

Programme	Title of the Project and research team	Project Overview	Objectives/ Outcomes
<p><b>Risk &amp; Vulnerability Science Centres (RVSCs)</b> A need was identified for active knowledge and information brokering at a local level to better link scientific output with on the ground needs of the community. The DSI is of the view that placing or establishing strategic service points particularly in rural areas under the stewardship of university experts to provide risk and vulnerability assessment services to local communities and other users of such information has the potential to make significant contributions to these communities. As part of its community support and engagement responsibilities, historically disadvantaged rural-based universities that have also been targeted for the DSI’s pilot Community University Partnership Programme have been identified as potential service points. The RVSC’s will collect and broker data, information and knowledge, providing a unique opportunity for rural-based universities to enhance their capacities and capabilities in the important area of climate and environmental changes and assist local communities and others in responding to these changes. The DSI through the National Research Foundation (NRF) envisages establishing at least five (5) RVSCs, one in each of the five rural-based universities.</p>			
<p><b>RSVC</b></p>	<p><b><u>RVSC: University of the Free State (QwaQwa campus)</u></b>  1. The Sustainable Development of Phuthaditjhaba as an African Mountain City.</p> <p><b><u>Research Team:</u></b>  Ms Ntebohiseng Sekhele (UFS-QQ)  Mr Sifiso Santi (UFS-QQ)  Dr Diana Breshears (UFS-QQ).  Dr Maria Tsakeni (UFS-QQ).  Dr Melissa Hansen (UFS-QQ).  Dr Grey Magaiza (UFS-QQ).  Dr Patricks Otomo (UFS-QQ).  Dr Tom Okello (UFS-QQ).  Prof. Rodwell Makombe (UFS-QQ).  Ms Jess Delves (Global Mountain Safeguard Programme: United Nations University Institute for Environment and Human Security, and Eurac Research).  Dr Alexandra Tomaselli (Eurac Research).</p>	<ul style="list-style-type: none"> <li>- Phuthaditjhaba is one of the largest urban-rural conurbations in the Free State Province, South Africa, with some 400,000 people, and – being situated in the foothills of the Maloti-Drakensberg at 1600–1800 m – is one of the few truly mountains conurbations in the southern African region. Given there is very little base-line data for understanding the very significant challenges faced by this city (e.g. it has the highest mortality rates in the region; &gt;60% unemployment; major governance problems; service provision challenges, including water, energy, waste water treatment, and refuse management).</li> </ul>	<ul style="list-style-type: none"> <li>- RVSC seeks to drive a programme of rigorous research on this city to promote a more positive future (viz. pegging to the SDGs). This is important, as UFS-QQ is located in Phuthaditjhaba, and this is an important mountain city for UFS-QQ to take “ownership” of in terms of informing solutions for its seemingly intractable problems. There are also direct applications to other high elevation high density conglomerations (“ruralopoli”) of planned and unplanned settlements in former homelands in South Africa (Venda, Limpopo, Mpumalanga, Eastern Cape) and unstructured infrastructure in other developing countries.</li> </ul>

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	<p>Dr Grant Martin (Rhodes University / UFS-QQ).            Prof Andrea Membretti (University of East Finland / UFS-QQ).            Dr V. Ralph Clark (UFS-QQ; RVSC Interim Co-ordinator).</p> <p><b><u>Project Start Date:</u></b>            2020</p> <p><b><u>Contact Details of the Project Leader:</u></b>            Dr V. Ralph Clark (Interim Co-ordinator)            Email: <a href="mailto:ClarkVR@ufs.ac.za">ClarkVR@ufs.ac.za</a></p> <p><b><u>RVSC: University of Fort Hare</u></b></p> <p>1. The Water-Energy-Food communities in South Africa: multi-actor nexus governance for social justice</p> <p><b><u>Research Team:</u></b>            Vijge, M.J. (Utrecht University, Copernicus Institute of Sustainable Development, Faculty of Geosciences, Dutch PI &amp; coordinator)            Willemien Du Plessis (South African PI) – (North-West University, Research Unit Law Justice and Sustainability, Faculty of Law and the African Unit for Transdisciplinary</p>	<ul style="list-style-type: none"> <li>- This research studies whether, how and under what conditions community initiative around energy, water and food production and use—what we call “WEF communities”—increase social justice in South Africa's implementation of the WEF nexus.</li> </ul>	<ul style="list-style-type: none"> <li>- The project fills important knowledge gaps in academic literature around increasingly popular nexus and integrated approaches. Research shows that community and bottom-up initiatives may foster socially just decision-making on trade-offs between energy, water and food nexus with more attention to local needs and livelihoods (Savaresi 2019; Seeliger et al. 2018; Biggs et al. 2015).</li> </ul>

