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EXECUTIVE SUMMARY

This report summarizes the processes and practices in mapping the current situation in terms of teaching quality and competences needed and identifying the barriers and drivers critical to the successful involvement of key stakeholders in the process of design, development and implementation of the infusion of Sustainable Development Goals (SDGs) in multiple disciplines through the professionalization of academic teaching and curriculum renovation.

In the **first part**, we are setting-up the global context of SDGs within the United Nations 2030 Agenda for Sustainable Development, an ambitious “plan of action for people, planet and prosperity”, with 17 Sustainable Development Goals (SDGs) and 169 targets, aiming to transform the world towards a more sustainable one. We have found out that South Africa figures as an important country not only in the African context but also globally on its initiatives and commitment towards the UN 2030 Agenda.

In the **second part**, we are moving from the global to the local and more specifically to South Africa. The 2030 Agenda’s SDGs have been very well received in South Africa since their adoption by the Heads of State and governments in September 2015. South Africa is therefore regarded as one of the nine country movers of the SDGs, leading and showcasing the way that SDGs domestication is being implemented. Furthermore, the SDGs and the 2030 UN Agenda in general has been tied to the South African Development Plan (NDP). According to the Department of Planning, Monitoring and Evaluation (DPME) and the UN Development Programme (UNDP), 74% of the SDG targets are directly addressed by the NDP, and sectoral programmes address 19% of the remaining targets (DPME, 2019). Seen in this way, the SDGs have the potential to accelerate the realisation of the NDP’s vision, notably by fostering greater policy coherence and reducing duplication and inefficiencies. In this context, Higher Education Institutions are seen as key stakeholders and drivers towards the implementation of the UN SDGs in the South African context.

In the **third part**, we are mapping the situation in Higher Education Institutions and the role they should play towards driving South Africa to sustainable development. We start our discussion about the role of Higher Education as a driver for implementing the SDGs and effectively implement Africa’s long-term vision of the transformative Agenda 2063 (African Union), in spite of the hardships that the African continent is facing. South African has been positioned as the SDG Hub and at the University of Pretoria an online platform has been developed for the exchange of data, thoughts and knowledge, products on the SDGs in South Africa and across the region. It is anticipated that this hub will facilitate research and innovation across all South African Higher Education.

In the **fourth and last part**, we are mapping the initiatives and experiences within our three South African partner Universities, namely: Kwa Zulu Natal University, University of Rhodes and University of Venda. The University of Rhodes (RU) has been very active in policies and practices concerning the integration of SDGs into the various functions of the University and takes initiatives to connect its activities with the larger local community. One of the most prominent initiatives is Vuka Makana. It is a call for the Makana public and Rhodes community to join forces

in the fight for the betterment of community. Rhodes University, announced that its Institute for Water Research was one of four excellence award winners. The ARUA–UKRI programme supports 13 ARUA Centers of excellence and research excellence to support four multidisciplinary and multinational projects that address SDGs issues. The University of Kwa Zulu Natal UKZN) is leading the initiative “Engineers Without Borders”- UKZN (EWB-UKZN) South Africa. This organization provides a platform for students and professionals from the UKZN community to apply their skills to uplift their community. It primarily aims to improve the quality of life of their community in a sustainable manner through engineering, technology and science. Particular attention is given to Sustainable Development Goals (SDGs). UKZN in cooperation with other South African Universities had already identified IKS (Indigenous Knowledge Skills) as a tool of transformation in their core business of research, teaching, learning and community engagement. University Kwa Zulu Natal administration and staff have taken initiatives in integrating SDGs within their institution’s functions and establish connection with the broader society and region. The University of Venda (UNIVEN) as in the case of UKZN was involved in the establishment of the Centre in Indigenous Knowledge Systems (CIKS) in 2014 that pioneers in the implementation of SDGs as it concerns the quest for utilization indigenous knowledge and skills for sustainable development practices. UNIVEN have a rich bio-diversity including traditional medicine and African IKS-based rural communities.

