered to develop a picture of how the partners contribute to the work of the consortium as a whole. An evaluation design matrix distinguished data according to activities - planned and conducted, and results - immediate outputs, intermediate outcomes, and longer-term impact. Data was evaluated within the broader contextual issues, including those reflected in the Sendai Framework and Periperi U’s purpose and aims for Phase IV.

Evaluation design matrix

OVERARCHING EVALUATION QUESTION:				
To what extent and in what ways has the Periperi U consortium contributed to enhancing strategic human capacity to integrate risk reduction into key development activities, sectors and programs as well as (sub) national disaster risk management authorities?				
USAID/OFDA Phase IV sub-sector 1 Global advocacy and engagement Sub-sector 1 evaluation questions To what extent and how has the Periperi U consortium been involved in global advocacy and engagement? What has been the influence and impact of this work? What have been the challenges related to this work? What recommendations might be made in order to strengthen this aspect of work?		USAID/OFDA Phase IV sub-sector 2 Integration / Enhancement within education systems and research: Focus on Africa Sub-sector 2 evaluation questions To what extent and in what ways has the Periperi U consortium integrated/enhanced disaster risk research and education within and across education systems in the countries of participating members? What factors have enabled such integration/enhancement? What factors have hindered integration/enhancement? What recommendations might be distilled for future sustainability?		
COMPONENTS and ACTIVITIES				
Academic Programs	Integrated DR-R research	Practitioner Training	Community Outreach	Strategic Engagement
Undertake research Develop new programs Teach on each other’s programs Review each other’s programs Examine each other’s candidates	Undertake postgraduate research projects Undertake commissioned research Attend seminars, conferences	Liaise with organizations, govt departments around needs of practitioners Develop short courses Evaluate short courses	Local radio broadcasts Community consultations and teaching Student training in community-based data collection Immersion of partners within the life-cycle of a disaster event	Networking events Collaborative projects

⁴ Evaluation team members: Dr Sharman Wickham, Dr Katherine Train, Ms Annabe Tredoux, Ms Allison Thiel, Mr Charl Swart, Ms Gina Selander.

OUTPUTS				
Academic Programs	Integrated DR-R research	Practitioner Training	Community Outreach	Strategic Engagement
Relevant and up-to-date programs Graduates (human capacity)	Theses (M and D) Reports for external clients Papers Journal articles Articles in general media Textbooks	Short course materials and resources Evaluation reports Enhanced problem-solving skills amongst practitioners	Engaged citizenship Academic research translated into practical application to benefit communities in DRM Capacity building in communities Increase postgraduate student employability	Scientific and Technical Declarations Collaborative research and publications - transdisciplinary
OUTCOMES				
Better understandings of disaster risk domain, risk scholarship Increased knowledge of local risks Enhanced skills DR expertise Changed mindsets Useful networks Knowledge portal for knowledge exchange (ORC)	Quality research and researchers Contribution to risk scholarship Robust knowledge base Better understanding of African contributions to knowledge New policy and programs Better disaster risk assessment and surveillance methods, tools and techniques	Increased competence amongst disaster risk practitioners Risk reduction skill building for existing practitioners	Improve community level risk anticipation and awareness Reduce risk in vulnerable communities Potential career opportunities in DR-R employment Long-term commitment of expertise to communities at risk	Scientifically informed policies Scientifically informed implementation of policy
IMPACT				
Enhanced disaster risk preparedness Professionally qualified personnel in decision-making positions in government and non-governmental organizations, in particular, increased numbers of women qualified in DRR	Strengthened disaster risk governance Reduction in disaster risk	Enhanced disaster risk preparedness and responsiveness	Increased risk anticipation and awareness at community level A long-term commitment provides valuable information about the complex interrelationships between humans, culture and their environment and how to support communities to prepare for and respond to natural hazards and disasters	Reduction of disaster risk for vulnerable people Disaster recovery is an opportunity – Build Back Better Increased resilience

1.3.2 Methods used in data collection and analysis

Data was collected by means of a review of existing documents, observations and interviews.

Document review. The review of documents included the annual reports, previous evaluation reports, the Periperi U brochure (October 2017), the funding application proposal to USAID/OFDA in 2016, and selected literature pertinent to DRR and HEIs.

Structured, semi-structured and group/team interviewing. Data was collected from the secretariat, each of the partner universities and selected stakeholders by means of structured and semi-structured interviews and group/team interviews, according to two interview schedules that were designed for this evaluation.

Observations and semi-structured interviewing: The Africa-Arab Platform on Disaster Risk Reduction (AFARP-DRR), and the pre- and post-conference consultative meetings in Tunis in October 2018, provided naturally occurring

events at which the lead evaluator conducted semi-structured interviews with university partner representatives and stakeholders. In addition, data from group interviews and observations of relationships and contextual influences were recorded.

During the Tunis meetings, key members from each partner university were introduced to the evaluation and requested to act as liaison people with the evaluation team for the duration of the process. Invitations for interviews were sent by email. Relevant stakeholders were identified by means of a stakeholder mapping activity conducted with all partners present at AFARP-DRR and updated in subsequent communications. Stakeholders included those interacting with the Periperi U secretariat, Periperi U partner universities, selected non-partner universities, government officials, and representatives from NGOs, humanitarian aid and civil society organizations. The selection of interviewees was purposive rather than representative. Interviewees were selected to reflect the diverse representation reflected in the work of Periperi U.

Interviews were for the duration of 30-90 minutes and were conducted either face-to-face or on online via video or audio platforms. Where technology permitted, interviews were recorded and transcribed. Alternatively, interviewers captured notes during and immediately after the interviews.

Analysis. The document review included an analysis of indicators specified in the funding application, the quarterly and annual reports, and the previous evaluation reports. The indicators' alignment with the funder's sub-sector 1 and sub-sector 2 definitions were noted.

Interview data was analyzed and written up in partner overview summaries. Summarized data was entered into an Excel summary spreadsheet, allowing for comparison and synthesis across the 12 partners. Emergent patterns were identified in relation to the evaluation questions to facilitate the drawing of conclusions and generating of recommendations.

1.3.3 Deliverables and building blocks

The following deliverables and timelines were agreed on for the evaluation report:

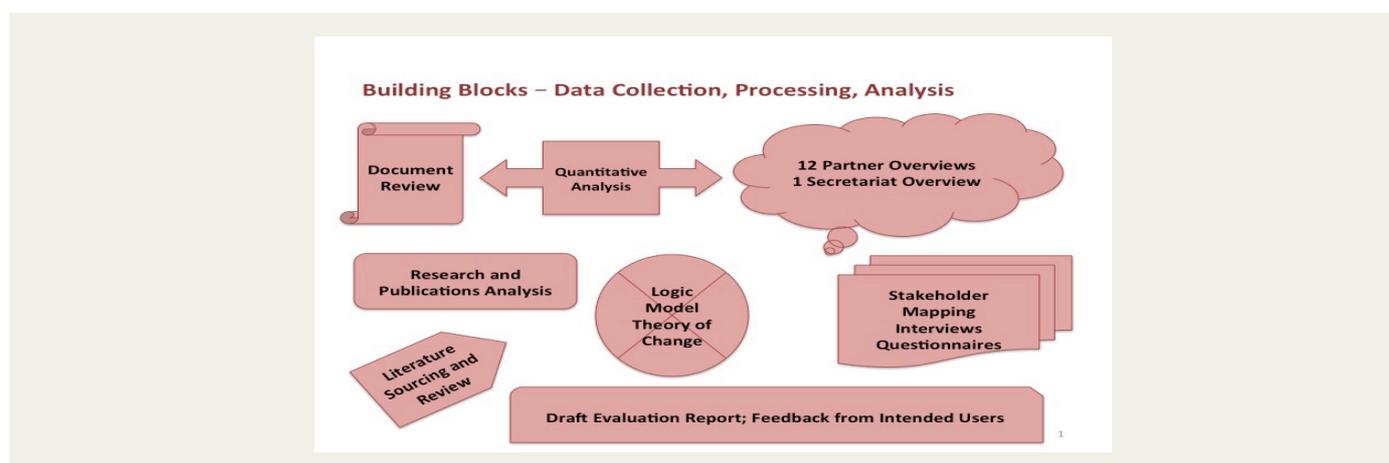
- Final evaluation report, 23 April 2019
- Draft evaluation report, 1 March 2019

This would allow the report to be discussed when Periperi U meets as a consortium at the Global Risk Assessment (GRA) platform in Geneva in May 2019, as well as align with the funder's reporting timelines.

The following building blocks leading to the final deliverable were also agreed on:

- A review of relevant policy frameworks
- A bibliometric study of the consortium's publications
- A review of selected literature on higher education and its role in development (see bibliography – expanded from a reference list to a resource)
- A quantitative analysis
- A spreadsheet summary of data on the 12 partners
- 12 partner overviews
- A stakeholder mapping visual display and overview
- An updated project logic model / theory of change

Evaluation building blocks



1.4 OUTLINE OF THE EVALUATION REPORT

As a whole, the evaluation report provides a balance of rich, detailed descriptions and synthesized high-level patterns that have emerged across data sets. Data from the policy and literature reviews introduced in the first chapter are integrated into all the chapters of the report.

Chapter 1: Introduction and Framing situates the evaluation in relation to an overview of Periperi U.

Chapter 2: Global Advocacy and Engagement in Disaster Risk Education – Focus on Higher Education summarizes the consortium’s participation in, and contribution to international engagements and joint events, as well as joint publications and other documents produced and/or modified. In drawing on the experiences and perceptions of the partners and stakeholders, the effect and influence of this aspect of Periperi U’s work is evaluated. In addition, factors influencing global advocacy and engagement in DRR are distilled. The key priorities in the Sendai Framework and conceptual frameworks in the literature are drawn on in shaping this and the following chapters.

Chapter 3: Integration/Enhancement of DRR within Education Systems and Research – Focus on Africa begins by highlighting the consortium’s achievements across four areas: academic programs, research, non-formal DRR-related short courses, and DRR-related outreach events. Here again, drawing on the partners’ and stakeholders’ experiences and perceptions, factors influencing integration/enhancement of DRR within education systems and research are distilled

Chapter 4: Complex Collaborations – in Process synthesizes and interprets the findings in the previous two chapters, linking them with the development of Periperi U’s logic model and theory of change since inception. The chapter examines the way in which the Periperi U consortium displays characteristics of complex adaptive/evolving systems. The chapter then discusses five sets of collaborations: consortium collaborations, institutional collaborations, inter-institutional collaborations, collaborations between the institutions and their external stakeholders, and collaborations between the consortium as a whole and its external stakeholders. Relationships across all these five collaborations are also considered.

Chapter 5: Conclusions, Lessons and Recommendations synthesizes the findings of the evaluation, highlights lessons and offers recommendations, both general and thematic/clustered.

1.5 CONCLUSION

This chapter has provided a foundation for the content of the evaluation to follow, offering a brief history and highlighting the purpose and aims of the consortium as a backdrop to contextualize the Phase IV evaluation.

Periperi U is geared to demonstrate the contributions the African HE sector offers to strengthen human capacity and knowledge generation in the DRR domain. Its efforts to enhance strategic human capacity to integrate risk reduction into critical developmental sectors and programs, growing and influencing scientists and advisors at local, national, continental and global levels could impact disaster risk potential in a real and practical way. As a consortium, the 12 university partners form a continental network with potential reach at continental, regional, national and sub-national/local levels and transdisciplinary expertise across existing traditional disciplines within the universities. To this end, the work of Periperi U required building bridges both within university structures and between universities, DRR practice and humanitarian action. Periperi U responds to the call to action of the Sendai Framework with the intention to reduce disaster risks in Africa with a strong conviction that African universities are well positioned to provide the knowledge and skills to reduce risks and enhance resilience.

Phase IV aims to build on foundations established during three preceding phases geared to start-up, development and embedding of capacity-building within the partner universities. Phase IV introduced a strategic emphasis with purposive global advocacy and engagement in DRR focused on higher education intending to surface catalytic contributions towards impact. A continued focus was on enhancing and integrating institutional strength.

The evaluation purpose is noted to identify and understand drivers and outcomes of the Phase IV endeavor, such that lessons may be learned and used to strengthen the consortium in the future; and that accountability is upheld to stakeholders who have invested resources in the consortium.

Key evaluation questions have been presented and have served to guide the results, conclusions and recommendations to follow. A utilization-focused approach attends to both the learning and accountability purpose of the research and has guided the methods and analysis.

CHAPTER 2 | GLOBAL ADVOCACY AND ENGAGEMENT IN DISASTER RISK EDUCATION – FOCUS ON HIGHER EDUCATION

2.1 INTRODUCTION

This evaluation is guided by the terminology and conceptualization used in the funding proposal for Phase IV. This chapter presents the findings for Sub-sector 1: Global Advocacy and Engagement in Disaster Risk Reduction (DRR) – focus on Higher Education. There are three focus areas:

- Focus Area 1: Strategic advocacy to define higher education as a crucial player in DRR education, capacity building and research, reframing Higher Education Institution (HEI) engagement from its current peripheral, implicit and under-utilized position
- Focus Area 2: Identification and mobilization of funding mechanisms for both developing country HEIs to advance DRR education and research, and for students (especially women)
- Focus Area 3: Promotion of disaster risk-related education and research as legitimate domains in contemporary scholarship in Africa

2.2 SNAPSHOT OF FINDINGS

Periperi U is to be commended on having made significant contributions to illuminating and advocating for the role of HEIs in strengthening human capacity building in DRR at the global level. In terms of the funding proposal indicators, targets were either fully met, or close to being achieved by the end of Phase IV.

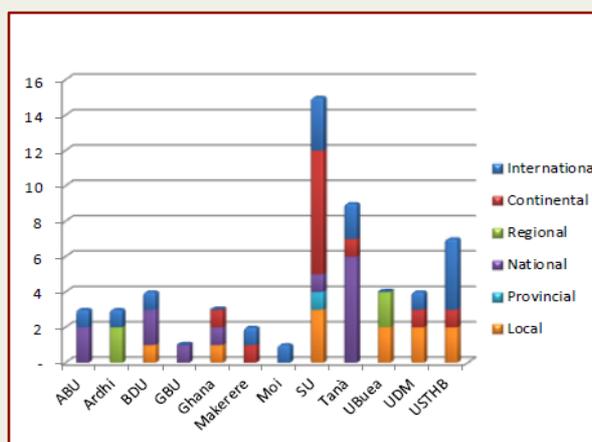
Explicit measures referred to as indicators in the funding proposal submitted to USAID/OFDA

Sub-sector 1: Global Advocacy and Engagement – 4 indicators	Achievement/Result
Indicator 1: Number of jointly organized events	Achieved target
Indicator 2: Number of attendees at jointly organized events	High partial achievement
Indicator 3: Number of joint publications	Achieved target
Indicator 4: Number of documents, plans or agreements modified to include DRR language	High partial achievement

2.3 GLOBAL ADVOCACY THROUGH STRATEGIC ENGAGEMENT

During Year 1 of Phase IV (2016/2017) partners reported 41 local, national, regional and continental engagements, as well as a further 15 international engagements.

Number and type of strategic engagements undertaken by Periperi U partners (26 May 2016 - 25 May 2017)



Excerpt from Periperi U Annual Report for the period 26 May 2016 to 25 May 2017 (p. 11)

Strategic engagement is an integral Periperi U program component for enhancing DRM policy and practice, capacity building and to promote HEIs as key partners in DRR education and research. The purpose of these activities is to connect with the beneficiaries and stakeholders in specific risk contexts.

The data collected shows that at least eight partner universities have been working with and through disaster risk management authorities. These included ABU in Nigeria working with NEMA, Moi in Kenya working with Busia County Deputy District Council, UG in Ghana working with the National Disaster Management Organization (NADMO), USTHB in Algeria working with the National Delegation for Major Risks (NDRM), and Tanà signing collaboration agreements with the National Bureau of DRM (BNGRC). Strategic engagements at the national level create platforms for credibility-based engagement and advocacy in complex collaborations at the global level. For example, ARU in Tanzania reported working with a collaboration between the Tanzanian Red Cross Society, the International Organization for Migration (IOM), Plan International, the Tanzanian Ministry of Health and International Rescue Committee (IRC), Mwanza City Council, Temeke Municipality, and as a member of the National DRR platform.

During Year 2, all partners were actively engaged in demonstrating the crucial role HEIs can play in DRR education, capacity building and research. These engagements resulted in 61 consortium members (individually and collectively) participating in 17 regional, continental and international events, involving more than 1 000 people.

Illustrative list of strategic engagements by Periperi U partners (26 May 2016 - 25 May 2017)

Local engagement	
UBuea	Collaboration with stakeholders on strategies to reducing flood hazards in the Limbe City Council area, Cameroon.
UDM	Consultations with Catholic University of Mozambique (in Beira) towards launching an MSc Course on Risk Management and Short Courses in the Central Region of Mozambique .
Sub-national engagement	
SU	Presentation at Coastal Provincial Disaster Management Centres Summit on 1 December 2016 "High Impact Weather and Flood Impact Disasters in the Western Cape, South Africa: Insights and Implications"
National engagement	
ABU	Presentation at the National Platform on Disaster Risk Reduction , Abuja, Nigeria on 21-22 February 2017 <i>"Outcomes from the Regional Platform held in Mauritius."</i>
Tanà	Signed collaboration agreement with the National Bureau of DRM (BNGRC) on 25 October 2016 to strengthen cooperation between the parties and to more efficiently support the implementation of the DRM national strategy.
(Sub)Regional engagement	
ARU	Presentation at the East African Community (EAC) Sub-Regional Platform on DRR on 3 June 2017: <i>"Higher Education engagement in Advancing DRR in the EAC"</i>
Continental engagement	
SU	Presentation at NEPAD-convened session on Agricultural Risk Management on 5 September 2016 at African Green Revolution Forum, Nairobi Kenya. <i>"Transforming Human Capital to better Manage Africa's Disaster Risks: The experience of Periperi U"</i>
International engagement	
BDU	Presentation at a consultative workshop on integrated disaster risk management, convened by Netherlands Red Cross in January 2017: <i>"The Role of Education in Integrated Disaster Risk Management, African Experience: The Periperi U Consortium"</i>

USTHB	Presentation at 5th International Conference on Forensic Research & Technology on 31 October – 2 November 2016 (San Francisco, California, USA). <i>“Researching Engineering Causes in 2003 Boumerdes-Algiers (Algeria) Earthquake Disaster”</i>
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Excerpt from Periperi U Annual Report for the period 26 May 2016 to 25 May 2017 (p. 11)

The range and scale of these engagements confirm the value of Periperi U’s model of trans-boundary, adaptive, disaster risk-related curricula that mobilizes mutually reinforcing interventions to align disaster risk-related academic efforts with risk reduction needs. Although each of the individual partners has one or more focus areas of expertise, all Periperi U partners worked with diverse stakeholders across multiple scales in diverse roles. This shows the agility of the small group of people dedicated to the development of DRR education and research.