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	<p>Health Research, Faculty of Health Sciences)            Leocadia Zhou-(University of Fort Hare, Risk and Vulnerability Science Center)            Roggenkamp Martha-(University of Groningen, Groningen Centre of Energy Law &amp; Sustainability, Faculty of Law (Dutch)            Von Bormann Tatjana -(World Wide Fund for Nature (WWF) South Africa)</p> <p><b><u>Project Start Date:</u></b> 2021</p> <p><b><u>Contact Details of the Project Leader:</u></b>            Dr Leocadia Zhou            Email: <a href="mailto:LZhou@ufh.ac.za">LZhou@ufh.ac.za</a></p> <p>2. South Africa /Flanders Climate Adaptation Research and Training Partnership (SAF-ADAPT): Building the adaptation, knowledge generation, and capacity-building</p> <p><b><u>Research Team:</u></b>            Mark New- (ACDI- UCT)            Bruno Verbist -(Department of Earth and Environmental Services- Belgian interuniversity)            Leocadia Zhou- (RVSC- Co- Investigator)            Nthaduleni. Nethengwe – (School of Environmental Sciences, UNIVEN –Co Investigator)</p>	<p>- The overall objective is to strengthen the knowledge base for innovation in climate change adaptation in South Africa and enhance the country’s climate change response by connecting multiple actors in government, civil society, local communities, academia and the private sector.</p>	<p>- The programme will fill critical adaptation research gaps, enhance the capacity of South African universities and individuals, especially early career researchers, to generate and communicate research evidence for impact, and build the capacity of those tasked with climate adaptation to deliver on their mandates. The project will support the career development of historically disadvantaged South African researchers and practitioners, prioritizing women wherever feasible.</p>

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	<p><b><u>Project Start Date:</u></b> 2020</p> <p><b><u>Contact Details of the Project Leader:</u></b> Leocadia Zhou Email: <a href="mailto:lzhou@ufh.ac.za">lzhou@ufh.ac.za</a></p> <p>3. Unlocking the Locked”: moving to more engaged, inclusive and generative approaches to climate change adaptation in South Africa</p> <p><b><u>Research Team:</u></b> Mulala Danny Simatele- PI (The global Change Institute, Wits) Dr Leocadia Zhou- Co- PI (RVSC-UFH)</p> <p><b><u>Project Start Date:</u></b> 2021</p> <p><b><u>Contact Details of the Project Leader:</u></b> Prof Mulala Danny Email: <a href="mailto:Mulala.Simatele@wits.ac.za">Mulala.Simatele@wits.ac.za</a></p> <p>4. Engaging South African farmers on climate variability and change through the use of climate services: A behaviour change research</p> <p><b><u>Research Team:</u></b></p>	<p>- NO Description</p> <p>- NO Description</p>	<p>- NO Description</p> <p>- NO Description</p>