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Mapping Current SDGs Situation Globally and Locally

From Global



To Local



1. The Global Context of SDGs

In September 2015, world country leaders gathered at the United Nations Headquarters to adopt the 2030 Agenda for Sustainable Development, an ambitious “plan of action for people, planet and prosperity”, with 17 Sustainable Development Goals (SDGs) and 169 targets, aiming to transform the world into a sustainable one. The agreed mandate for countries was to “mobilize efforts to end all forms of poverty, fight inequalities and tackle climate change, while ensuring that no one is left behind.



In fact, the Sustainable Development Goals (SDGs) replaced the Millennium Development Goals (MDGs). Transitioning from the MDGs to the SDGs, the 2030 Agenda and its 17 Sustainable Development Goals (SDGs), 169 targets and 231 indicators, is significantly different from its predecessor, the Millennium Development Goals (MDGs), which lists 8 goals and 68 indicators. No country is expected to adopt all the indicators. Countries are required to assess the relevance of the respective indicators to their development agenda and, where appropriate, have domesticated indicators. While the MDGs were simpler to monitor within and across countries, the SDGs are more far-reaching, universal, integrated and transformational.

In the case of South Africa, it has been revealed that the SDGs connect with the right to health and that the Constitutional Court has influenced the MDGs policy environment. It thus expected that can contribute to the implementation of health-related SDGs in South Africa. It is stated that Courts' role as a platform of accountability, provides a catalyst of change in the policy environment and agent of social mobilization, which are important lessons for implementing health related SDGs in South Africa. It is recommended that government and indeed other stakeholders should take into consideration the role of court as they pursue the implementation of health-related SDGs in South Africa. However, the issue of SDGs as we will see later cut across many sectors in the South African society and the country as the following map shows is prominently positioned globally.



As the next figures shows, mapping current situation locally and globally can reveal many lessons that will eventually help us to identify needs, develop standards and competences, and structure capacity building intervention in order to help academics infuse SDGs in multiple academic disciplines at the undergraduate level in the South African Higher Education area.



2. Moving from the Global to Local (South Africa) Level

The 2030 Agenda's SDGs have been very well received in South Africa since their adoption by the Heads of State and governments in September 2015. South Africa is therefore regarded as one of the nine country movers of the SDGs, leading and showcasing the way that SDGs domestication is being implemented. Furthermore, within the private sector, the Global Compact Network South Africa (GCNSA) which is part of United Nations Global Compact assists in getting the private sector to work together and with other stakeholders to collectively respond to national and global challenges of poverty, inequality and environmental degradation. GCNSA's main aim is to gather information on the private sector's contributions to the SDGs

In 2013, South Africa played a leading role in the African Union (AU) to define eight long-term development ideals for the continent. These ideals were later translated into the seven aspirations of the AU's Agenda 2063. At the same time, Heads of State and Government of the AU established a High-Level Committee, which comprised ten member states, including South Africa. This committee had the task of developing the Common African Position on the post-2015 development agenda. Subsequently, on the sidelines of the UN General Assembly, in September 2014, the ministers of the G77 plus China (G77+China) elected South Africa as a rotating Chair of the group for 2015. In this capacity, South Africa was responsible for leading the group during international negotiations that took place in 2015. In South Africa, the significant convergence between South Africa's National Development Plan (NDP) and the SDGs is often emphasised. According to an unpublished analysis by the Department of Planning, Monitoring and Evaluation (DPME) and the UN Development Programme (UNDP), 74% of the SDG targets are directly addressed by the

NDP, and sectoral programmes address 19% of the remaining targets (DPME, 2019). Seen in this way, the SDGs have the potential to accelerate the realisation of the NDP's vision, notably by fostering greater policy coherence and reducing duplication and inefficiencies.