“I think RADAR has an agility that you don't often find in universities. As you need to be quick moving for disaster relief, they can do quick responses to requests.”
C du Toit - Program Manager – African Doctoral Academy (ADA), University of Stellenbosch

Range and scale of strategic engagements by Periperi U partners May 2017 – May 2018

Date	Title	Partners attended	Att.	Venue	Host
International					
20 - 21/11/2017	The 18th IRDR Scientific Committee Meeting	USTHB (Technical Advisor)	30	Tokyo	ICSU/IRDR
23 - 25/11/2017	Global Forum on Science and Technology for Disaster Resilience	SU (Co-panelist), USTHB (Discussant)	228	Tokyo	IRDR
20 - 21/11/2017	GRA Framework in support of Sendai Framework	BDU, Tana, UDM, USTHB (4 Technical Advisors)	150	Geneva	UNISDR
22/11/2017	KAN Scoping Workshop	USTHB (Presented)	50	Tokyo	IRDR
11/12/2017	UN STAG on DRR Consultation	SU (Technical Advisor)	20	Geneva	UNISDR
14/03/2018	UNISDR's Global Strategy for Capacity Development	Makerere (Presented)	100	Geneva	UNISDR
23/01/2018	Arab Coordination Mechanism for DRR	USTHB	40	Tunis	UNISDR- Office Arab States
Subtotal			618		
Continental					
9 - 10/10/2017	Periperi U Annual Consultative meeting	All Periperi U partners (All presented, BDU hosted)	71	Bahir Dar	BDU
26 - 27/09/2017	The 11th Session of the AWGDRR	SU (Presented)	40	Mombasa	AU & UNISDR
13 - 14/03/2018	The 12th Session of the AWGDRR	SU (Presented)	40	Addis Ababa	AU & UNISDR
Subtotal			151		
Regional					
19 - 21/09/2017	19th Session of the Board Members’ Meeting of the RA of ICSU	UBUEA (Presented)	10	Durban	ICSU - ROA
3/06/2017	EAC- Sub-Regional Platform on DRR	ARU (Presented)	Kigali		ISDR and EAC

Date	Title	Partners attended	Att.	Venue	Host
5/06/2017	Belmont Forum Collaborative Research Action Scoping Workshop	USTHB (Presented)	29	Florence	IGG & Dept. ESS & ET
19 - 20/12/2017	Experts Group Meeting on Coordinating Responses to Climate Change and DRR in the Arab Region	USTHB (Presented)	32	Beirut	ESCWA & UNISDR
22 - 23/04/2018	First Arab Partnership Meeting for DRR	USTHB (Presented)	Cairo		UNISDR, Office: Arab States
15 - 17/05/2018	NEPAD ARCH – Technical meeting	Tana, SU, Makerere, ARU, BDU, UDM (6 presenters)	25	Kampala	Makerere
26 - 28/03/2018	SADC Regional DRR Conference	ARU, SU, Tana, UDM (4 Technical Advisors)	149	Pretoria	SADC - WB - NWU
Subtotal			245		
National					
28/03/2018	START Network and CERED meeting	Tana (Discussant)	24	CERED - Tana	WHH
Subtotal			24		
Local					
25/05/2018	Academic curriculum planning meeting	UBuea (Discussant)	5	Yaounde	Ubuea
27/03/2018	Consultation with Mellon Foundation	SU (Presented)	8	SU	SU
12 - 14/02/2018	DRR strategic meeting with County management	Moi (Technical Advisor)	15	Busia	Busia County
19/03/2018	DRR strategic meeting with SC DRR Committee Reps	Moi (Technical Advisor)	20	Bunyala SC	Bunyala SC DRR rep
10/01/2018	Masinde Muliro University School of DRR	Moi (Facilitator)	4	Kakamega County	Masinde Muliro Univ.
7/02/2018	RADAR strategic meeting	SU (Presented)	17	SU	RADAR, SU
Subtotal			69		
Total participants			1 107		

Excerpt from Periperi U Annual Report for the period 26 May 2017 to 25 May 2018 (p. 17)

McCowan (2016, p. 505) in his *Analysis of the anatomy of the university*, highlights three dimensions, namely, **value** – the extent to which knowledge is treated as intrinsically or instrumentally worthwhile, **function** – the role of the university in terms of storage, transmission, production or application of knowledge, and **interaction** – the flow of ideas and actors between the university and society. These dimensions assist in understanding the factors that influence the consortium’s participation in, and contribution to, global advocacy and engagement.

Global advocacy and engagement in DRR cements the foundation for Periperi U to move towards a sustainable growth future. Interaction and meaningful collaboration add to the education purpose of the consortium. Experience in being involved with a diverse group of stakeholders allows the partners to incorporate knowledge into Africa specific curricula in HEIs. Global collaboration provides frameworks to illustrate how scholarly research evolves into practical applications, ‘fit for purpose’, to be utilized by governments and other institutions.

Illustrative list of Periperi U partner engagements relating to value, function and interaction 2017/2018

Venue and date	Stakeholders	Attendees	Strategic intent; Catalytic contribution
Geneva 20-21 Nov 2017	UNISDR Global Risk Assessment (GRA) Framework	BDU Tanà UDM	Expert consultation to influence global policy.
Geneva 11 Dec 2017	UNISDR's Science and Technology Advisory Group (UNSTAG)	SU	Participation in global collaborative initiative to probe capacity building for DRR science, policy and practice.
Bahir Dar, Ethiopia 9-10 Oct 2017	Periperi U 2017 Annual Consultative Meeting	Hosted by BDU and co-organized with IFRC	Initial contact between AUC HRST and Periperi U, together with WHO and UNDP. Plans for first Africa Risk Methods (ARMS) Summer School (2018).
Tokyo, Japan 23-25 Nov 2017	Global Forum on Science and Technology for Disaster Resilience	SU USTHB AUC HRST with UNISDR support	Joined by global level senior policy advisors The value of HE's role for the humanitarian and DR fields was recognized and built upon by the AUC as result of the Oct 2017 first interaction with AUC HRST.
Bahir Dar, Ethiopia 13-14 Mar 2018.	AWGDRR Meeting convened by AU and UNISDR	Periperi U	Showcasing the contribution of Africa's academic and scientific communities to global level DRR stakeholders.
Pretoria, South Africa 26-28 Mar 2018	SADC Regional DRR Conference	ARU SU Tanà UDM	Showcasing Periperi U's active influence and growing scientific human capacity at regional DRR level.
Bethesda, MD 9-11 Apr 2018	Centre for Global Health Studies (CGHS) at NIH	Makerere	Building resilience on conducting health research in the context of humanitarian crises in low- and middle-income countries (LMICs).
Quebec, Canada 23-26 Apr 2018	'Organisation Internationale de la Francophonie' (OIF)	Tanà	Approached by the 'Plate-forme d'Intervention Régionale de l'Océan Indien' (PIROI) to discuss potential collaboration towards improved capacity building initiatives.
Cairo, Egypt 22-23 Apr 2018	UNISDR, Regional Office for the Arab States	USTHB	First Arab Partnership Meeting for Disaster Risk Reduction to strengthen partnerships globally.
Kampala, Uganda 15-17 May 2018	NEPAD ARCH (African Resilience Coordination Hub)	Makerere Periperi U	Proposed collaboration between Periperi U partners, NEPAD and WFP. It specifically focused on the role that Periperi U universities might play in introducing and training in WFP's '3PA' process, as well as contributing to research and overseeing program monitoring and evaluation.
Tunis, Tunisia 9-13 Oct 2018	Africa-Arab Regional Platform (AfARP) Government of Tunisia AU Arab states UNISDR	Periperi U UNISDR AUC-DREA AUC-HRST, ISC WHO	Scientific, Technology and Academic Community statement advocating for strengthening synergies between DRM structures and Ministries of Higher Education, as well as Ministries of Science and Technology to promote improved DR governance.
Geneva Switzerland 8-9 Nov 2018	Global Risk Assessment Framework (GRAF) Expert Group	USTHB	Global level participation in the creation of a new framework for risk assessments through implementation of the Sendai Framework for DRR and the 2030 Agenda for Sustainable Development.
Lagos, Nigeria 17-20 Dec 2018	NEMA	ABU University of Ibadan, University of Port Harcourt	Exploring methods of procurement/distribution of relief materials to camps and centers hosting internally displaced persons – collaboration network.

Venue and date	Stakeholders	Attendees	Strategic intent; Catalytic contribution
Yaounde, Cameroon 26-30 Nov 2018	Protection Civile UNISDR CIMA Foundation	UBuea	Cameroon National Risk Profile Workshop - Drafting DRR Action Plans/Strategies to minimize risk and enhance resilience in Cameroon. Valuable contribution to teaching and research within the new ongoing master's degree program in DRM at UBuea. Networking to be part of nationwide actions towards DRM.
Libreville, Gabon 13-17 Nov 2018	World Bank's Global Facility for Disaster Reduction and Recovery (GFDRR) ECCAS Hydromet Forum Government of Gabon	UBuea	The Hydro-Meteorological Forum for Central Africa. Implementation of the Africa Hydromet Program and the ACP-EU Regional Economic Communities Program to enhance and improve the coordination, planning, policy and capacity for disaster risk reduction and resilience across Africa.

Reviewing the indicators for this sub-sector, the consortium has been successful in meeting targets relating to advocacy and engagement. The evaluation team observed that the reporting of these engagements in Periperi U's quarterly and annual reports could be more evaluative. Making the achievements explicit and visible is recommended, in particular when engaging with potential funders and collaborators.

2.4 GLOBAL ADVOCACY THROUGH FORMAL COLLABORATIONS AS A PLATFORM FOR INTERACTION AND ENGAGEMENT

During Phase IV, Periperi U's activities became increasingly diversified. It became necessary to differentiate the more strategically-oriented engagements from those that were more technical in nature and value. Collaborative engagements were also formalized with rapidly expanding portfolios of Memoranda of Understanding (MoUs).

Illustrative examples of Memoranda of Understanding signed by Periperi U partners 2017/2018

Formal Collaborative Agreements
<p>ARU signed MoUs with:</p> <p>University College London (UCL) to collaborate with Ardhi's Disaster Management Training Centre to implement applied research on informal settlement risk, community knowledge and policy action.</p> <p>The Humanitarian Academy of Kenya and TRCS to implement an internship program for graduate students from ARU (as well as Universities of Dar es Salaam and Dodoma).</p>
<p>GBU signed MoUs with:</p> <p>The International Food Policy Research Institute (IFPRI) in Senegal for collaborative training programs and joint research on issues related to food insecurity, vulnerability and resilience, as well as opportunities for graduate student internships.</p> <p>The World Food Program in Senegal to strengthen collaboration in student capacity building and research related to food security, as well as the prevention and management of risk.</p>
<p>Makerere signed an MoU with WHO/AFRO to collaborate on RRT training programs to strengthen countries' capacities to identify and respond to public health emergencies.</p>
<p>Tanà signed MoUs with:</p> <p>The Ministry of Population, Social Protection and Family Planning to collaborate on research and contribute towards Ministry staff training courses for capacity development on social protection.</p> <p>The National Bureau of DRM (BNGRC) to assist with and to collaborate on research and contribute towards training courses for DRM personnel and emergency responders.</p> <p>GRETHA research center (Bordeaux University, France) to conduct joint research investigating social protection and resilience to disaster risk in Madagascar.</p>
<p>UBuea signed an MoU with CRAAG in Algeria to conduct joint research activities related to geophysical risk in Cameroon.</p>
<p>UDM signed MoUs with two Mozambican HEIs, Universidade Pedagógica - Delegação da Beira and Universidade Católica de Moçambique to collaborate on risk related research, implement joint short courses, and conduct student exchanges.</p>

Excerpt from Periperi U Annual Report for the period 26 May 2017 to 25 May 2018 (p. 19)

The affiliate program considered by Periperi U as a way to extend membership to other African universities was not implemented as planned in Phase IV. Instead, an organic growth of collaborating partnerships evolved. This confirms the necessity, as expressed by some partners, to work collaboratively with stakeholders across sectors, disciplines and geographic scales in Africa. During Phase IV, Periperi U demonstrated capability to lead and not only participate in working collaboratively to address challenges particular to Africa.

Illustrative list of collaborations between Periperi U partners and other African universities

Periperi U Partner	Collaborating HEIS	Nature of Collaboration
ARU	Dodoma University, Dodoma, Tanzania	Collaboration on internships and field placements.
BDU	Ambo Univ, Arba Minch Univ Debratabor Univ, Gambella Univ Gondar Univ, Jigjiga Univ Semera Univ, Addis Ababa Univ Mekele Univ, Hwasa Univ	National network already self-organized to share DRM curricula and work with other stakeholders.
GBU	Univ. Abou Mouny, Niamey, Niger Univ. Nazi Boni, Bobo-Dioulasso, Burkina Faso Univ. Ndjamen, Chad Univ Cheikh Anta Diop, Dakar, Senegal	Specific focus on agricultural risk management and prevention/management of food insecurity risks, building on GBU's experience.
Makerere	Gulu Univ, Gulu, Uganda	Mentorship and support for university closer to refugees.
UBuea	Univ Yaounde 1, Cameroon	Collaborative teaching to extend DRR/M knowledge into existing curricula.
UDM	Universidade Pedagógica - Delegação da Beira Universidade Católica de Moçambique	MoUs signed to make DRM short courses and programs accessible to more remote areas of Mozambique.
USTHB	Mostaganem Univ, Mostaganem, Algeria	Technical support and capacity building to better reach western areas of Algeria.

Excerpt from Periperi U Annual Report for the period 26 May 2017 to 25 May 2018 (p. 4)

It is clear that MoU's provide important platforms for engagement and collaboration and strengthen capacity in key national institutions. However, in reviewing the data related to MoUs in both the quarterly and annual reports, as well as that gathered in the partner interviews, the evaluation team noted that the term *MoU* is sometimes used loosely, with variations in interpretations. Given the progress made during Phase IV towards increased collaboration, it may be wise to establish and systematically use agreed upon terminology to refer to and distinguish between the different collaborations and their agreements. This could aid the drawing up of formal agreement documents by developing guidelines based on existing documents in each collaboration type.

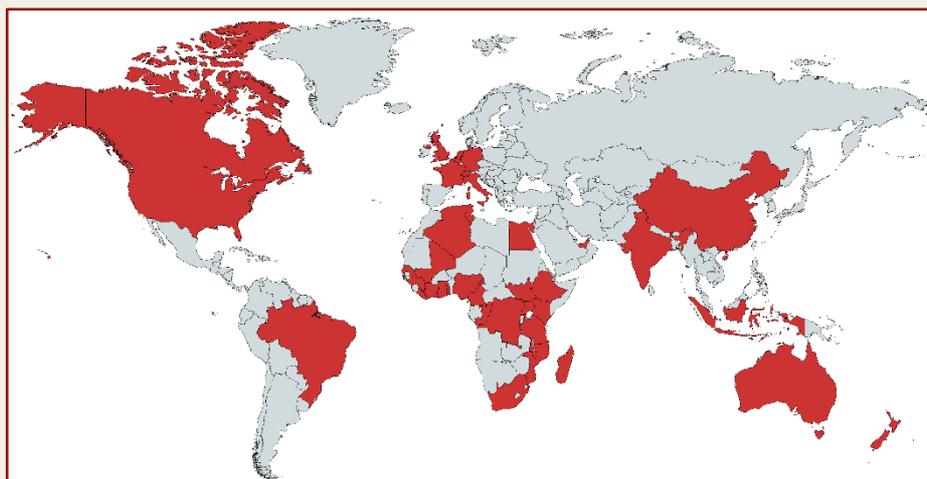
MoUs are time specific and need to be updated and renegotiated. It is recommended that the secretariat establish an online repository where these documents can be stored and shared in real time with on-demand access. A register, updated quarterly, would be useful in tracking developments and sharing examples across all partner universities.

2.5 GLOBAL ADVOCACY VIA RESEARCH AND PUBLICATIONS

Knowledge generation and dissemination via research and peer reviewed publication is core business for HEIs. Periperi U has used research output as one of the drivers to achieving global advocacy. They have achieved this via a number of well-considered, strategic activities, namely, international institutional research collaborations, publications submitted to well respected Web of Science (WoS) and Scopus recognized journals, and through contributing scientific knowledge at DRR policy and practice influencing forums and events at the global level.

A world map depicting Periperi U's international institutional research collaborations clearly indicates the global presence achieved by the end of Phase IV. This map can be used by Periperi U for purposeful planning around which institutional collaborations to strengthen in the future and which new collaborations to explore.

Global level institutional research collaborations



Graphic created with <https://mapchart.net/world.html>

The following offer examples of research projects and publications that act as catalytic contributors towards knowledge generation that serves human capacity building in DRR, while also addressing issues of the sustainability of the consortium beyond Phase IV. These demonstrate Periperi U's strategic contribution towards profiling African scholarship, arguing for policy change, for example by the World Bank, while simultaneously advancing the visibility of Periperi U's and HEIs' relevance at the global level.