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	<p>Lorena Pasquini- PI (System Analysis Group-UCT)            Dr Leocadia Zhou- Co-PI (RVSC-UFH)</p> <p><b><u>Project Start Date:</u></b>            2021</p> <p><b><u>Contact Details of the Project Leader:</u></b>            Lorena Pasquini            Email: <a href="mailto:lorena.pasquini@gmail.com">lorena.pasquini@gmail.com</a></p> <p><b><u>RVSC: Walter Sisiulu University</u></b></p> <p>1. Risk and Vulnerability Science Centre (RVSC-WSU)</p> <p><b><u>Research Themes:</u></b></p> <ul style="list-style-type: none"> <li>▪ Marine Biodiversity and Conservation</li> <li>▪ Water Security</li> <li>▪ Food Security</li> <li>▪ Solid Waste Management</li> </ul> <p>Climate Change</p> <p><b><u>RVSC-WSU Research Team:</u></b></p> <p><b>RVSC-WSU Director:</b>            Dr Motebang Dominic Vincent Nakin- (Walter Sisulu University)  <a href="mailto:mnakin@wsu.ac.za">mnakin@wsu.ac.za</a></p>	<p>- This programme is an initiative of the Department of Science and Innovation (DSI) funded through the National Research Foundation (NRF). It is mandated to generate and disseminate knowledge on risk and vulnerability on Global Change Grand Challenges to local municipalities and other potential users. The centre is under the stewardship of previously disadvantaged rural-based university (Walter Sisulu University), providing opportunities to enhance its research capacity in the field of global change and assist local communities in responding to these changes.</p>	<ul style="list-style-type: none"> <li>▪ Human Capital Development (HCD) of postgraduate students to acquire masters and doctoral degrees.</li> <li>▪ Knowledge generation through publications in line with Global Change Grand Challenge research themes.</li> <li>▪ Knowledge dissemination to municipalities and policy decision makers.</li> <li>▪ Contributing to the South African Risk and Vulnerability Atlas (SARVA) with the generated information (i.e. information storage and knowledge management).</li> </ul>

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	<p><b>RVSC-Office Secretary:</b> Liziwe Pakati (<a href="mailto:lpakati@wsu.ac.za">lpakati@wsu.ac.za</a>)</p> <p><b>Researchers:</b> Dr Simbarashe Ndhleve (<a href="mailto:sndhleve@wsu.ac.za">sndhleve@wsu.ac.za</a>) Dr Hlekani Kabiti (<a href="mailto:hkabit@wsu.ac.za">hkabit@wsu.ac.za</a>)</p> <p><b>Postdoctoral Research Fellows:</b> Dr Amoo Oseni (<a href="mailto:aoseni@wsu.ac.za">aoseni@wsu.ac.za</a>) Dr Gbemisola Saibu (<a href="mailto:gsaibu@wsu.ac.za">gsaibu@wsu.ac.za</a>)</p> <p><b>Co-Investigators:</b> Prof Adebola Oyedeji (<a href="mailto:aoyedeji@wsu.ac.za">aoyedeji@wsu.ac.za</a>) Dr Thembinkosi Dlaza (<a href="mailto:tdlaza@wsu.ac.za">tdlaza@wsu.ac.za</a>) Dr Malixole Soviti (<a href="mailto:msoviti@wsu.ac.za">msoviti@wsu.ac.za</a>) Dr Yiseyon Sunday (<a href="mailto:yhosu@wsu.ac.za">yhosu@wsu.ac.za</a>) Dr Nelly Sharpley (<a href="mailto:nsharp@wsu.ac.za">nsharp@wsu.ac.za</a>) Dr Kholekile Ngqila (<a href="mailto:kNgqila@wsu.ac.za">kNgqila@wsu.ac.za</a>)</p> <p><b><u>Collaborating Institutions:</u></b></p> <ul style="list-style-type: none"> <li>▪ South African Institute for Aquatic Biodiversity (SAIAB): ACEP Phuhlisa Programme: Mr Garth van Heerden: <a href="mailto:G.vanHeerden@saiab.ac.za">G.vanHeerden@saiab.ac.za</a></li> <li>▪ University of Fort Hare (UFH): Dr Leocardia Zhou (<a href="mailto:LZhou@ufh.ac.za">LZhou@ufh.ac.za</a>)</li> </ul>		