The National Development Plan (NDP): Vision 2030 – “Our future, make it work, was adopted in 2012, as South Africa’s development lodestar and roadmap. • It predated the 2015 adoption of the United Nations’ 2030 Agenda for Sustainable Development and the AU’s Agenda 2063 - “The Africa we want”. • The NDP has a 74% convergence with the Sustainable Development Goals (SDGs), and prioritizes job creation, the elimination of poverty, the reduction of inequality and growing an inclusive economy by 2030. • Coordination mechanism –Government, civil society, business and Parliament to work in partnership on monitoring the implementation of SDGs

As stated by the Minister Jackson Mthembu, the Minister in the Presidency: Planning, Monitoring and Evaluation the SDGs are as much about development and transformation as they are about the restoration of the dignity of people around the world, more so in South Africa with its history of deprivation and exclusion of the majority of its people. He further reminded that we have a window of opportunity during which “to accelerate the implementation of sustainable development in South Africa; to deliver the goals and bring governments, businesses, and people together to embark on a new path towards a more sustainable and better planet for all.” The 2019 SDG Country Report for South Africa, follows the Voluntary National Review report that was presented at the 2019 High Level Political Forum. The country report shows the stage of SDGs at the national level, the challenges that have to be addressed and the commitment in order to attain the goals and targets set out in this global development framework.

The SDGs have been aligned to and mapped onto regional strategies, such as the Agenda 2063 for Africa (through the Common African Position) and national development plans (NDPs), such as the South African NDP. SDGs are in alignment with the National Development Plan, Vision 2030 that addresses its country vision towards a sustainable society. The Government is promoting sustainable development policies which seek to make significant interventions in reducing poverty, unemployment and inequality. It is clearly stated that the SDGs give South Africa the opportunity to collaborate more sharply, more effectively and more deliberately in “leaving no one behind” towards these aims. As it is shown in the next table, there is substantial convergence between South Africa’s NDP and the United Nations 2030 Agenda on Sustainable Development, Sustainable Development Goals (SDGs).

SDGs are in alignment with the National Development Plan (NDP)

NDP	SDG
Chapter 11: Social Protection	Goal 1: End poverty in all its forms everywhere in the world Goal 3: Ensure healthy lives and promote well-being for all at all ages
Chapter 9: Improving education, training and innovation	Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all
Chapter 10: Promoting Health	Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture Goal 3: Ensure healthy lives and promote well-being for all at all ages
Chapter 3: Economy and employment	Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all
Chapter 6: An integrated and inclusive rural economy	Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture Goal 12: Ensure sustainable consumption and production patterns

Source: SDGs in South Africa Voluntary National Review, 2019.

A mapping exercise to assess the convergence between the NDP and SDGs in 2018, conducted by the DPME and UNDP determined that there is a 74% convergence between the NDP and the SDGs. According to a survey by Pricewaterhouse Coopers (PwC), 68% of South African companies are aware and directly incorporated SDGs in their strategies and reporting processes. Undoubtedly, this indicates good progress for the country, and maps the country globally in its efforts to embed transformational action for the 2030 Agenda across all of government and society. The Private sector has the potential to play a critical role in collaboration with other sectors (cited in VAR, 2019). South Africa had also taken action to address climate change and cooperate regionally and globally to invest in and address the SDGs. However, despite progress, the country still is facing major challenges, including high levels of unemployment, poverty and inequality; and inadequate economic growth due to various structural constraints. The challenges continue to include persistently high levels of inequality; femicide and violence against women; persistent discrimination; and securing a just transition to a low-carbon economy while highly dependent on fossil fuels.

It is worth pointing out that the NDP addresses the three dimensions of sustainable development, namely poverty, inequality and unemployment in a manner that is just, inclusive, environmentally and socio-economically. The outcomes of “mapping” the NDP to SDGs: undertaken by the DPME in partnership with UNDP indicates that approximately 74% of the SDGs applicable to South Africa are integrated in the NDP. sustainable for both current and future generations. The close alignment between the scope and content of the 2030 Agenda and the NDP places South Africa in an advantageous position of not having to develop new policies and establish new structures for

the domestic implementation of the SDGs and Agenda 2063. The mapping of the priorities in terms of social, environmental and other key goals is expressed in the following.