Illustrative examples of Periperi U's catalytic contributions via knowledge generation

Periperi U partner/s	External collaborator/s	Catalytic contribution/s; level
Makerere, SU, UDM	University of Reading	Global and regional level collaboration FATHUM research project: forecast- Periperi U partners conducting within their respective countries. Field data gathered. Analysis and writing up of findings in process. Presented at international consultative meeting (Oct 2018). Publication opportunity.
Makerere	HEI group, including John Hopkins School of Public Health, American University in Lebanon, and Jordan University of Science and Technology in Jordan	Global level collaboration Securing funding for research – displaced people. Successfully bid and won a research grant awarded by DFID/ESRC/MRC/Wellcome Health Systems Research Initiative. The grant is to implement a research project titled, "Integrating Refugees into National Health Systems: Enhancing Equity and Strengthening Sustainable Health Services for all". The research project is to be implemented in Uganda, Jordan and Lebanon between 2019 and 2021. This involvement grew from a national level research project undertaken by Makerere in Uganda.
SU/RADAR	UNISDR	"Beyond Fragility - advancing skilled human capital for disaster risk reduction and resilience in Africa" is a policy influencing contribution to the UNISDR report on Global Assessment of Risk (GAR19) to be discussed at the Global Platform in Geneva in May 2019. Permission for further publication has been granted – increases visibility, accessibility and audience.

SU/RADAR	UNESCO - Division of Ecological and Earth Sciences DRR UNMGY (UN Major Group for Children and Youth) LIPI (Indonesian Institute of Sciences)	"Leave no field behind: Future-ready skills for a risky world" accepted for publication in the inaugural issue of a new journal - Progress in Disaster Science
UBuea	International Council for Science (ICSU) - Leading Integrated Research for Agenda 2030 in Africa	2016/2017 - began conducting research on assessing and characterizing volcanic and flood hazards and their health implications in the cities of Goma (DR Congo), Buea and Limbe (Cameroon).

2.6 GLOBAL ADVOCACY VIA FINANCIAL SUSTAINABILITY – SECURING DIVERSIFIED FUNDING

Securing appropriate funding is a challenge, not just for Periperi U, but for all projects and programs that are required to be fully or partially self-funding. Branding, marketing, the writing of financial proposals, networking and pitching all require particular skills. Efforts in these areas are usually more successful when led and implemented by dedicated staff with the requisite capabilities and dedicated time and resources. This has not been the case for Periperi U. The director and the secretariat have consistently applied themselves to this necessity, despite having a range of other duties they are accountable for. The secretariat tackled this challenge through a nuanced negotiation and navigation strategy linked to their clear understanding of the individual funding partners, for example, the United Nations Development Program (UNDP) and the World Bank (WB). Examples of efforts to secure diversified funding included, but were not limited to, country-level funding for Periperi U partner universities (Makerere, BDU, Ardhi, and Tanà), ECOWAS/SADC/ECCAS funding (GBU, SU/RADAR, UBuea) and continental/global funding (SU/RADAR).

Relationship-building, characterized by commitment to mutuality and respect within and across complex collaborations, has been key. Periperi U’s dependable participation with the AWGDRR linked them to all the donor organizations, regional economic communities, and global DRR role-players such as UNISDR and the AU. This enabled leveraging multi-scalar funding opportunities.

“You can count on us. We will work with you creatively to help you achieve your goals too.”

Turn around times for responding to correspondence or arranging to attend events is unpredictable, often a matter of hours or days, rather than weeks or months. It is to the Periperi U secretariat’s credit that they can mobilize the human capacity available within Periperi U. This was illustrated in their being able to mobilize, at very short notice, a BDU representative to participate in the A-STAG panel for selection of Members of the African Youth Advisory Board and Africa Science and Technology Group on DRR, scheduled from 22-23 April 2019 in Addis Ababa, Ethiopia.

Periperi U purposefully engaged at continental level with the AU (DREA and HRST) in developing the TOR for the A-STAG, including leading enabling events at the AfRP in Tunis, and six-monthly participation in the AWGDRR. This recognized the importance of cascading the scientific and academic stature of the DR domain through AU-sanctioned academic channels, with knock-on effects at REC level and through Ministries of Higher Education (at country level), with a view to improving the visibility of the domain for country-level student funding.

In addition, through engagement in the Global STAG, Periperi U partners provided the data, analysis and submitted an accepted contributing paper for the 2019 Global Assessment of Risk. This provided evidence of the benefits of investing in skilled human capital in the DR domain, especially in fragile contexts. It explicitly foregrounded the gendered terrain of the field, including the obstacles facing women students. It also called for policy change that would extend the current notion of 'build back better' to incorporate 'build back better human capital'.

Periperi U unlocked an unprecedented co-financing collaboration with the UNDP and WHO that enabled the convening of the Africa Risk Methods School at Ardhi University in Tanzania - reaching a wide range of academic

staff, postgraduate students and mid-managers over a two-week period. It also worked in partnership with WFP and NEPAD in the NEPAD-ARCH collaboration that has unlocked potential resourcing opportunities for Periperi U partners in Ethiopia, Madagascar, Senegal, Tanzania and Uganda.

At regional level (especially in ECCAS and SADC), there were opportunities for closer collaboration with the World Bank - involving capacity building and academic networking - that is likely to benefit both students and graduates.

During the course of Phase IV, Periperi U has profiled the material obstacles to advancing skilled capacity in the disaster risk domain, repeatedly underlining the impact on students, especially on women students, and its consequence for resilience-building. These efforts began almost a decade previously during Phase II. These efforts align with the PoA acknowledgement of the need for bursary support. (Retrieved from https://www.preventionweb.net/files/49455_poaforsendaiimplementationinafrica.pdf)

Towards the end of Phase IV, SU/RADAR, acting as secretariat for Periperi U, developed and had accepted a World Bank submission for the SADC study on academic networking in DRR. This is a significant achievement, reflecting a material break-through in diversified resource mobilization within one African region. It leverages Periperi U's existing linkages and architecture, and is the first time SU has entered into an agreement with the WB. These underline Periperi U's value proposition both for the secretariat's home university, SU, but also as the secretariat for a Pan-African consortium with potential for impact within and beyond academia.

2.7 GLOBAL ADVOCACY VIA ENHANCING DISASTER RESILIENCE THROUGH SOCIAL ENGAGEMENT AND ENGAGED PEDAGOGY

“Disaster resilience (can) be viewed as the intrinsic capacity of a system, community or society predisposed to a shock or stress to ‘bounce forward’ and adapt in order to survive by changing its non-essential attributes and rebuilding itself” (Manyena et al, 2011, p. 417). An example of Periperi U's commitment to enhancing resilience as a way to reduce risk was demonstrated in 2017 at their consultative meeting at BDU (Ethiopia) co-organized with the IFRC and, titled “A call to engage: Deepening risk knowledge - advancing resilience”.

From its inception in 2006, Periperi U has encouraged education and research activities to be sensitive to social engagement. Social engagement requires the partners to commit to learning through engaged pedagogy (hooks, 1994; Florence, 1998). Through the years, short courses, research projects and knowledge sharing aimed to build resilience in communities at risk by enhancing skills and knowledge in DRM. Examples during the Phase IV, 2016 – 2018 period, include:

- GBU, together with other Senegalese universities, entered into a partnership with the Ministry of Agriculture and the Platform for Agricultural Risk Management (PARM), Food and Agriculture Organization (FAO) and the International Fund for Agricultural Development (IFAD). Through this collaboration, GBU is tasked to conduct a comprehensive survey on issues of food insecurity, vulnerability and resilience across Senegal's different agricultural regions.
- In November 2017, UDM and WFP jointly conducted a training exercise in *Sustainable Livelihood Programming* for 42 farmers and district directors. This focused on integrated planning for key district activities, from farming to basic social services.
- In Accra, Ghana, UG underlined the importance of *Global Hand Washing Day* in Sabon Zongo. In collaboration with the Janok Foundation, the University of California's Education Abroad Program, women and youth groups, community leaders and city authorities, UG staff actively promoted better hand washing behavior to reduce environmental health burdens in low income but crowded settlements.

Engaged research is illustrated in a Tanà PhD study connecting vulnerability and resilience to natural hazards – *Vulnerability and resilience strategies of rural households on the east coast of Madagascar in the face of natural hazards: The case of the SAVA region in the face of cyclones*. It is further illustrated by Periperi U partners including students when collaborating with governmental institutions and community organizations.

ARU and UCL (Centre for Community Initiatives) (local NGO) and a technical team from Temeke Municipal Council began a research collaboration to collect information on how low income/vulnerable peoples experience environmental risks in urban areas – to generate practical metrics to be used at local levels, and integrated into existing urban resilience (<https://www.ucl.ac.uk/bartlett/development/research/risk-in-informal-settlements>).

UBuea, in collaboration with the Buea Urban Council, conducted community workshops aimed at raising community awareness concerning the impact of climate change on food and water security and of natural hazards posed by volcanic eruptions and seismic activity from Mount Cameroon. These workshops in October and December 2017 included measures for reducing impacts.

Engaged risk communication is an aspect of DRR/DRM research requiring encouragement. In September 2017, Tanà promoted a sustainable community-based flood early warning system in Madagascar’s Mahanoro District/Atsinanana Administrative Region, using a participatory approach.

AEDDI is a project in Southern Algeria to empower women in remote areas for DRM. A project undertaken by a Periperi U member at USTHB is titled *Strengthening Human Capital for DRR: Focus on Women*. One of her challenges is to reduce risk disaster by encouraging a proactive mindset so that the focus is on anticipating solutions, rather than preventing disasters.

Social connectedness and social bondedness play an important role in the interpretation and uptake of information disseminated to migrant communities about the risks posed by natural hazards. Providers of education were found to be significant in enabling accurate understanding and meaning-making of risk communications that communities’ source from the media (Hanson-Easey, Every, Hansen & Bi, 2018).

***“At times of disaster we need women - women can talk to all people. Women have the capacity to do many things at the same time. DRR skills are essential and also a mindset of anticipation.”
Kenza Beldjilali, USTHB***

***“In Periperi U we understand Africa, we know how to talk to people, we understand the culture.”
Prof. Djillali Benouar, USTHB***

2.8 FACTORS THAT INFLUENCE PARTICIPATION IN AND CONTRIBUTIONS TO GLOBAL ADVOCACY AND ENGAGEMENT

2.8.1 Knowledge generation and dissemination

The data gathered for the Phase IV evaluation highlights factors that enable the Periperi U consortium’s participation in and contribution to global advocacy and engagement. Each of these speaks to the importance of the perceptions of the value of university partners and their external partners. Both need to find value in the knowledge produced by Periperi U. In addition, knowledge production alone is insufficient. Creating access to, enabling awareness of the knowledge produced, and communicating the knowledge in user-appropriate language are critical. If knowledge produced in universities is not shared or not shared in such a way that its value is clear, the function or role of HEIs as generators of DRR significant knowledge will not be recognized. Included in this is the resources and skills required by academics and scientists to bridge the language gaps between themselves and policy makers and implementers. These language gaps include the difficulty around publication for staff and students whose language of education and research is not English (for example UDM – Portuguese; GBU, Tanà – French; USTHB - Arabic). However, in working with governments, humanitarian aid agencies and potential funders, Periperi U partners face the challenge of the value of their scientific findings and conceptual models being lost, unless they proactively provide bridges between their discourse and that of the external partners they seek to influence and collaborate with.

The dissemination of knowledge amongst all stakeholders – university’s internal and external stakeholders requires interaction – both formal and informal. Interactions can include joint events and publications, the development of policy and new practice, and community outreach.

2.8.2 Establishment of the secretariat’s visibility and identity required for global advocacy

The Periperi U secretariat and director undertook much of the early direction-giving work around the global advocacy thrust for Phase IV. The evaluation examined the institutional structural developments actively pursued by the secretariat with their home university (SU) during Phase IV.

An interview with the Faculty Manager in the Faculty of Arts and Social Sciences at SU provided contextual information on how the university distinguishes between different types of tiers of research centers. While a Type 1 center is embedded in an academic department and reports to the chairperson/HoD, of that department, a Type 2 center enjoys a greater level of independence from individual departments, has its own cost center, and reports directly to the dean of the faculty. Type 2 centers tend to be more transdisciplinary than Type 1 centers and, very importantly, those with accredited academic staff may offer their own postgraduate programs.

When RADAR located with SU in December 2010, it began as a Type 1 center in the Department of Geography and Environmental Studies. In 2018, RADAR applied to be converted to a Type 2 center. Since this change in SU/RADAR’s status, its director attends the faculty’s quarterly meetings of chairpersons/HoDs. As a result, RADAR’s visibility has increased and all chairpersons/HoDs in the faculty receive up-to-date information directly from the director when reporting on SU/RADAR’s work, including that of SU/RADAR’s role in relation to the Periperi U consortium.

Another important consequence of the Type 2 research center arrangement is that its management data becomes more visible. In other words, SU/RADAR’s research output is no longer subsumed within a department’s research output. Again, this boosts SU/RADAR’s visibility, and by relationship, that of Periperi U, and highlights the contributions of its income, outputs, and achievements.

The significance of the structural and functional relationships for effectiveness at the global advocacy level is expanded on below.

2.8.3 Access to and support from influential and authoritative university leaders and managers

Reporting lines was found to be a significant variable driving Periperi U’s ability to undertake and be effective in terms of global advocacy for the value and role of HE in DRR. Reporting lines influence the extent of access to influential and authoritative leaders and managers across a university system. Structural positioning affects credibility via status and stature, as well as negotiation power and agility. While relationship-building capability is critical to advocacy, advocating from a position that is closely coupled to authoritative and influential decision-makers is more likely to enable and accelerate catalytic contributions.

Access to and support from influential and authoritative university leaders and managers acted as a driver variable in the theory of change emerging from this Phase IV evaluation. It was found that while collegial support was useful in facilitating the integration and embedding of DRR internally across departments and faculties, it was not sufficient to drive the externally focused activities required for global advocacy.

2.8.4 Monitoring and reporting systems

Sound monitoring and reporting systems emerged as a foundational variable for credible communication about and confirmation of the contribution to DRR of the Periperi U consortium, its program within the HE sector, and its value to external stakeholders. The secretariat is to be commended for its work towards improving the monitoring and reporting systems as recommended in the Phase III evaluation report.

The shifts and progress in improving the monitoring and reporting systems included alignment of the quarterly and annual report structure with the indicators that measure the purpose and aims of Periperi U, as well as delivery on

funder criteria. The evaluation team observed that the quarterly monitoring templates designed and provided by the secretariat enabled the efficient gathering and collation of data from Periperi U partners and systematic reporting.

It was also noted, however, that the raw data gathered from the partners in these templates was not yet being captured cumulatively when submitted each quarter. It did not provide a year-to-date or program-to-date view of the targets met against the projections. This reduces the feedback available to promote on demand real time monitoring. Further development to include this aspect in the system would assist the consortium in making future decisions based on evidence about interdependencies between resource allocation and outcomes/achievements.

The evaluation team noted that each partner developed a working plan to guide its contribution to achieving the overall targets and outcomes for the Periperi U consortium as a whole. The quarterly and annual reports did not show achievements against the projections at the level of detail included in the funding proposal, for example, which short courses were planned per partner university. On enquiry it was established that this data did exist within the recordkeeping by the partners.

Increasingly, monitoring and reporting is viewed as a critical function of universities. The data collected and reported by Periperi U needs to continue to be shared with a widening range of audiences in order to develop stature with external and internal stakeholders. This is key to strengthening the brand of Periperi U by advocating for work of the program and its value, both within and beyond the often-criticized separatism and even elitism of academia.

2.8.5 Funding for travel, conference attendance and subsistence

The need for interaction is one of the key dimensions foregrounded in McCowan's writings (2016). This includes a need for a multiplicity of interactions, including interactions within individual universities, amongst partner universities and between universities and their external stakeholders. While interactions within a single university may be easily facilitated, those with external stakeholders require funding for travel, conference attendance and subsistence while academics are away from home. Periperi U has demonstrated a highly strategic and discerning allocation of its funds to enable global advocacy during Phase IV. The engagements undertaken in influential global forums were focused on optimizing value creation, visibility and identity of Periperi U, something achieved by leading via hosting, and chairing working groups, as opposed to only participating via presentations and panels.

Funding support from donors, government, business and industry, as well as civil society requires the writing of funding proposals and the inclusion of realistic, defensible budgets. Grant proposal writing in the competitive environment of funding is a specialized skill. UG is an example of a Periperi U partner relying on the specialist skills of its university for writing funding proposals.

2.9 CONCLUSION

Periperi U is strategically placed with a geographical location across Africa and a positioning across faculties and knowledge disciplines which has enabled multi- and transdisciplinary engagement with key global stakeholders. The result has been knowledge generation, providing capacity building and promoting education and research as legitimate domains in advancing DRR scholarship in, by and for Africa. This chapter has illustrated how the Phase IV emphasis on global advocacy has led Periperi U to define higher education as a crucial player in DRR education, capacity building and research through a strategic blend of engagements with governments, humanitarian aid agencies and academic institutions from Africa and other continents. Collaborative research projects, student internships and short-course programs, as well as conference presentations have achieved scientific and technical relevance and international visibility and identity. The emphasis of these strategic engagements and collaborations has resulted in the DRR expertise of the Periperi U consortium becoming explicit. During Phase IV Periperi U moved towards being a catalytic contributor to DRR for HE and the continent. The increasing diversification of Periperi U activities during this phase were expressed in strategic and technical collaborations formalized with MoUs.

Periperi U made good use of research outputs for global advocacy through international research collaborations, publications profiling African scholarship in internationally recognized journals, arguing for and demonstrating academia's role in policy change and advancing visibility of Periperi U's and HEI's relevance at global level. The acceptance of a submission for funding by World Bank was a watershed that spanned global advocacy and financial sustainability. Enhancing disaster resilience through social engagement is another focus area in which Periperi U has contributed to the improvement of local conditions while forging international links through collaborations with local and international risk and aid agencies.

The definition of HE as a crucial player in DR-R education has depended, and will continue to depend, upon various factors identified and highlighted in this chapter. Continuous new and relevant knowledge needs to be generated and disseminated. Research structures and university leaders are required to support and facilitate development and independence. Monitoring and reporting systems have been developed that facilitate credible communication about achievements and challenges. Opportunities for interactions with key stakeholders need to be maintained and financially supported.