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	<p>Dr Manyevere, Alen (<a href="mailto:AManyevere@ufh.ac.za">AManyevere@ufh.ac.za</a>)</p> <ul style="list-style-type: none"> <li>▪ University of Limpopo: Prof Ayisi, Kwabena (<a href="mailto:Kwabena.Ayisi@ul.ac.za">Kwabena.Ayisi@ul.ac.za</a>)</li> <li>▪ University of Pretoria (UP): Prof Namrita Lall (<a href="mailto:namrita.lall@up.ac.za">namrita.lall@up.ac.za</a>)</li> <li>▪ Council for Scientific and Industrial Research (CSIR): Dr Brian Mantlana (<a href="mailto:BMantlana@csir.co.za">BMantlana@csir.co.za</a>) Dr Phumza Ntshotsho (<a href="mailto:pntshotsho@csir.co.za">pntshotsho@csir.co.za</a>)</li> <li>▪ University of the Western Cape (UWC): Prof Timothy Dube (<a href="mailto:tidube@uwc.ac.za">tidube@uwc.ac.za</a>)</li> <li>▪ Department of Environment, Forestry and Fisheries (DEFF): <ul style="list-style-type: none"> <li>▪ Mr Ayanda Matoti (<a href="mailto:Amatoti@environment.gov.za">Amatoti@environment.gov.za</a>)</li> </ul> </li> </ul> <p><b><u>Programme Start Date:</u></b> 2011</p> <p><b><u>Contact Details of the Programme</u></b> <b><u>Director:</u></b></p>		

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	<p>Dr Motebang Dominic Vincent Nakin  Email: <a href="mailto:mnakin@wsu.ac.za">mnakin@wsu.ac.za</a>  Tel No. +27 47-502-2963/2004</p> <p><b><u>RVSC: University of Limpopo</u></b></p> <p>1. Agronomy: Sustainable agro ecosystem research-Climate Smart Agricultural techniques  <b><u>Lead Researcher:</u></b>  Prof Kingsley Kwabena Ayisi</p> <p>2. Soil Scientist: Carbon capture and emissions in diverse land use systems  <b><u>Lead Researcher:</u></b>  Dr. Lawrence Munjonji</p> <p>3. Remote sensing research  <b><u>Lead Researcher:</u></b>  Dr. Abel Ramoelo</p> <p>4. Carbon management under climate change  <b><u>Lead Researcher:</u></b>  Dr Edmond Mokhele Moloetsi</p> <p>5. Remote sensing research  <b><u>Lead Researcher:</u></b>  Dr Brilliant Mareme Petja</p> <p>6. Remote sensing and aquatic ecosystem research</p>	<ul style="list-style-type: none"> <li>- The main goal of RVSC-UL Programme is in line with the goal of the South African Global Change Research Programme which is to assist decision makers in identifying risk that will enable planning and mapping a future which will be more resilient to climate change for the country and improve flow of information from the researchers to society.</li> <li>- The RVSC-UL activities constitute a significant step towards the realisation of the University of Limpopo’s own mission and vision, which is to be a leading African university of world-class quality.</li> </ul>	<ul style="list-style-type: none"> <li>- Specifically, the RVSC-UL programme seeks to generate up-to-date information for key sectors to support strategy development and decision-making; to contribute to human capital development on issues of climate change; provide risk and vulnerability assessment services to local communities for strategic planning and implementation and ultimately develop next generation leaders who will have a deeper understanding and appreciation of global change challenges to generate appropriate support systems</li> </ul>



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	<p><b><u>Lead Researcher:</u></b> Prof Timothy Dube 7. Climate modelling research</p> <p><b><u>Lead Researcher:</u></b> Prof Joel Botai 8. Plant Pathology: Climate change and plant diseases</p> <p><b><u>Lead Researcher:</u></b> Prof Kena Mapotso 9. Agronomy: Carbon capture perennial crop species</p> <p><b><u>Lead Researcher:</u></b> Dr Paulina Mabapa 10. Biodiversity: Aquatic ecosystems</p> <p><b><u>Lead Researcher:</u></b> Prof Addo Bediako 11. Psychology: Cognitive strategies in promotion of water conservation</p> <p><b><u>Lead Researcher:</u></b> Prof Tholene Sodi 12. Public Health: Coping strategies for people living with diabetes mellitus to adapt to changing temperatures</p> <p><b><u>Lead Researcher:</u></b> Prof Tebogo Mothiba 13. Soil Scientist: Cropping systems and soil research</p> <p><b><u>Lead Researcher:</u></b> Mr Mabitsela Kabisheng 14. Agronomist: Fodder crops</p>		

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	<p><b><u>Lead Researcher:</u></b> Ms. Carol Lehutjo</p> <p><b><u>Programme Start Date:</u></b> 2011</p> <p><b><u>Contact Details of the Programme</u></b> <b><u>Director:</u></b> Prof Kingsley Kwabena Ayisi Email: kwabena.ayisi@ul.ac.za</p>		