CHAPTER 3 | INTEGRATION / ENHANCEMENT OF DRR WITHIN EDUCATION SYSTEMS AND RESEARCH – FOCUS ON AFRICA

3.1 INTRODUCTION

As in Chapter 2, Chapter 3 draws on the key concepts used in both the existing literature and the relevant policy frameworks. It is shaped around the indicators documented in the funding proposal, and others identified by the evaluation team during their review of Periperi U's monitoring and reporting documents as supplied by the secretariat.

Category 1 comprises the seven funder-criteria indicators relevant to Sub-sector 2: Integration/enhancement of DRR within education systems and research: Focus on Africa. They are:

- Indicator 5: Number of DRR curricula developed by HEIs – programs and modules
- Indicator 6: Number of students educated on DRR
- Indicator 7: Number of DRR-related programs established in educational institutions
- Indicator 8: Number of non-formal DRR-related courses conducted
- Indicator 9: Number of participants attending non-formal DRR related courses, disaggregated by gender
- Indicator 10: Number of DRR-related community outreach events
- Indicator 11: Number of community and other stakeholders engaged, disaggregated by gender.

In addition to this X further indicators were identified and tracked as part of the quantitative analysis building block for this evaluation. These were clustered as follows:

- Category 2: Broader objectives the program aimed to achieve – 9 indicators
- Category 3: Generated from the Phase III evaluation – 6 indicators
- Category 4: Identified in Periperi U's internal monitoring and reporting system – 15 indicators

Aligning funder requirements for monitoring and evaluation with indicators relevant to grant recipients, and with an eye on the future was, and remains, a significant challenge for not only Periperi U, but any externally funded HEI center/program. This is where engaging proactively in a collaborative partnering approach in order to establish indicators relevant to both funders and to the grant recipients can increase the likelihood of achieving influence via catalytic contributions towards impact, rather than only delivering against funder defined targets.

Category 4 indicators illuminated the significance of the above dilemma. Oketch et al (2014) list graduates, research outputs and innovation, along with improved institutions as the immediate outputs for development programs located in the HE sector. The evaluation noted that the indicators related to graduates and improved institutions are foregrounded in the funder indicators, while those related to research are back-grounded. Research is an important aspect of postgraduate programs; it is also an ongoing responsibility for all university academics. Being a scholar involves conducting research, generating new information and insights, and contributing to growing a body of knowledge. This body of knowledge is the basis for updating and improving curricula, developing short courses, and informing/creating influential engagements with external stakeholders, ranging from global to local levels. It is in the latter that synergy of purpose lies for funders committed to development of the kind enabled by Periperi U.

Research is crucial in meeting the first priority of the Sendai Framework – that of understanding disaster risk. It may be argued that the scholarly role extends beyond that - to ensuring that the knowledge produced is not merely uncritically accepted by its external stakeholders, nor uncritically incorporated into their plans and policies. The scholarly lens offered by HEIs should invite new knowledge to be considered, critiqued and interrogated by all users.

This chapter summarizes the achievements of the Periperi U consortium in relation to the indicators identified for the quantitative analysis building block. First are the indicators relating to post- and undergraduate formal academic programs. This is followed by a summary of achievements in non-formal DRR-related courses and the DRR-

community outreach⁵ events. Thereafter follows a section focused on research. The chapter concludes with a summary of factors that have been influential in assisting the integration and enhancement of DRR curricula and courses. Overall, Periperi U’s monitoring and reporting system aligns well with many aspects of the conceptual framework developed by Oketch et al (2014) for understanding and measuring the impact of tertiary education on development. This alignment indicates that Periperi U has measures in place relevant to tracking catalytic contributions, and in the future, impact. This is a significant Phase IV achievement, enhancing Periperi U’s stature.

3.2 BENEFICIARIES REACHED IN ACADEMIC PROGRAMS, TRAINING COURSES, OUTREACH AND STRATEGIC ENGAGEMENTS

The data indicates that the Periperi U consortium met and exceeded the targets set in the funding proposal in relation to the number of beneficiaries to be reached through academic programs, short courses and community outreach events. Noticeably this target was achieved without the targets for curricula, programs, short courses and events being met. This finding suggests that it may be possible to do “more with less” in future. Periperi U can still meet set targets, and the associated aims of the program, without significantly increasing the number of curricula, programs and other activities offered. By optimizing existing activities and offerings Periperi U can ensure wide benefits, while containing strain on resources. This should not be misunderstood as indicative of requiring less in the way of resource allocation. Rather it is indicative that during Phase IV Periperi U has demonstrated creativity, agility and strategic pragmatism to ensure delivery.

A significant achievement of the Phase IV period was the initiation of a tracer study on graduates from Periperi U’s endeavors to embed and enhance DRR in education systems via formal academic programs. Ardhi, BDU, Makerere, Tanà and UDM were included, with the final study concentrating on the data from BDU and Tana who had more than 100 students and a full set of data. Preliminary findings have been presented in international forums. Results were due to be published in the UNISDR report on Global Assessment of Risk (GAR19) scheduled for May,2019.

Employment Category	BDU		Tanà		Tot.	%
	No.	% *	No.	% *		
Academia/Education	9	9.1	9	8.8	18	9.0
Government (Sub-nat. & local)	28	28.3	7	6.9	35	17.4
Government (National)	14	14.1	49	48.0	63	48.8
Int. Organisation IO, (I)NGO	45	45.5	14	13.7	59	29.4
Private Sector	3	3.0	19	18.6	22	10.9
Unemployed	0	0.0	4	3.9	4	2.0
Total	99		102		201	

3.3 DRR CURRICULA DEVELOPED

The development of curricula, modules and courses, and the introduction of cross disciplinary disaster risk academic programs were central in Periperi U’s work during Phases I to III. In Phase IV, greater attention has been given to developing a better understanding of disaster risk through increased research, strengthening disaster risk governance and enhancing disaster preparedness amongst external stakeholders. However, the earlier aims related to the development of academic programs at both the undergraduate and postgraduate levels still required considerable time and effort. The academic programs should be understood as laying the foundation for Periperi U’s achievements across both the funder-defined sub-sectors as well as being core business for Periperi U.

⁵ Community interaction was adopted by Periperi U in its monitoring and reporting systems to track activities, outputs and outcomes which may be termed community outreach or community engagement by others outside academic institutions. The secretariat was guided in its definition by the SU definition, namely, “at Stellenbosch University (SU) we prefer to use the term 'Community Interaction' (CI) instead of 'Community Engagement' to emphasise the reciprocal nature of interaction between the University and communities. The criteria for CI include that activities are linked to an identifiable group in a community outside the institution; that interaction should be actively linked to identifiable needs of both the University and the community; and that such activities should be sustainable within a mutually defined relationship.” Retrieved from <https://www.sun.ac.za/english/faculty/arts/about/community-interaction>.

Going forward, continuing to develop academic programs that promote the engaged pedagogy (hooks, 1994; Florence, 1998) evident in Phase IV remains a crucial variable in Africa-infused niche expertise and developing sustainability.

Data collected for the evaluation indicates that the number of curricula developed was lower than projected - even with the inclusion of the several programs and modules under development or being approved from ARU, BDU, UDM, UG and USTHB. Substantial difficulties and delays arising from the university systems' curriculum approval processes were reported as the most significant reason for the slow pace. However, it was noted that despite this lower than planned growth in curricula, Periperi U met and even exceeded the beneficiaries reached target.

At the time of this evaluation, nine of the 12 institutions had introduced DRR-related modules/courses at the undergraduate level, while five universities had introduced DRR-related modules/courses at the postgraduate level. A total of 24 undergraduate modules and/or courses were recorded across nine universities. Of these, 18 were new in Phase IV. These modules/courses are offered in a wide range of degree programs in the areas of agriculture, public health, community health, law, architecture, housing, economics, geography, and construction. Periperi U increased the accessibility to DRR education, and located DRR education in the transdisciplinary rather than unitary disciplinary HE scholarship space.

3.4 STUDENTS EDUCATED ON DRR, DISAGGREGATED BY GENDER

It was projected that in Phase IV, modules/courses at both undergraduate and postgraduate level would have been offered to 5 784 students, with at least 40% of these being female.

The data collected for the evaluation indicated that the number of students reached by the end of Year 2 of the grant was 88.8% towards achieving the target. Given that data gathering for Year 3 was not yet completed, this figure would likely rise, and Periperi U will reach or exceed the target by the end of the grant period.

The data reveals that the gender criterion of at least 40% of students being women had been met. Despite significant financial difficulties to complete studies being reported during interviewing of internal and external stakeholders, Periperi U's relentlessly persisted in its efforts to increase the numbers of women equipped to work in DRR.

The absence of one or more funder-sanctioned indicators devoted to knowledge generation and growing human capability via research acted as a bottle-necking factor. A specific restrainer was that, generally, funding from USAID/OFDA could not be used to support field research. This was repeatedly identified as a shortcoming in the African HEI context, where throughput is negatively impacted by students dropping out due to lack of funding during the research phase of postgraduate academic programs, rather than for academic reasons. The lack of funding for research coupled with family responsibilities acted as a significant restrainer to increasing the numbers of female graduates. The medium to longer-term effect is to act as a catalytic limiting variable to the availability of female scientists in the DRR field.

3.5 DRR-RELATED PROGRAMS ESTABLISHED IN HEIS

Three of the five universities that introduced DRR-related postgraduate programs during Phase IV also offer undergraduate DRR-related modules/courses. Two - Makerere and USTHB – continued to offer modules/courses at the postgraduate level only. Postgraduate programs include, but are not limited to, Honors and Masters degrees in Public Health, Engineering/ Construction, and Agriculture. Modules are also offered in programs falling under geography and environmental studies.

With the inclusion and active participation of ABU in Nigeria and UBuea in Cameroon, the Phase IV target of embedding/integrating DRR education into 12 African institutions of higher learning has been met. UBuea's inclusion expanded the consortium to being active in all economic regions across Africa, thus meeting Indicator 17, which sought to address the absence of a university partner in Central Africa.

Further establishment of DRR in HE systems was planned through an Affiliate Program. This was envisaged as a way of complementing and adding value in other African universities interested in extending their work in DRR.

Originally, the purpose of the Affiliate Program was to use the capability developed by the consortium to support other HEIs in mainstreaming DRR and advancing DRR research. This was in response to the increasing number of requests from other universities to join the consortium. Its original conceptualization anticipated a different form of membership for those universities who would not be full members of the consortium but nevertheless benefit from affiliation with Periperi U. Affiliation rather than full membership would limit the administrative burden for both affiliate members as well as the secretariat. The administrative load for full members demands capability and resources to achieve compliance with both routine and somewhat unusual requirements, for example, compliance with the anti-trafficking policy.

While the Affiliate Program was not implemented as planned during Phase IV, it is important to note that nevertheless 20 HEIs were supported and influenced through their collaborations with the Periperi U university partners. Examples include ARU in its collaboration with Dodoma University and the University of Dar es Salaam, and UDM's collaboration with Universidade Pedagogica-Maxixe (UP- Maxixe) and Universidade Catolica de Mocambique (UCM).

Perhaps this the more organic approach to developing partnerships, namely, relationships built on shared needs and interests and driven by internal champions, will serve the consortium better than continuing to expand the number of full members? This is a structure and design question that can be considered in future planning. It is part of the fresh perspectives that the learning aspect of evaluations offers.

3.6 NON-FORMAL DRR-RELATED COURSES AND PARTICIPANTS, DISAGGREGATED BY GENDER

Data collected for this evaluation indicates that all 12 of the partner universities had planned or already provided non-formal short courses and training related to DRR. However, the number of short courses delivered was lower than projected. It was reported that a lack of funding in Year 1 had a delaying and hence negative effect. In addition, partners noted a market trend affecting short course enrolment. UDM reported that students were seeking courses leading to qualifications, rather than being willing to invest in non-formal short courses, even when the latter were offered by HEIs. This finding should be further investigated to establish the extent of this trend being common to the 12 partner universities. A method such as conducting a PESTLE scan is recommended. This will surface the political, economic, socio-cultural, technological, legal and environmental factors relevant to Periperi U's external macro environment so that these can inform future target setting.

The projected percentage of female participants target had been reached. Given that there was a further five months of data to be collected in Year 3, this figure may well still rise, resulting in the target being exceeded.

3.7 COMMUNITY ENGAGEMENT AND OUTREACH

As with some of the other indicators evaluated above, the number of community outreach programs was lower than anticipated but the number of beneficiaries was at least five times higher. Again, this finding indicates that the consortium finds ways to do more with less. As part of future planning, it is recommended that Periperi U look to strategically selecting and then optimizing the catalytic effects that can be set in motion from each event or activity, rather than plan and implement an increased number of activities and events. This approach would allow for maintaining and increasing influence, while containing resources used – a way to achieve a sustainable model.

3.8 GENERATION OF KNOWLEDGE AND UNDERSTANDINGS OF DRR

As raised in the introduction to this chapter, research or knowledge generation may be viewed as the foundation for many other aspects of work undertaken in HEIs, e.g. curriculum and program development, the development of short courses, and engagements with external stakeholders.

Periperi U is committed to ensuring that the consortium produces high quality research in order to act as a catalytic contributor in spreading scientifically grounded knowledge in DRR. In particular there was a commitment in Phase IV to engaging with government and policy makers so as to enhance the use of scientifically generated data in planning, policy development and implementation.

The data collected for this evaluation revealed a variety of opportunities harnessed by Periperi U for engaging in knowledge production via research, beyond those embedded in postgraduate programs. The list included:

- Individual academic staff who conducted research projects in their own areas of interest. Frequently, but not always, such projects were located within a particular discipline or field.
- Collaborative research projects within institutions where academics from different departments and faculties collaborated in interdisciplinary, multidisciplinary and/or transdisciplinary projects.
- Inter-institutional continental collaborative research projects where Periperi U partners and other universities beyond the consortium collaborated. Bi-lateral and multi-institutional collaborations are complex by nature, and the complexity is increased by legal and policy variations arising from cross-border collaborations.
- Inter-institutional International collaborative research projects – where collaborators are located beyond Africa, even further increasing legal, policy, language and cultural complexities.

The above were all driven by HEIs, but collaborations also involved external partners, for example, collaborations between academic staff and government departments, collaborations between academic staff and business or industry (often understood as commissioned research and which may be subject to confidentiality clauses), and collaborations between academic staff and communities and/or community organizations.

The qualitative data collected in the partner overviews shed light on the value of collaborative research projects and suggest that such research projects, by engaging multiple stakeholders, have catalytic effects. This was illustrated in a research project undertaken by Moi in Kenya. Academics and postgraduate students from the School of Nursing, the Department of Nutrition, the School of Public Health and the Department of Health Management all collaborated. While undertaking research to generate knowledge, human capacity in DRR at the community level and the public sector institutional level were being strengthened.

“We went to a rural community in Port Victoria, that is flood prone, and we did research together with the community health workers of that area, walking house to house, administering a questionnaire. And then we spent another 10 days, teaching them community-based risk assessment.”

Members of the community, and staff members from the local hospital were invited to attend the training sessions. (Moi, Kenya)

Another example of achieving catalytic contributions is the work conducted at Makerere in collaboration with the World Health Organization (WHO) for the Emergency Focal Point for West Africa. The WHO external stakeholder interviewee reported that when building capacity through training, they had often operated on assumptions rather than scientific evidence. In addition, WHO lacked capacity to undertake all the training needs. These were key reasons for their partnership with Makerere – to develop better understandings of disaster risk and enhance disaster preparedness for effective response to ‘Build Back Better’ in recovery. WHO has invested in DRR and enhancing resilience via the financial support it has provided to Makerere, and by acting as a advocacy partner for strengthening human capacity in DRR. Together, their collaborative efforts are strengthening disaster risk governance.

The WHO interviewee highlighted the value of both the Periperi U consortium and the individual university partner in this collaboration. In addition to the training course on risk assessment, the WHO’s collaboration with Periperi U has led to the development of a tool for use in risk assessment.

***“Periperi U was the entry for us”.
(WHO stakeholder interview)***

3.9 RESEARCH OUTPUTS

Quantitative data for the Phase IV period was gleaned from the quarterly and annual reports up to December 2018 for the Phase IV period. While the remaining monitoring and reporting cycle for Phase IV (January to May 2019) falls outside what could be systematically processed and analyzed for the evaluation, the secretariat forwarded data items significant to the indicators used to evaluate this aspect of Periperi U's achievements in Phase IV.

Records show the number of research projects completed (theses) as 417, while there were 109 ongoing research projects. It is not surprising that theses predominate in terms of research outputs, given the number of students in postgraduate programs. The number of publications was 127 and the number of peer-reviewed journal articles 52. Book chapters and books were recorded at three each. Eight case studies, two commissioned research projects, 22 research reports, two conference proceedings, and one item labeled as 'other publication' were included in the evaluation of the research outputs.

In universities, scholarly outputs are prized and often these serve to rank the universities' status and success. Traditionally a high value is placed on peer-reviewed journal articles. With this in mind, an analysis of this particular research output was undertaken. Of the journal articles reported by Periperi U, a total of 27 are indexed in either Web of Science (WoS) or Scopus (4), with 19 articles appearing in journals indexed in both WoS and Scopus.

Given the value placed on the established journals contained in these indexes, it is reassuring to note the large percentage of articles produced by Periperi U which were published here. Despite the rise in open-source and other online publications, academic journals in WoS and Scopus remain at the pinnacle of academic outputs. These journals are viewed as credible because they adhere to rigorous peer review processes and have robust accountability and quality assurance measures.

When counting academic publications in such journals, it needs to be remembered that high license and publication costs may limit access to the publications, as well as publication opportunities at some universities.

It should also be noted that the transdisciplinary nature of DRR means that it is difficult to identify all the relevant publications. At this point, DRR scholarship spans 29 scientific fields, which may be categorized in four areas:

- Engineering and Applied Technologies – 14%
- Health Sciences – 24%
- Natural and Agricultural Sciences – 30%
- Social Sciences – 32%.

The first of these, Engineering and Applied Technologies, accounts for only 6 of Periperi U's publications (UDM and USTHB), while Health Sciences includes 9 publications from Makerere and Moi. The final two areas include work from more than two partner universities.

This analysis may be employed as a tool in helping Periperi U to identify new university partners or in considering which fields to further invest resources for research.

Citations are also regarded and employed as proxies for both quality and uptake of research. Citations form the base of most bibliometric analyses. Here, it was found that Periperi U's publications did fairly well – 18 of the 37 articles (48%) have been cited in one or more publications. Given that Periperi U's articles have only been in the public domain for relatively few years, this is a noteworthy achievement. It is important to remember that not all fields accrue citations at the same rate and that, in time, Periperi U's publications will still accrue further citations.

The authors listed as the contact person in the publications citing Periperi U's work were based in 25 countries around the world. This is indicative of global presence achieved by Periperi U, and suggests relatively high uptake.

Collaboration on scientific papers is regarded as a practice that has many positive effects on the impact of research in bibliometric studies (Narin et al, 1991; Katz and Martin, 1997). Hollingsworth (2006), Goldfinch et al (2003) and Adams (2013) point to the advantages. They write that collaboration encourages researchers to develop alternative research approaches, methods and practices, and this allows access to larger social networks. The latter increases awareness and visibility – and, therefore, often the number of citations. Collaborations also provide opportunities for emerging researchers to access prestigious research groupings.

The publication analysis found that Periperi U did well in producing collaborative papers – 27 of the 37 papers (73%) are collaborative research outputs involving more than one institution. 19 (51%) of these papers involve collaborations between two universities and 13 involve three or more institutions. The data indicates that Periperi U has collaborated with nearly 80 institutions from 39 countries around the world. Periperi U collaborations have involved 17 African countries, including those in which the partner universities are located. Periperi U has collaborated with some prestigious and globally renowned institutions, such as Oxford, John Hopkins and Michigan State Universities as well as the Institute of Tropical Medicine (Antwerp) and the Institute Pasteur (France).

Further analysis of the collaborative research publications reveals that of the 27 articles, Periperi U partners have been the reprint authors in only six articles. It should be remembered, however, that reasons for decisions regarding the contact/reprint author vary greatly across disciplines. While in some disciplines, the last author denotes seniority (and is usually the primary investigator responsible for accessing resources), in other disciplines the first author is regarded as more influential. Given that Periperi U’s work spans over 29 academic fields, conclusions should not be based solely on the contact/reprint author. It is, however, important that Periperi U partners establish themselves as leading research partners in collaborative efforts to ensure that they build not only their own careers, but also drive the visibility and credibility of Africa-based and Africa-led DRR knowledge generation.

3.10 FACTORS THAT INFLUENCE INTEGRATION / ENHANCEMENT OF DRR IN HEIS

The data gathered in foregrounds several factors that have influenced integration/enhancement of DRR in HEIs. The interplay amongst all the influencing factors is discussed in Chapters Four and Five.

3.10.1 Collegial engagements within universities across departments and disciplines

Where Periperi U academics have forged collaborations with their colleagues in their own and other departments – and even across faculties – the shift to a transdisciplinary approach in curriculum development was enabled. Given that the DRR domain continues to expand, this capacity to shift is important in introducing additional disciplines and in shaping new transdisciplinary insights.

3.10.2 Direct reporting lines to executive level within the universities

Reporting lines that enable Periperi U academics to communicate directly with the executive level enable faster integration. Most significantly, access to appropriate levels of authority for the secretariat within their own university and when engaging with the partner universities is crucial for smooth operations, agility in responding to opportunities, and forging inter-institutional relationships.

“if you are under the school of engineering or any other school, you don’t have enough hours to read or to co-operate with other faculties. Reporting to the rector, you can work with other faculties not only the one you are in. And you have better facilities. We have rooms where we can work. Before we were hiding in an obscure place (UDM)

3.10.3 Exchange visits and meetings between Periperi U partner universities

Interviewees were able to identify colleagues in other partner universities to whom they turn for advice. For example, an interviewee at Moi reported that she had approached USTHB in Algeria for their niche expertise on geographical disasters (e.g. earthquakes) as well as partner universities in Tanzania and Senegal for niche expertise

on agricultural disasters. USTHB and Tana have an ongoing relationship of mutual benefit and support, and an Ardhi graduate went to work at UBuea.

3.10.4 Generating and disseminating research findings

Research requires time - time to plan and implement the project, and more time to analyze, synthesize and report on the findings. Research outputs also need to be varied and tailored for different audiences. This assists in ensuring wider dissemination to interested potential partners and users of the research located in different contexts.

3.10.5 The development of MoU's with external stakeholders

As described in Chapter 2, the ability to develop MoUs between Periperi U university partners and external stakeholders was an important factor for engaging in collaborative work. These agreements provide a way of structuring, monitoring and regulating collaborations, something which assists in managing the ambiguity and uncertainty that is part of complex collaborations.

3.10.6 Seeking funding from external sources

All the activities undertaken in universities require funding. While the development of curricula and programs may be supported by the university, the development and delivery of short courses and the holding of community events usually needs funding from external sources. Similarly, research activities often require funding. In the example given earlier about the research undertaken in a community, the paper for the questionnaires and the travel costs for researchers/fieldworkers needed to be financed. Very often, the time required to develop the questionnaire, to collect the data in the field and then to organize, analyze and synthesize the data is under-estimated. The ability to develop realistic timelines and budgets is part of a set of critical skills required by researchers. Timelines need to be incorporated into strong proposals for submission to relevant and interested funders.

Success in securing external funding was reported as arising from collaborations where the partners could contribute what they do best and is their core business – education and research. UDM offered the following as an example: “Our relationship with the Red Cross - we are requested to create management models - and they have funding for this, which comes from London. We do the field work and the reporting, and from this get funding “

3.11 CONCLUSION

This chapter presented funder and Periperi U generated indicators for evaluating the achievement of integration and enhancement of DRR in HEIs. The data confirms McCowan's view that “universities have been attributed a central role in the post-2015 development agenda and the achievement of the sustainable development goals” (2016, p. 505). The data indicates that the importance of academic programs at both the undergraduate and postgraduate levels, and the development and delivery of training courses in communities or for external partners is critical in the development of strategic human capacity for DRR. The data points to the fundamental role academics play in knowledge generation and the importance of collaborative research projects in providing a strong knowledge base from which to develop transdisciplinary curricula, as well as engage with stakeholders beyond the academy.

This chapter notes that Oketch et al (2014) identify research outputs and innovation, alongside graduate and improved institutional considerations, to be important for higher education development program outputs. Research, essential for growing a body of knowledge, is pivotal to the first priority of Sendai Framework, that of understanding disaster risk.

This chapter highlights the important achievements of graduate and institutional indicators and also the invaluable achievements of research during Phase IV. While a slower than anticipated development was noted in curricula, programs, short courses and events in under- and postgraduate programs, the number of beneficiaries in all sectors met and exceeded expectations. The number of students disaggregated by gender also met expectations. University curriculum approval processes were deemed to influence a slower than anticipated development in the number of

new curricula. Inter-institutional support was offered by partner universities, via collaborative relationships, to non-partner HEIs. The lower than projected number of non-formal DRR-related short courses and participants, was influenced by lack of funding in Year 1. Coupled with this, students were seeking courses towards formal qualifications rather than participating in non-formal courses. Community engagement and outreach programs were also lower than anticipated, but the number of beneficiaries higher.

The significant contribution of research towards knowledge generation and human capacity building in DRR at community level and public sector institutional level, as well as collaborations between academic staff and both industry and communities with catalytic effect, were discussed in this chapter. Research outputs in the form of postgraduate research projects, publications and peer-reviewed journal articles and a book chapters were noted. Even though research effects were significant, lack of funder indicators relating to research was seen as a bottleneck factor in confirming the value of Periperi U's achievements. This was deemed significant given the global, continental and local impact of research as highlighted in Chapter Two.

Research projects were frequently collaborative, engaging multiple stakeholders and influencing capacity-building in communities and across the continent. Authors listed as contact persons in publications citing Periperi U work were based in 25 countries indicative of global presence. Periperi U has done well on producing collaborative papers, collaborating with nearly 80 institutions in 39 countries, as well as with prestigious and globally renowned institutions. Periperi U committed in Phase IV to engage with government and policy makers to enhance use of scientific generated data in planning, policy development and implementation. The feedback from WHO attests to this commitment.

A number of factors have influenced integration/enhancement of DRR in HEIs. Reporting lines offering access to the executive level of leaders and managers as well as building of relationships within and between departments were significant factors. Other factors include generating and disseminating research findings, engaging in research collaborations, opportunities for exchange visits between Periperi U partners, securing inter-institutional agreements and securing funding from external sources. Both Periperi U partners and non-partner universities exerted a positive influence on integration/enhancement of DRR in education systems.

CHAPTER 4 | COMPLEX COLLABORATIONS – IN PROCESS

Chapter Two and Three foregrounded the accountability aspect of this evaluation. The focus was on evaluating the activities and outputs via both funder and Periperi U generated indicators, relevant to the purpose and aims of Periperi U in Phase IV. This chapter foregrounds the logic model and theory of change perspective, moving focus to the learning aspect of this evaluation. The chapter reviews and then develops the logic model and theory of change that acts to guide Periperi U in the design, planning, implementation, and monitoring and reporting of their work. This chapter confirms that Periperi U's work is purpose driven and intended to do more than merely deliver academic programs and undertake research in DRR.

4.1 LOGIC MODEL AND THEORY OF CHANGE

Logic models and theory of change are often used interchangeably when, in fact, they point to connected but different perspectives. This can lead to confusion and even conflict between funders and recipients, and amongst recipients themselves (Clarke & Anderson, 2004). For the purposes of this evaluation, logic model is understood as the attempt to articulate clear program goals/aims and to ensure that a program's inputs, activities and processes produce outputs that match the program outcomes. Theory of change is understood as an attempt to surface and make explicit underlying assumptions, focus on outcomes, and articulate the causal relationships amongst variables that influence the outcomes. The theory of change assists in identifying which variables can act as drivers to achieving outcomes, which variables should be monitored to check on progress towards outcomes, and which variables to measure to determine whether outcomes have been achieved. It also enables the identification of short- to medium term outcomes that act as pre-conditions which need to be met before longer term outcomes and impact can be evaluated.

Logic models usually start with the program and focus on its components, whereas a theory of change often starts with the desired outcomes and then focuses on how and why the program components can bring about the desired outcomes.

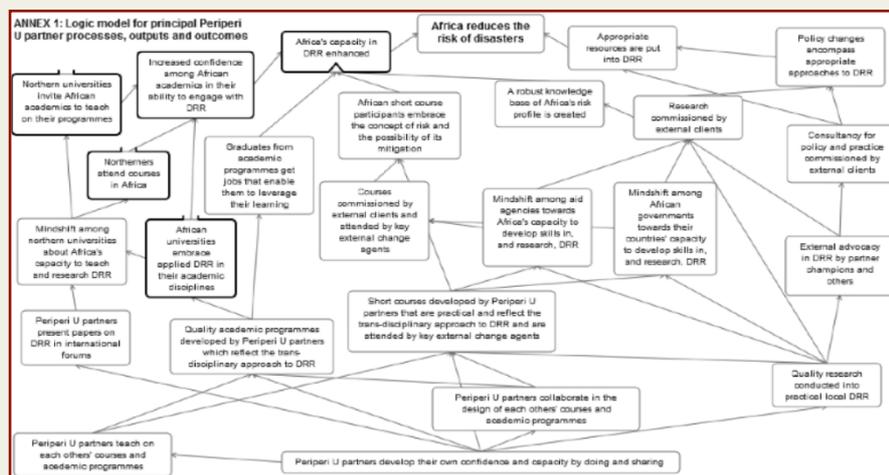
The evaluation found that Periperi U has been guided by an evolving logic model and theory of change since inception. This has provided coherence with flexibility and enables Periperi U to remain relevant to shifts in the HE landscape, as well as in the DRR field, without losing focus.

4.2 HISTORY OF THE EVOLVING PERIPERI U LOGIC MODEL AND THEORY OF CHANGE

4.2.1 Phase II

The Phase II evaluation report presented a logic model characterized by a linear-thinking theory of change.

Periperi U Phase II logic model and theory of change



The strength in this early logic model was that it gave names to factors that play a role in linking activities to outputs, and started to provide a map of which outputs might chain to create which outcomes. Periperi U had a shared language and a map with which to develop a monitoring and reporting system. More importantly, the shared map and language enabled design, planning and resource allocation. Periperi U could conceptualize a plan of activities, decide which activities to select and prioritize, and what outcomes these activities could achieve.

While there is some evidence in the Phase II theory of change of factors that act to influence a number of other factors, the relationships between the factors follow linear pathways, thus providing a limited insight about the interconnectedness of factors, and which factors were acting as drivers of desired outcomes. The Phase II logic model and embryonic theory of change did not indicate which factors could provide interim measurement points, nor which factors were important to measure in order to report on outcomes.

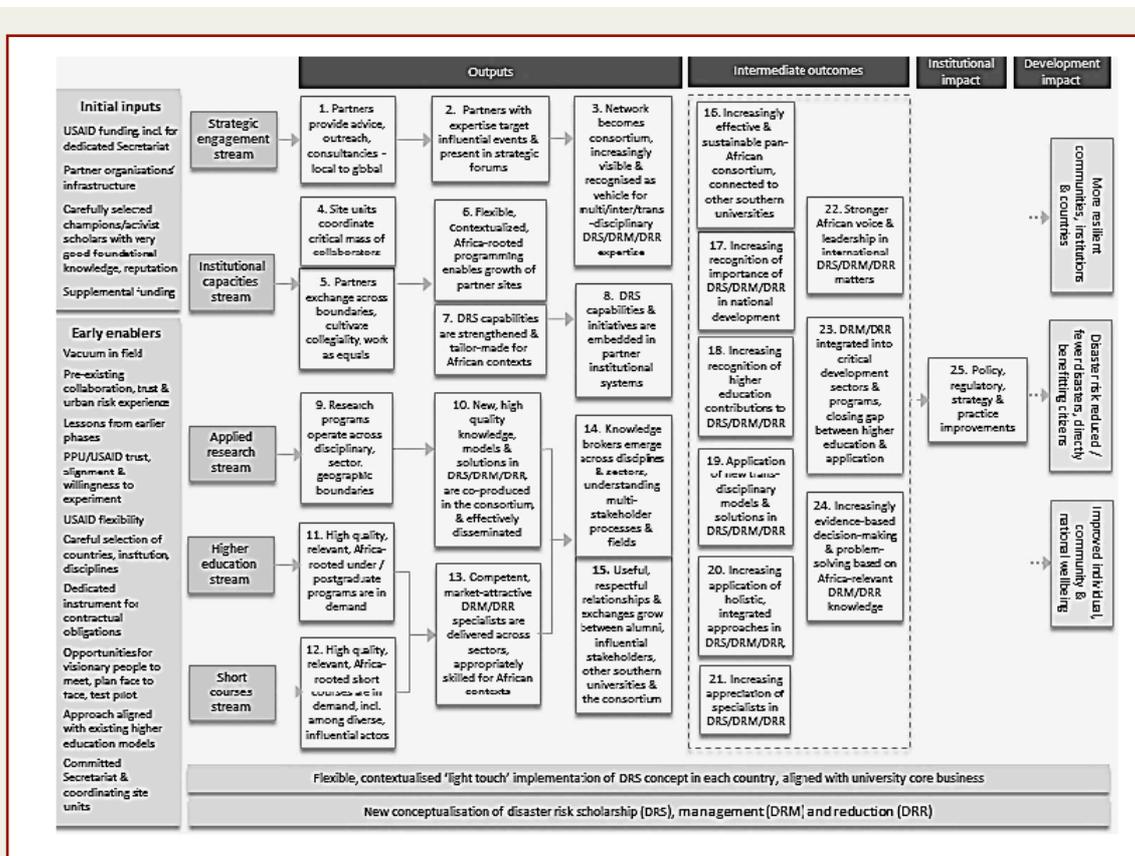
All of the above are routine in start-ups and early phases of developing a logic model and theory of change, rather than being limitations.

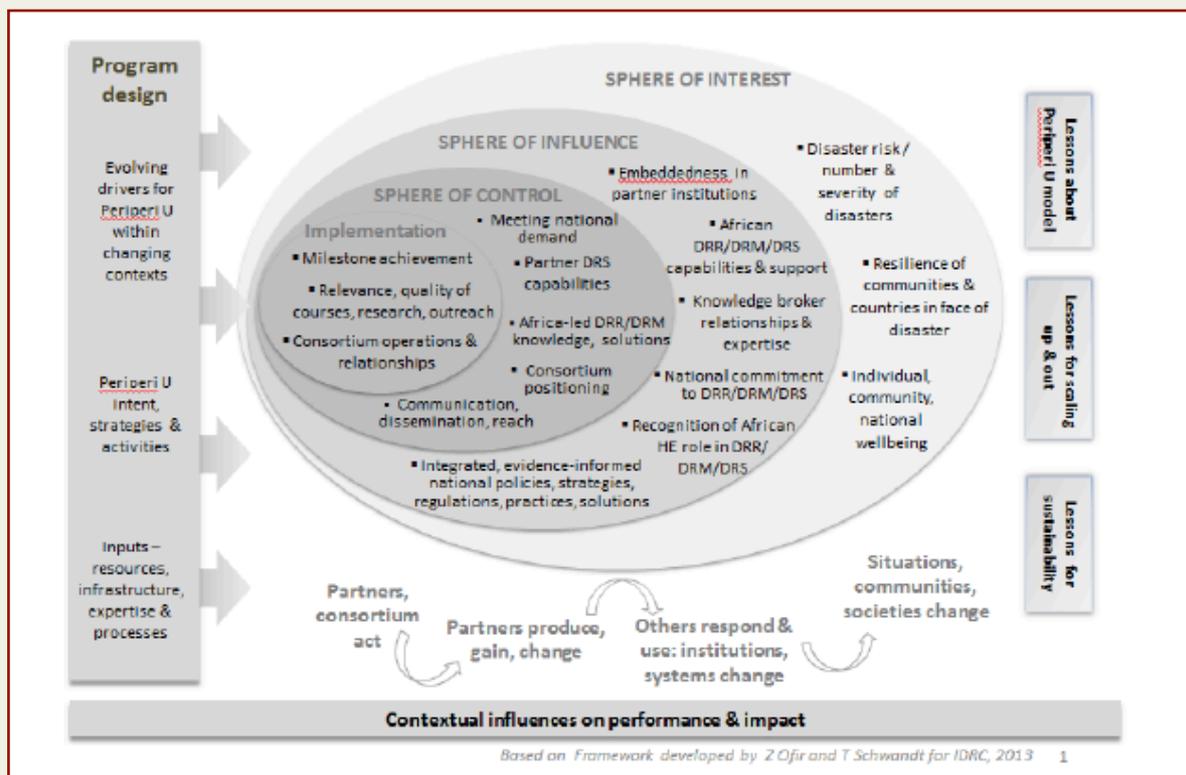
4.2.2 Phase III

By Phase III, it was clear that Periperi U was more than a collection of universities in a loose association around a shared interest. Periperi U sought to undertake an enterprise beyond the resources of any one member, who came together to achieve a shared purpose. This is characteristic of consortiums.

The Phase III evaluation noted that Periperi U’s logic model and theory of change had evolved to “enable the sharing of expertise and information, strengthening of performance, and provided for a strong African voice that can be respected in influential international forums” (Ofir, 2015, p. 6)

Periperi U Phase III logic model and theory of change





Ofir (2015, p. 5; 10) Periperi U Phase III evaluation report

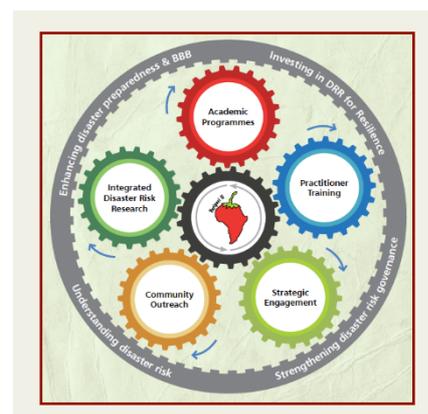
The Phase III logic model and theory of change introduced the idea of spheres of control, influence and interest as a way to highlight the importance of the role of the web of relationships. Assumptions were surfaced about how and why change happens, and how outputs can be deliberately created towards achieving desired outcomes. It highlighted the importance of the role that contextual factors play in enabling or limiting performance and outcomes.

Towards the end of the Phase III period, Periperi U had presented a visual display of a human capacity building model at an international forum. The Sendai Framework aligned model illustrates how HEIs can be, and are, key to building skilled human capacity in DRR. In displaying the program components as five cogs, it signaled the opportunity for mutually reinforcing ripples of opportunity and influence to be created. In this way, a single activity in any of the cogs can act as a catalytic contributor to be more impactful than what could be achieved by any of the single components acting in isolation.

4.2.3 Phase IV

The Phase IV evaluation illuminated that Periperi U has developed a web of interconnected factors in dynamic interplay characterized by spirals of evolving stability and change. This is at odds with the command and control hierarchical systems common in HEIs. These tend to be rigidly rule-bound, structure and protocol sensitive, stability-seeking via homeostasis, risk-minimizing, and failure averse.

In contrast are work systems that flourish by being agile, opportunity sensitive, demonstrating flexibility guided by principles, pragmatic, bold and courageous in taking action when faced with uncertainty, open to learning through



experimentation, unafraid of failure – failure is seen as providing essential information for making progress in resource scarce situations - and where time is of the essence. CAS/CES align with “failure is the opportunity to begin again, only this time more wisely” (attributed to Henry Ford).

By Phase IV, Periperi U was recognizable as a consortium functioning via complex collaborations, and in alignment with many of the principles of complex (adaptive) evolving systems (CAS/CES)⁶. CAS/CES has been applied to systems characterized by spontaneity, creativity and unpredictability, for example, weather systems, ecosystems, immune systems, organizational and human behavior systems, making it relevant to the world of DRR. In addition, its literature is transdisciplinary. CAS/CES is useful in studying “how relationships between components give rise to the collective behaviors of a system, and how the system interacts and forms relationships with its environment” (Health Foundation, 2010).

A complex adaptive system involves a dynamic network of agents acting in parallel, constantly reacting to what the other agents are doing, which in turn influences behavior and the network as a whole (Holland, 1992).

The finding that Periperi U demonstrated alignment with principles and practices characteristic of complex (adaptive) evolving systems was welcomed by a member of the RADAR Governance Committee as appropriate for DRR and the socio-political-economic contexts in which Periperi U operates. It also positions Periperi U at the cutting edge of knowledge generation in terms of moving beyond DRR towards resilience, as is signaled in the consortium’s name and purpose – enhancing resilience for people exposed to risk. Coetzee, Van Niekerk & Raju (2016, p. 196) provide a supporting argument for this position, “The inherent similarities between the concept of resilience and CAS provides ample practical and theoretical contributions to the field of disaster risk studies”.

Principles of complex evolving (adaptive) systems (CAS/CES)

Principles	Periperi U illustrative examples
1 Emergence – interactions, both planned and spontaneous, give rise to patterns that inform and influence the behavior of both the individuals and the system itself. Their relationships are interdependent.	The rise in relationship-building and support to HEIs currently outside the consortium bringing into question the need for the Affiliate Program in its planned form. Opportunities for funding diversification arising from interactions in research collaborations.
2 Co-evolution – the system both changes as its environment changes, and its changes create change in the environment.	Periperi U stepped up its visibility and advocacy at global platforms, participating in panels and hosting ASTAG working groups. The scientific voice of Africa makes inroads on traditionally northern driven policy.
3 Sub-optimal – a system can function purposefully and thrive despite some parts functioning less than perfectly. Any energy spent on perfecting what doesn’t need perfecting is wasted energy. Complex evolving systems prioritize greater effectiveness over increased efficiency once they have reached sufficiently optimal functioning.	Demonstrated by the secretariat in relation to monitoring and reporting. A keen sense of what is essential, and what to chase when facing hard deadlines. Despite gaps in data or difficulties in connectivity and political unrest, deadlines for reporting are met and documents are submitted for publication. The 80:20 rule is respected.
4 Requisite variety – the greater the variety, the stronger the system. This brings with it the need for at least tolerance of paradox and ambiguity. The contradictions provide new possibilities and hence learning opportunities.	All economic regions across Africa are represented. Diversity of disciplines makes for transdisciplinary knowledge generation. Consortium displays a respect for differences, valuing the learning from one another’s different perspectives.

⁶ While much of the literature does not distinguish between CAS and CES, when systems are observed to be learning via adaptation, they are referred to as ‘**complex evolving systems**’ to distinguish from ‘complex adaptive systems’ without signs of learning. The data provided multiple examples of Periperi U’s capability not just to adapt but rather to evolve via learning. Hence the term complex (adaptive) evolving system is used in this report.

Principles	Periperi U illustrative examples
5 Connectivity – relationships are crucial to the survival of the systems – more so even than the agents themselves.	Africa is not a communications easy environment with even internet connectivity not being something to rely on. The consortium makes use of alternatives such as WhatsApp, all emails are “CC’ed” amongst members, exchanges and visits are facilitated. The secretariat has built personal, individualized relationships with members, not only bureaucratic ties.
6 Simple rules – complex systems function according to a few simple principles not a vast array of complicated rules.	People understand what others do, and respect the challenges of the contexts in which they operate; integrators are reinforced, reciprocity is rewarded; collaboration trumps competitiveness. All are passionate about, and strive to, enhance human capacity in DRR
7 Iteration – small changes can create large effects. It is in the repeats that exponential change lies. ‘What good is an idea if it remains an idea? Try, Experiment. Iterate. Fail. Try again. Change the world (Simon Sinek).	An informal contact at a global event is followed up and quickly developed into a mutually beneficial international collaboration (Ardhi and the Walker Institute, UK).
8 Self-organizing – rather than a hierarchy of command and control, there is a constant re-organizing towards purpose and best fit, which happens via information flow along the feedback loops.	A-STAG preparations and delivery of statement conducted to grow capacity as well as deliver quality. Working groups self-organized by volunteering to take forward hot topics.
9 Edge of chaos – a living system which remains in steady state equilibrium fails to adapt and dies. A living system which fluctuates in chaos with no patterns of order emerging, is a runaway towards destruction. At the edge of chaos there is an oscillation between order-seeking and possibility-seeking via creativity and learning. Feedback loops help the system maintain itself at the edge of chaos. This is where innovation arises.	By definition, being a scientist and academic in DRR exposes one to the world of chaos characteristic of natural hazards and their effects on people, infrastructure, economies and interrupted futures. Periperi U members find ways to publish research, conduct academic programs, while also doing frontline work with vulnerable people exposed to risks.
10 Nested systems – each system is part of other systems, which in turn are part of other systems. In this way, systems both influence and are influenced by systems they may be unaware of being connected to. The 6 (or 4) degrees of separation phenomenon.	Each partner is nested within a home university while also actively participating in, and contributing, to the consortium. Through research collaborations, publications, keynotes at global events Periperi U is influencing systems at 4 degrees of separation.

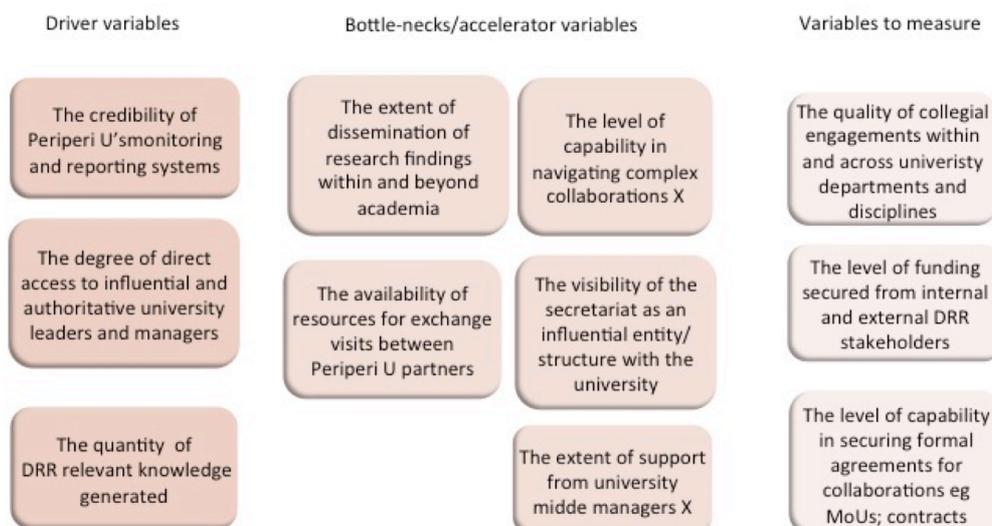
Adapted from: <https://alfinnextlevel.wordpress.com/2016/04/03/complex-evolving-systems/>

Once recognized as a complex (adaptive) evolving system, implications arise for understanding the interrelationships amongst the variables at play, and also for leadership and management. The interactions amongst the variables gives rise to emergent patterns, which act as feedback for both the system and its environment. The feedback influences the interactions, thus giving rise to continuous spirals of mutual evolutionary influence between the system and its environment.

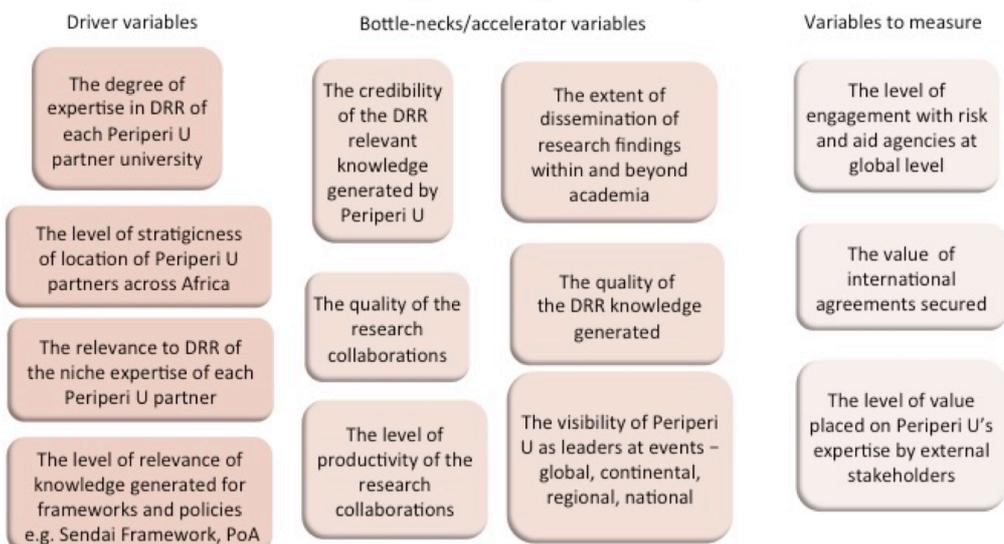
Updating the Periperi U logic model and theory of change with the findings from this evaluation can offer insights into the interplay amongst the variables gives rise to outcomes/results in a variety of ways. Connectivity trumps structure. Each variable in interplay with other variables acts as enabling, bottle-necking or restraining. Relationships are critical and hence more important than studying the individual components. Relationships with stakeholders play a significant role in increasing the complexity that the logic model needs to accommodate. For example, some partners viewed students and graduates as enabling Periperi U’s achievements, and hence as valuable stakeholders in creating catalytic contributions locally and nationally. Other partners viewed students as having a restraining effect on achievements, for example, due to failure to complete the thesis portion of postgraduate programs, which negatively affects throughput rates. Paradoxically however, some of those dropping out were entering the workforce having been offered employment on the basis of their knowledge and skills in DRR. Having the qualification was seen as less important by the market than being available to immediately take up employment in an area of scarce skills.

Updating the Periperi U Phase IV logic model and theory of change

Theory of change variables arising from the evaluation data



Variables influencing the strength of the Periperi U Brand



Interrelationship digraphs were generated using the factors of influence that had emerged from the evaluation data. While lists of factors are useful, they do not illuminate the interplay amongst factors acting as variables in the theory of change. The interrelationship digraph provides a method for identifying which factors act as driver variables, which as bottle-necks/accelerators, and which factors act as measures of success. Once this pattern is known, a causal loop diagram can be developed in order to guide future planning.

The interrelationship digraphs generated from the evaluation data both confirm some of the Periperi U theory of change surfaced during the evaluation and offer fresh perspectives.

The surfacing of the driver variables confirms that the efforts expended by Periperi U in developing a credible and reliable monitoring and reporting system have been critical to the achievements in Phase IV and also to situating Periperi U as an influential and desirable partner for both internal and external stakeholders. This may seem paradoxical that what is often considered a supportive function can play such an impactful role. While relationship-building is essential, it is access to executive leaders exercising influence and authority that is required for Periperi U to make headway. The quality of collegial relationships surfaced as a measure of success, rather than a variable that drives Periperi U achieving its purpose and aims. Culture and climate are outcomes achieved via other variables, rather than factors that can be directly influenced and achieved.

The Phase IV evaluation confirms that Periperi U has gone beyond simply linking activities to outputs to outcomes to a theory of change which demonstrates the prioritization of catalytic contributions. Examples illustrating the distinction between making contributions and making catalytic contributions to DRR include:

From outputs and outcomes to catalytic contributions

Outputs and outcomes	Catalytic contributions
Designing and delivering DRR relevant academic programs, modules and short courses	Designing and delivering DRR relevant academic programs, modules and short courses that attract policy makers, policy implementers including leaders in (sub)national DRM authorities
Designing and delivering DRR relevant academic programs, modules and short courses with a focus on Africa	Designing and delivering DRR relevant academic programs, modules and short courses with African scholarship at the core - in particular scientific and research-based DRR relevant evidence generated in and by African scholars
Attendance at and participation as a delegate in global DRR engagements	Visible leadership at global DRR engagements – hosting, chairing, keynote speeches, presentations to plenary, leading a working group with global or continental influence – A-STAG, AWGDRR
Community engagement/interaction with an interest in indigenous and local knowledge relevant to DRR	Complex collaboration with community, government, humanitarian aid and risk agencies to purposefully research and integrate indigenous and local knowledge into DRR policy and practice
Generating and disseminating DRR relevant knowledge through research	Promoting the global relevance and value of African scholarship for reducing risk and enhancing resilience
Generating and disseminating DRR relevant knowledge through research undertaken within partner universities	Generating and disseminating DRR relevant knowledge through research undertaken within complex collaborations between prestigious institutions as well as capacity-building institutions. Visible leadership in the form of lead/contact author, research team lead, funding accountability

4.3 PERIPERI U’S COMPLEX COLLABORATIONS – OPPORTUNITY FOR CATALYTIC CONTRIBUTIONS

Synthesis of the data within and across the two sub-sectors led to the identification of five collaborations evident in the complexity of Periperi U’s work. Collaborations are understood as interactions between and amongst actors or organizations who work together to achieve a shared goal. Joint effort is involved even when roles or functions may differ. This is indeed characteristic of the Periperi U consortium. The collaborations exist as a result of emergent properties arising from the quantity and complexity of interdependent interactions. They increase the potential for reach and influence in DRR despite the large-scale need and resource constraints.

***“My dad used to say ‘the donkey’s voice never reaches heaven’.
If you are alone, no one listens to you, no one reaches out to you.
(What will happen if you get the donkey’s voice to reach heaven?)
“Science and technology will inform policy making and political decisions. (UDM interview)***

Acting collaboratively enables a small-scale work system such as the Periperi U consortium to set catalytic contributions in motion.

The five distinguishable collaborations are: collaborations internal to the consortium; institutional collaborations, inter-institutional collaborations, institutional collaborations with external stakeholders, and consortium collaborations with external stakeholders. Each collaboration offers opportunities for unique and particular catalytic contributions to fulfill the purpose of strengthening human capacity in DRR in Africa. The collaborations are dynamic in that they develop over time in response to internal and external interests and influences. They in turn exert influence on their environments, shaping the DRR domain as much as they are shaped by it.

The next section describes each of the collaborations with attention to actors, activities and relationships.

4.3.1 Collaborations internal to the Periperi U consortium

Consortium collaborations arise from interdependent relationships between and amongst the 12 partner universities and the secretariat. Historically, the roles and functions unfolded with the secretariat as a formal central hub with the 12 partner universities arranged in an outer circle. The relationship pattern between the secretariat and each partner university resembled the spokes in a wheel. The secretariat, as central hub, provided direction, information, resources and monitoring to and for the partners. Formal interactions between and among the 12 partners mostly involved the hub. Given this, it was not surprising to see the concerns raised about over-stretched staff in the secretariat in previous evaluations.

Phase IV saw the secretariat continuing to play a central support and coordination role for functions including, but not limited to, accessing funding and providing financial management, as well as planning, monitoring and reporting. Interaction amongst the partners showed signs of increased direction-taking and leadership. Evaluation data suggests that the secretariat provides a useful model for partner universities to emulate in their own institutions. In this evaluation the formation of mini-secretariats was noticed at some partner universities. The encouragement of a bi-directional movement of interaction, to replace the historical outward movement from hub to rim, is likely to alleviate some of the burden of responsibility and work that fell to the secretariat during earlier phases. Developing this new arrangement, in particular with more of the administrative and project management activities being the responsibility of the partners, will depend on both the capacity and capabilities within the partner universities. A process of mentoring, and then letting go by the current secretariat will be required. Signs of this were already evident in an informal planning meeting held to pass over the learnings from first African Risk Methods School (ARMS) by Ardhi to colleagues at GBU who were planning the second ARMS for February 2019. This, together with the small working groups set in motion during their internal consultative meeting in October 2019, provided very promising instances of decentralization of leadership and project management in action. This bodes well for the consortium's future and sustainability.

4.3.2 Institutional collaborations

The data indicates a range of vertical and horizontal collaborations within the partner universities.

Vertical institutional collaborations have seen Periperi U academics communicate with, make visible and advocate for the work of the consortium with institution leaders and managers. Building awareness and understanding of the consortium and its various fields and sub-fields within home institutions forms the basis for embedding formal academic programs and attracting staff and students. As the following examples illustrate, vertical institutional collaborations create, strategically situate and accelerate catalytic contributions. GBU in Senegal reported that having the enthusiasm and active support from the President of the university created a pathway for collaboration across

“When I told the President of the invitation for GBU to join Periperi U he asked me: ‘And have you said yes?’ I said, ‘No, not yet. I needed to talk with you first’. He told me to say yes immediately, with a beaming smile of delight. We’ve had his support all along.”
Prof Mateugue Diack, GBU

discipline areas, as well as access to resources necessary to initiate and grow transdisciplinary work. UDM in Mozambique's ability to set in motion catalytic contributions to DRR knowledge generation and dissemination was sharply accelerated with a change in reporting line. SU/RADAR's change from a Type 1 to a Type 2 center brought with it increased visibility and further influence opportunities.

Horizontal collaboration occurred when Periperi U academics made visible the work of the consortium to colleagues, within and beyond their own home disciplines. Keeping abreast of developments in the domain of DRR is critical if academics are to be responsive in developing relevant curricula, research projects and short courses. The data offers examples of horizontal collaboration where some universities have optimized support from existing institutional structures, such as Library Services, Research Office, IT, and Marketing and Communications Departments.

During this phase, vertical and horizontal collaborations have been observed to facilitate cross-disciplinary curriculum development and collaborative research, thus building knowledge and capacity in the DRR domain. Mini-secretariats, observed in the data from some partner universities, and referred to in the section above, occur where the horizontal and vertical collaboration axes meet. Catalytic contributions are facilitated by horizontal and vertical collaborative relationships within institutions.

4.3.3 Inter-institutional collaborations

Data also points to important bilateral and multilateral collaborations between and amongst Periperi U partner institutions. The work in inter-institutional collaborations involves seeking and giving advice, sharing curricula, short courses and research results and external examining. Academics who have developed niche expertise in a field combine with academics from another partner university to offer complementary training and consultation. The first African Risk Methods School (ARMS) is a significant example where university partners collaborated in the development of joint programs, which allowed for student mobility between their universities. Mobility programs and joint degrees serve to expose students to different types of expertise in more than one institutional, and country context. Mobility programs provide for greater diversity and create a graduate more ready to contribute DRR expertise in a wide variety of environments. Regular consultative meetings at joint events and inter-institutional exchanges enable these collaborations, making continued funding a priority.

It is useful to make mention of the Affiliate Program in relation to inter-institutional collaborations originally conceived as a way to offer support to other universities interested in strengthening their DRR-related capability. Evaluation data suggests that information about the Affiliate Program, its aims and roll out plans were not top of mind for many of the Periperi U partners. However, despite this not being high on the agenda, several of the Periperi U partner universities provided support to other non-Periperi U universities. These relationships developed organically rather than according to the planned structure of activities envisaged for the Affiliate Program. This finding raises the question of the need for a formally structured Affiliate Program at the consortium level. It rather suggests that partner universities be encouraged to set up appropriate relationships with other universities, thus alleviating dependence on the secretariat. This links with the possibility for decentralized but interconnected mini-secretariats, which can take on support functions with the partner university taking a leadership role.

4.3.4 Institutional collaborations with external stakeholders including (sub)national DRM authorities

Phase IV brought with it an expansion in focus requiring engagement beyond Periperi U's known territory of DRR and higher education, to that of global advocacy. This brought the challenge of creating global catalytic contributions – making a difference for local communities and own country, while also advocating for DRR in global and continental arenas. Partners actively identified and pursued interactions with external stakeholders, in particular those in national and local government structures, as well as in local economies.

While these collaborations are still in the development phase, and currently exist for some but not yet all of the partners, the data illustrates an increased awareness amongst all partners of the importance of such collaborations for future sustainability. The activities undertaken within these collaborations are wide-ranging, including but not

limited to, awareness raising events, advocacy, securing funding, agenda sharing and setting, policy development, and the identification of collaborative research projects and new short courses.

The data also suggests that MoU's provide a stable platform for work in the collaborations involving institutions and external stakeholders, particularly where government is involved. Additional activities such as a jointly funded annual research program would provide a solid reason for regular meetings, which could involve all role-players in agenda-setting, the development of calls for research projects based on shared priorities and, subsequent dissemination of the research. Research projects could include other universities (such as those that were to have been included in the Affiliate Program) and local communities as participants and beneficiaries.

Building not only trust between stakeholders, but also knowledge of their contexts, challenges and priorities are important in the initial stages of new collaborations. The formal consultative meetings hosted and co-hosted by Periperi U as a consortium and by the university partners, provided a forum in which relevant external stakeholders, including government department representatives developed a shared sense of ownership.

It is possible that jointly owned research projects would require additional capacity and capabilities from already stretched academics. Winning grant proposals requires feasible and detailed budgets that need to be spent timeously and judiciously and in line with the research proposal's purpose and activities. In addition, writing a report for a government audience may require new appreciations of their needs in taking the project results forward – for either policy or for practice – and new skills in writing for a different audience. These skills are already in evidence amongst the Periperi U partners, with some partners making use of social media platforms and the popular press to advocate for DRR.

4.3.5 Consortium collaborations with external stakeholders

Periperi U has been instrumental in introducing and developing the only curricula in DRR in Africa. An example of the significance of this was offered during an external stakeholder interview.

When Gatkuoth Kai wanted to study further in DRR, he could not find an African university with an integrated curriculum, so went (at great personal expense) to study in the UK. Since most people could not afford to do so, there was a dire shortage of human capacity in the field in Africa. Each program and module within existing programs developed and introduced by Periperi U has acted as a catalytic contribution to strengthen human capacity in DRR across Africa. There is now a steady flow of graduates getting jobs in NGOs and government across Africa. In a few years these graduates will have acquired experience to be the leadership in the field and to advocate for DRR globally.

***“The value of Periperi U to me is huge. Africa is lacking the capacity, and Periperi U is taking a pivotal role in changing that. From an African Union perspective, it is something that needs to be supported.”
Gatkuoth Kai, African Union***

Periperi U is the go-to for the African Union for consultation, advice and practice. They have collaborated to develop the Terms of Reference for the African Science and Technology Advisory Group (A-STAG) and work together on the African Working Group (AWGDRR) to amend the huge disconnect between policy and science/academia. Useful scientific information is not being used to inform policy, which is a concern and a challenge that restrains DRR's potential for impact on economies and communities' lives. Periperi U plays a significant role in rectifying this, building bridges between science and policy development.

The data illustrates that the secretariat has spearheaded most interactions with external stakeholders on behalf of the consortium during the four phases of Periperi U's existence. The Phase III evaluation report highlighted the challenges of over-stretched staff in the secretariat and the need to delegate some of the responsibilities for consortium interactions with external stakeholders to partner universities. The report also pointed to the exposure of dependence on a single external funder. It was recommended that the consortium spread responsibility of work with and for external stakeholders, and ensure a wider base for future funding.

During Phase IV, the secretariat continued to take primary responsibility for continental and global organizational liaison and for securing funding for the consortium as a whole. Data suggests that these responsibilities are being more widely shared within the secretariat itself, rather than largely falling to the director. Periperi U partners increasingly took an active role. Towards the end of Phase IV there was evidence of rising capability in the form of new initiatives for securing future funding for the consortium. These included proposals submitted to the World Bank in 2018 and to the African Development Bank in 2019.

4.4 RELATIONSHIPS ACROSS THE COLLABORATIONS

In addition to interactions within the collaborations, described above, the data attests to Periperi U achieving its aims through interactions that take place across the five collaborations. This has required taking cognizance of differing structures evident in traditional hierarchical institutions, such as universities and governments, as opposed to some of the less formal collaborations. The former need to conform to rules or operating procedures that require administrative effort and time. The latter, such as consortium collaborations and even some collaborations between academics in their home universities, and/or with their peers in other universities, have been less formal and proved to be more agile and responsive. Traditional bureaucratic hierarchies are likely to be more layered in terms of structure, thus creating slower timelines, more layers for securing sign off on changes and innovations, and have more rigid communication protocols to be followed. Collaborations tend to be structurally flatter, give greater emphasis to interdependence and mutuality, and provide more opportunities for flexibility

Additionally, differences in discourse and work timeframes were noted. For example, academic research is viewed as an ongoing endeavor and one in which researchers build a body of work over the span of their careers. On the other hand, governments and communities seek immediate solutions to challenges faced and so will want research projects to produce knowledge that can be applied to policy or in practice with greater immediacy.

The data points to key leverage points and activities viewed as catalysts. These ensured that synergies across the collaborations were identified and utilized to good effect for all the actors involved. For example, a pilot institutional interdisciplinary research project conducted in a local community increased knowledge and understandings of DRR, and led to important outputs – graduates and academic publications - both of which increased strategic human capacity in DRR. In addition, the results of the research were used to inform local government by contributing to policy and practice, and to develop short courses for both government and the community. The completed pilot project was used to leverage additional funding for a larger project, one that involves a greater number of staff and students within the home university, as well as those in other universities (both Periperi U partners and non-partners).

As can be seen in the above example, an initial pilot research project with a modest budget may have benefits across more than one set of collaborations. The initial research project is deemed to act as a catalytic contribution, with outcomes and potential for impact beyond what was planned or envisaged at its inception. It precipitates cumulative processes with exponential effects beyond itself and, in doing so, increases the potential for impact.

4.5 CONCLUSION

This chapter has foregrounded the learning purpose of the evaluation report with a discussion of the evolution of the logic model and theory of change across the four phases of Periperi U. In character with an evolving consortium, the initial linear logic model of Phase II, linking activities to outputs and mapping outputs to outcomes, exhibited increasing complexity in Phase III represented in spheres of control, influence and interest. As Periperi U continued to evolve in Phase IV, the range and reach of interconnections have been identified as a web interacting according to dynamic principles. The chapter illustrated how the characteristics of Periperi U, as this web of dynamic interconnections, reflect the principles of complex (adaptive) evolving systems. This is best served by a logic model and theory of change that goes beyond linear thinking to utilizing abductive thinking, design thinking, identification of interconnected patterns amongst variables, and generating causal loops.

The chapter has highlighted five collaborations emergent from the data, an understanding of which are identified by the evaluators to be central to the learning purpose and the future evolution of Periperi U's work.

The final chapter of this report presents conclusions, lessons and recommendations.

5.1 INTRODUCTION

This final chapter concludes the report by returning to the overarching evaluation question, focusing on lessons emerging from this evaluation, and generating recommendations. The recommendations were formulated with a view to including fresh perspectives for Periperi U to consider, in order to support their innovative contribution to the DRR field, rather than providing recommendations that speak only to business as usual. The evaluation team offers these as beginning points for envisaging possibilities, optimizing opportunities, taming challenges, and developing future plans, rather than as directives or implied criticisms. Thematic, clustered and general recommendations are offered. Where careful decisions must be made about how to distribute time, effort and resources, adopting fewer recommendations and then designing and executing those selected strategically with an eye on creating impact may serve Periperi U better in achieving its purpose and future aims.

5.2 THE OVERARCHING EVALUATION QUESTION

Periperi U is to be commended for succeeding during Phase IV in contributing to enhancing the strategic human capacity to integrate risk reduction into key development activities, sectors and programs. It has done so as intended both through traditional HE pursuits of scholarly research, academic teaching, and peer-reviewed publication, as well as by undertaking community interaction⁷ amongst people vulnerable to risk. What is particularly promising is that the 12 partner universities were working to strength, developing niche areas relevant to DRR, and then creating an exponentially larger presence through collaboration at multiple levels. In this way they were able to each maintain their scholarly and scientific focus, while as a consortium collaborating to create contributions that no one partner could create independently.

To what extent, and in what ways has the Periperi U consortium contributed to enhancing strategic human capacity to integrate risk reduction into key development activities, sectors and programs as well as (sub)national disaster risk management authorities?

Phase IV has seen Periperi U make significant catalytic contributions in relation to (sub)national disaster risk management authorities through a multi-pronged approach. This included offering academic programs and modules leading to respected and desirable HE level qualifications for individual personnel employed in DRM authorities, forging MoUs to create collaborations around mutual interests and desired outcomes at the institutional/organizational level, acting as technical advisors who provide scientific evidence to strengthen the credibility and legitimacy of policy-making, and bringing community level awareness from their community interaction activities to inform implementation of policy. These achievements align with the PoA's call for actions that can reduce disaster risks in African countries through improved national and local disaster risk management (DRM).

A most significant contribution to strategic human capacity building in DRR noted by the evaluation team was Periperi U's development of an Africa-infused approach to leadership and management. Philosophically it stewards the belief that humanity is interconnected through a universal bond of sharing. This is seen as significant given that the Periperi U consortium's initiating partner and secretariat, RADAR, has been operating within a highly traditional, bureaucratic organizational context, both academically and in terms of financial structure and functioning.

⁷ Community interaction was adopted by Periperi U in its monitoring and reporting systems to track activities, outputs and outcomes which may be termed community outreach or community engagement by others outside academic institutions. The secretariat was guided in its definition by the SU definition, namely, "at Stellenbosch University (SU) we prefer to use the term 'Community Interaction' (CI) instead of 'Community Engagement' to emphasise the reciprocal nature of interaction between the University and communities. The criteria for CI include that activities are linked to an identifiable group in a community outside the institution; that interaction should be actively linked to identifiable needs of both the University and the community; and that such activities should be sustainable within a mutually defined relationship." Retrieved from <https://www.sun.ac.za/english/faculty/arts/about/community-interaction>.

Periperi U, as a consortium, demonstrates the kind of leadership and management that enables complex collaborations and is recognized as necessary for complex adaptive (evolving) systems to be able to create impact. Control needs to be dispersed and decentralized, and the overall behavior of the system is the result of many decisions made constantly by individual agents (Waldrop, 1992). This is a considerable challenge for institutional environments committed to centralization, standardization and economies of scale.

Periperi U's logic model and theory of change evolved during Phase IV to enable catalytic contributions with ripple effects from local through to global levels. This is a significant achievement for the size of the consortium, the level of need in DRR, the volatile and uncertain conditions Periperi U often has to conduct its work in, and the relentless pressures of securing diversified funding.

5.3 LESSONS AND RECOMMENDATIONS

The evaluation team was aware that this evaluation report needs to serve a diversity of readers, each with their own interests and agendas. Intended users include funders, members of the Periperi U consortium, university leaders and managers, HE stakeholders and DRR stakeholders. This presents the challenge of crafting a report for relevance and sufficient specificity. The recommendations are not put forward as plans to be implemented, rather as possibilities and opportunities that will need to be developed into plans, preferably by those who will be implementing. It is recommended that a human-centric, collaborative planning methodology, for example, design thinking (Stickdorn, Hormess, Lawrence & Schneider, 2016; Stickdorn, Hormess, Lawrence & Schneider, 2018) be used for planning, rather than a linear problem-solving approach.

First some general lessons and recommendations are offered, followed by thematic/clustered lessons and recommendations. The latter are organized in alignment with the five complex collaborations discussed in Chapter Four.

5.3.1 African-infused leadership and management for the 21st century and beyond

The people of Periperi U, individually and as a consortium, have learned many lessons from local to global level about how to advocate for the significant role that HEIs should play in human capacity building in DRR. The university partners have demonstrated and expanded their knowledge and skills in how to navigate the world of complex collaborations while maintaining focus and productivity as scientists and academics. Some have become highly adept at developing, leading and managing transdisciplinary teams.

It is recommended that the Periperi U consortium proceeds as a matter of urgency and importance with their proposed book publication in which the history and experience gained by Periperi U from inception to the end of Phase IV is documented. Thought should be given to making use of multiple communication channels to disseminate so as to create maximum visibility and access. Besides the proposed book, there is opportunity for a more expansive project on this topic, including, but not limited to, journal articles, YouTube video clips, postings to appropriate groups on LinkedIn, radio and television appearances. Consideration should be given to making use of the creative commons licensing system in order to encourage use of materials produced, while retaining acknowledgment of authorship – when we share, everyone wins (<https://creativecommons.org/>).

It is recommended that the collaborative leadership and management approach evolved by Periperi U be highlighted, making explicit the benefits and challenges, as well as relevance for the transdisciplinary and multi-stakeholder context that characterizes DRR. The evaluation team noted signs of the kind of leadership that enables complex (adaptive) evolving systems, namely, leadership that enables clearly formulated and communicated purpose, diversity and striving to be effective, delegating resources with authority, and with feedback and follow up embedded in the way of working, that is, being part of the work ethic/culture.

It is recommended that Periperi U consider hosting a leadership event in which the challenges and opportunities arising from the complexities of working in, with, and across university systems, as well as with external stakeholders

at multiple levels be explored in order to develop strategic and work plans to move human capacity building in DRR forward collaboratively. The work done by Yves Morieux and Peter Tollman in generating six simple rules on how to manage complexity without getting complicated (which is also the title of their 2014 book and 2017 TED Talk) offers insight into what Periperi U could contribute as a catalyst to human capacity building in leadership and management.

5.3.2 Expanding technology-enabled real-time communication and access to information

The evaluation team's use of a utilization-focused approach (Patton, 1997) for the Phase IV evaluation offered some significant lessons about opportunities and challenges in relation to real time communication and giving and providing feedback. The need for ease and agility in real-time communication via multiple channels to support and optimize feedback, collaboration, and enable rapid widespread exchange of was striking. Periperi U is an Africa-located consortium with international presence and reach. It aims to continue as a catalytic contributor in DRR from local through to global levels. Internet connectivity in Africa creates challenges for Periperi U in its desire to be part of global debate and discussion in real time. While international travel has been the usual *modus operandi* for achieving real time strategic engagement and global advocacy, technological advances in communication via internet have and continue to collapse space and time constraints. The evaluation team acknowledges the great lengths that many Periperi U members went to in order to participate in individual and group/team interviews to provide data for the evaluation. In many cases, they made use of personal mobile phones and internet access contracts in order to conduct their HEI and Periperi U activities. It was noted that RADAR personnel required to perform secretariat duties with urgency to provide real-time rapid response communications were particularly under-resourced in terms of appropriate computer equipment for real time engagement. Email remains the routine communication channel, offering little to promote real-time and/or on-demand access to information. At a minimum secretariat staff should be equipped with computer hardware that is mobile and includes audio and camera facilities. On demand access to high speed reliable internet is a necessity.

Many Periperi U members were making use of communication platforms such as WhatsApp and Skype. Tanà, when introduced to a user-friendly video conferencing platform (zoom.us) during the interviews for the evaluation, were quick to spot the possibilities for optimizing productivity and enhancing the collaboration through inclusivity. This type of platform offers increased access when team members are in different locations. Despite internet connectivity not being ideal, they have gone ahead to make video conferencing work. It is this willingness to experiment and adopt new ways of working that can contribute to Periperi U's sustainability, even in resource scarce or sub-optimal circumstances.

It is recommended that funding make provision for appropriate and relevant technology, especially for those undertaking secretariat functions. This includes appropriate secure database systems and software that allow on-demand access to Periperi U partners to share information, as well as enabling real-time monitoring and reporting.

However, funding only for technology is insufficient. Funding is recommended to provide dedicated support to the already existing technology-driven achievements developed by Periperi U. The Online Resource Centre (ORC) is an excellent example of how Periperi U increased access to and the visibility of DRR knowledge. Besides acting as a repository, it has potential to become a virtual meeting place for visitors to the site. It is recommended that funding be provided, possibly by the academic institutions themselves, to maintain and grow this significant contribution to disseminating DRR knowledge being generated by and relevant to HEIs, as well as internal and external stakeholders in the DRR field.

5.3.3 Consortium collaborations

Data collected in the Phase IV evaluation teaches that developing as a consortium has had the desired outcome – to achieve more together than could be achieved alone, and that more can be achieved with the resources available when collaboration is prioritized.

Evolving from initial existing relationships supported by a central coordinating structure to a multi-stakeholder consortium, collaborating amongst partners, sharing support from a small secretariat located in one university's system takes time and requires a set of steps, including building new capacity and capabilities. Phase IV saw the consortium expand with two new partners, UBuea, Cameroon and ABU, Nigeria. This offered opportunity for mutual learning, with the longer involved partners benefitting from the fresh perspectives and contexts brought by the newer partners, and the newer partners being inducted into the modus operandi of the longer involved partners.

The recommendation is that the Periperi U consortium continues with its development towards a more distributed modus operandi in relation to administration, management and leadership. This evolution to a more distributed web of interdependencies will make it possible to identify roles and functions that might be more widely shared amongst the university partners.

In particular, this will require a careful review of which roles and functions of the current central secretariat based at RADAR are essential for future development and growth, as well as maintenance of business as usual. It is likely that a structure like the existing secretariat will continue to be needed, in order to maintain coherence and co-ordination. An audit of the potential for mini-secretariats to be developed in the partner universities will shed light on what the future secretariat functions need to look like and what functions need to be provided, to whom, and in what ways. Feedback was received that this was seen as a welcome and progress-enabling recommendation for Periperi U's sustainability.

The secretariat has achieved a great deal in improving Periperi U's monitoring and reporting systems during Phase IV. This has been noted as a critical driver variable in enabling Periperi U's Phase IV achievements. However, it is time-consuming, labor intensive, and open to misinterpretation when data is added, extracted or processed and analyzed by someone not entirely familiar with the conventions of the system that has been developed.

It is recommended that priority be given in the next phase to improving the storing of the raw and processed data so that decisions and variations are easily accessible when making sense of data over time or by different members in a team. It includes, but is not limited to, developing a simple database, using tools such as Access or SQL that provide for the capture of the data that is submitted in the monitoring templates, as well as providing secure access to interrogate data through a tab on the website. This will save the secretariat time in collation and putting together other spreadsheet perspectives such as a cumulative year to date and program to date views against projections for each partner, as well as across indicators.

It is also recommended that working definitions of headings and terms used to categorize data be captured as part of the records. Examples include the distinctions between a formal MoU, a less formal MoU-type agreement and a partnership agreement, the decision to use the SU terminology and definition for community outreach known as interaction, and language detail around the use of the term 'strategic engagement'. This term is used in the funder's Sub-sector 2 criteria and does not point to activities and outputs at the global advocacy level, which is Sub-sector 1. Without careful enquiry, it would have been easy to under-report achievements against the global advocacy criteria important to the funder, and hence significant to the accountability aspect of this evaluation.

5.3.4 Institutional collaborations

The evaluation teaches that within each university partner there are sets of collaborations involving a range of actors and activities. It is recommended that each university partner continues to develop its own context-specific plan of

The proposed 2016-2019 phase foresees experienced Periperi U partners beyond RADAR taking-up other consortium-wide responsibilities. This seeks to mobilize and devolve emerging management capabilities across the partnership. For instance, Ardhi University will be the focal-point for overseeing and implementing affiliate membership, while partners such as Makerere, Gaston Berger or Bahir Dar Universities could lead on multi-country research activities. Other consortium members are expected to lead on Summer/Winter School planning and implementation (Funding Proposal, 2016).

action for fostering both horizontal and vertical institutional collaborations. This plan should seek to market and promote the Periperi U brand within the home institution, optimizing the use of as many already existing university resources and communication channels, rather than duplicating these. An audit on what already exists, coupled with the excellent collaboration capabilities already evident amongst many of the consortium members in Phase IV, can illuminate which secretariat functions need to be undertaken by Periperi U itself, and which can be piggy-backed on existing resources.

It is also recommended that institutions be provided with additional opportunities to share their experiences and lessons learned about the ways in which vertical and horizontal institutional collaborations can be fostered. This can be achieved in a variety of ways, for example, via one or more consultative meeting/s or forum/s hosted and led by Periperi U members. Periperi U's members' experience during Phase IV in negotiating and securing MoUs can be drawn on to ensure that such meetings and/or forums progress beyond merely being exchanges of information and ideas to forging commitments for enhanced institutional engagement. This will extend and further embed DRR into programs, modules and courses at HE institutional level.

5.3.5 Inter-institutional collaborations

It is clear that inter-institutional collaborations are valuable in that they expand the available expertise required to build knowledge of and capacity in DRR both within the partner universities and beyond. Complementary areas of expertise strengthen collaborations and, in doing so, accelerate efforts to build knowledge and capacity.

It is recommended that the Periperi U partner universities consider conducting an audit of their niche areas, even where these are still under development, along with their knowledge gaps and needs for the next phase of work. Where appropriate, the names and contact details of associated experts can be included in a summary spreadsheet of the findings of the audit. Feedback from users of this evaluation indicated this would be a welcome source of information and useful for future direction and planning.

It is recommended that instead of implementing as planned the formal Affiliate Program envisaged at the start of Phase IV, the partner universities be encouraged to continue interacting and collaborating with other universities in alignment with their relative strengths and needs. As a consortium the plan for the Affiliate Program can be updated from the lessons emerging where Periperi U partners engaged with supporting other HEIs. The lessons from the evaluation point to the importance that any and all HEIs wishing to participate in Periperi U display the capabilities of collaboration and reciprocity. Willingness and capability to 'walk the walk' not merely 'talk the talk' of collaboration will be key when selecting which HEIs to welcome into Periperi U. Complex collaborations are simple, but not easy human worksystems. Periperi U may wish to give thought to how they will recognize the capability for collaboration and reciprocity, diplomatically but with laser-like discernment.

5.3.6 Institutional collaborations with external stakeholders

The evaluation report teaches that while collaborations between individual university partners and their immediate external partners have commenced at many of the institutions, these interactions still need to gain momentum in others. In addition, even where such interactions are underway, these could be extended and further developed.

The evaluation team noted that many of the external stakeholders contacted for interviewing seemed surprised to be regarded as stakeholders of Periperi U. Some saw themselves as beneficiaries, others as participants or attendees at events, others as service and/or resource providers to Periperi U. Many did not perceive themselves to be affected – positively or negatively - by the outcomes that Periperi U achieved. Some perceived their relationship as being more connected to the individual university partner or even to a specific person, rather than to Periperi U. It is recommended that each Periperi U partner undertake one or more stakeholder mapping exercises in order to identify stakeholders and then invite these stakeholders to participate in developing a shared awareness of the interdependencies that exist among them, and with Periperi U.

It is recommended that opportunities for learning about different partnership models with external stakeholders be explored with and by all the university partners. Creating catalytic contributions to DRR human capacity building via partnerships can be a theme for one or more external consultative meetings hosted by each university partner. Such forums could develop a stakeholder reference group, committed to working with and alongside the university partner. The outputs and working plans that emerge from each of these can be taken forward by developing an external stakeholder reference group for the Periperi U consortium as a whole, with a commitment to consult around a standing agenda at specific times across the year. Such consultative meetings can be kept lean, agile, accessible and diversity inclusive if conducted online, with preparation being enabled by having standing agenda items, and by chairing focused on promoting collaboration, for example, sharing information about optimizing opportunities and resources, drawing on niche knowledge and skills, and generating potential solutions around challenges.

The Phase IV work by partners to build human capacity through increased relationship-building and activities with (sub)national disaster risk management authorities can be taken forward and expanded to significantly influence DRR policy and practice, if approached in the above systematic way with an eye on pragmatic sustainability.

Sharing expertise in negotiating and concluding partnership and collaboration agreements such as, but not limited to MoUs, is recommended. Real-time/on-demand access to a repository of examples of well-structured agreements is recommended.

It is also recommended that opportunities for learning skills related to grant proposal writing and report writing for non-academic audiences be provided to all the university partners. Rather than this being achieved through traditional training, a mentoring and coaching program with experienced, successful, fund-securing colleagues may fit better for the already busy Periperi U members. Within Periperi U and their external stakeholders, it is likely that such mentoring and coaching capacity already exists. Increasing accessibility by making use of online platforms is recommended.

A perception from an interviewed representative of one existing partnership with national government (ARU, Tanzania) is that Periperi U partners are responsive to requests for research and capacity building, but that they would benefit from being more proactive. It is recommended that partners become proactive in identifying relevant topical research and capacity building opportunities and then actively seeking both new projects with existing external stakeholder partnerships and new partnerships in the private and public sector.

5.3.7 Consortium collaborations with external stakeholders

A consortium is a structure that functions to achieve exponentially more through collaboration than can be achieved by any member alone. It is more than the sum of its parts. The evaluation teaches that Periperi U is not sufficiently well known as an entity – it lacks brand visibility. This is not a credibility or legitimacy dilemma. Both informal and formal interviews with external stakeholders surfaced that many of the individual members of the Periperi U consortium are known by name, and in some cases personality/presence. They are held in high regard and are recognized as established scientists and even as thought leaders. Respect for Periperi U as a consortium contributing to growing young scientists for DRR was evident at the Africa-Arab Platform on DRR in Tunis in October 2018. In an informal interview with a group of external stakeholders, one remarked: “I felt encouraged to see that young woman scientist presenting their contribution in the plenary. They are growing new blood. DRR needs more women.”

Interviews with external stakeholders give rise to the recommendation that collaborations with external stakeholders be expanded from a technical focus at regional level to a high-level strategic engagement with senior executives in key UN agencies leading to the institutionalization of the collaboration, for example, WHO making Periperi U one of their ‘Collaborating Centers’. It was also recommended that Periperi U involve politicians. As a Pan-African

“There isn’t a country poor enough that they should not invest in DRR. And the best investment for us as Africans is to put it in a teaching institution.”
Dr Ngoy Nsenga, WHO

consortium, they are seen as well placed to engage the most senior people in the AU for funding, and to advocate for the explicit inclusion of the value and role of HEIs and DRR when future frameworks like the Sendai Framework and the PoA are reviewed or developed.

5.4 RELATIONSHIPS ACROSS THE COLLABORATIONS

The evaluation confirms that while challenges may arise when different sets of collaborations appear to collide as opposed to synergize, there are already a number of activities in process that have catalytic effects across the various collaborations. This can be linked to the idea that one key activity, be it a research project or a short course for delivery to external stakeholders, may have wide-spread results, if it is optimized. This approach assisted Periperi U in meeting its targets in terms of the number of beneficiaries reached, despite running into obstacles and delays in developing and offering the target number of programs, modules and courses.

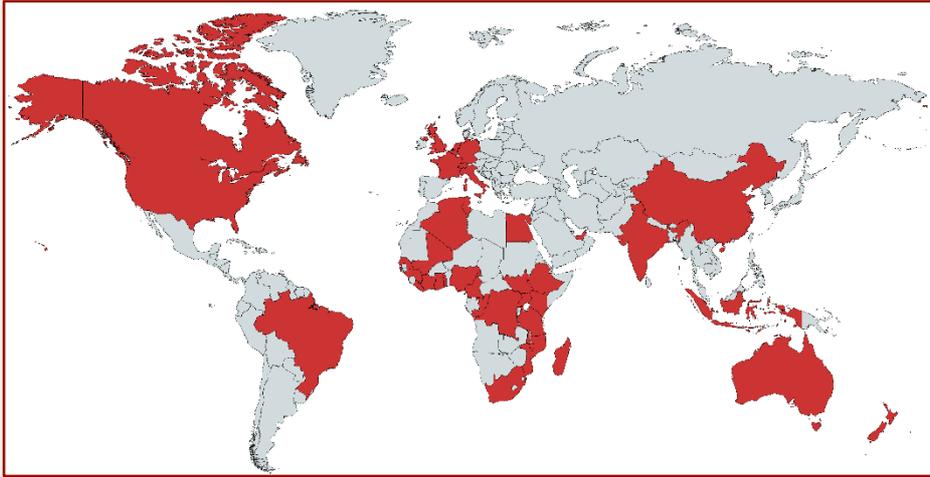
It is recommended that the Periperi U consortium reviews the current logic model and theory of change with the findings from this evaluation about the interplay of variables. This will enable the identification of and a more fully understand of the interplay of interactions within and across the five collaborations identifiable in the Phase IV evaluation data. Within the revised logic model, Periperi U should identify and build on key leverage points and activities that can have catalytic effects across all collaborations. These could be existing or soon-to-be implemented activities that are optimized to include additional role-players – incrementally rather than simultaneously. As part of this process, it is recommended that a causal loop diagram be constructed which captures the logic model and theory of change generated by the Periperi U consortium themselves rather than by an outside consultant or evaluator. This will enable Periperi U to put the learning and wisdom gained by across Phase IV at the center of future planning, and to do so through collaborating to harness the coherence arising from their diversity. While representations of logic models and theories of change are often diagrammatic, it is suggested that Periperi U explore the possibility of using metaphorical representations and/or visual displays.

This evaluation surfaced variables at play in the Phase IV logic model and theory of change that shed light on catalytic contributions - those small changes/actions that can set in motion ripples which, over time and space, create significant impact through profound and widely divergent systemic effects. This is not an abstract, theoretical concept, only of interest to academics, but exists in popular culture where it is known as the butterfly effect (Vernon, 2017, p. 130). This concept is well aligned with the study of the relationships between natural hazards and socio-political and economic disasters, which requires engagement with the world of uncertainty, a world that creates unease and discomfort for those who prefer the world of predictability and certainty. Periperi U has the opportunity to bring a scientifically grounded approach to DRR policy-making and implementation, which is alive to uncertainty rather than challenged by it. This makes Periperi U an excellent funding prospect for those looking for a consortium of HEIs with a proven record of delivery and achievements. Periperi U should be seen as a reliable research partner with whom to carry out targeted research and impact evaluation in order to establish to what extent the disaster risk in African countries has been reduced due to strategic human capacity building.

*Does the flap of a butterfly's wings
in Brazil set off a tornado in Texas?
Edward Lorenz during the
139th meeting of the American
Association for the
Advancement of Science*

It seems fitting to close this chapter and the evaluation report with some words and then a picture. The words are from one of the Periperi U partner interviews that encompasses, in a tweet-sized statement, what Periperi U has achieved during its growth-filled journey from inception to the close of Phase IV: “We now have solid structure, solid architecture. We now have a cultural Periperi U – an African Periperi U.” Prof Djilalli Benouar, USTHB.

Global presence achieved by Periperi U by the close of Phase IV



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⁸ bell hooks is the pseudonym used by Gloria Jean Watkins, an American author, social activist and feminist who prefers not to capitalize her name in order to place focus on her ideas and work, not her personal identity

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