Social goals

- Improve social protection and improve access to social services (1.1, 1.3, 10.1, 3.8)
 - Expand ECD programmes (4.2, 2.2, 5.4, 8.5)
 - Promote higher quality and industry-relevant education and training (4.4, 9.2, 8.3)
 - Address the unequal share of unpaid care and domestic work (5.5, 5.4, 10.3)
 - Promote innovative and sustainable health financing (3.c, 3.8, 1.1)
 - Improve frontline health-care services (3.c, 3.8, 1.1)
 - Prioritise social determinants of health (3.c, 3.8, 1.1)
 - Correct gaps in legislation and policy which address discrimination (5.1, 5.2, 5.5)
- Economic goals
- Promote effective governance, robust leadership and a participative citizenry (8.1, 16.6, 16.7)
 - Build an effective policy environment (8.1, 16.6, 16.7)
 - Encourage innovation and entrepreneurship (8.1, 9.2, 9.b)
 - Increase local and international investment (8.1, 8.10, 17.11)
 - Implement high-quality economic regulation of network industries (9.1, 7.3, 1.4)
 - Decouple economic growth from resource use and reduction in waste generation (12.5, 12.6, 12.7, 12.4)

Environmental goals

- Continue to strengthen the national climate change response environment (13.1, 13.2, 13.b)
- Revisit the water sector, stabilise the water sector institutional environment, improve water infrastructure asset management, stabilise the water sector revenue environment, improve water sector information and data management (6.4, 6.1, 6.2, 6.3, 6.5, 6.6, 6.a, 6.b, 1.1, 2.1)
- Actively manage marine development trade-offs (14.1, 14.2, 14.3, 14.5, 14.7)
- Overcome data challenges in the ocean economy (14.1, 14.2, 14.3, 14.4, 14.5, 14.6, 14.7)
- Mainstream ecosystems and biodiversity into national planning (15.9, 15.1, 15.5, 14.5)
- Address programme and data gaps around energy affordability (7.b, 7.1, 7.3)
- Fast-track off-grid electrification (7.1, 7.2, 7.3)

Accelerate informal settlement upgrading (11.1, 11.3, 7.1, 6.1, 6.2, 1.1)

Governance, peace, justice and security goal

- Focus on the developmental aspects of the White Paper on Safety and Security (16.1, 16.2, 5.2)
- Increase access to justice for all (16.3, 16.6)
- Strengthen and broaden South Africa's participation in international bodies (16.8)
- Strengthen mechanisms to prevent illicit financial flows (16.4)

- Combat corruption and bribery and promote and protect the right of public access to information (16.5, 16.6, 16.7, 16.10)

Various activities have taken place that aim to implement the above goals. For example, during the World Social Science Forum in Durban, September 2015, CROP organised two scientific panels; one on "Global Justice and Poverty in the Transformation of Millennium Development Goals into Sustainable Development Goals (SDGs)" and one on "Poverty, Social justice and Policy in a Regional Comparative Perspective". This has boosted the SDG discussions regarding the adequacy and effectiveness of the SDGs as a framework for increasing global social justice. Similarly, the Academy of Science of South Africa (ASSAf) has organized a workshop entitled "Landscaping the coordination of national role-players and activities toward Sustainable Development Goal 6 (SDG 6 on water and sanitation) in South Africa" on 23 and 24 July 2019. Although ASSAf does not undertake research specifically on the SDGs, many of its works and symposia have focussed on topics linked to the SDGs. Added to the above initiatives, the African Voluntary National Review (VNR) has organized an event, on July 2019 in collaboration with 17 African countries to discuss ways on how it could help each other to achieve their commitments under the 2030 Agenda for Sustainable Development. Particular emphasis was given to the following prioritized tasks:

1. **Data collection and monitoring** of SDG indicators, encouraging opportunities for UNEP to work with lead governmental agencies to enhance technical capacities related to statistics and the environment.
2. **Mobilisation of financial resources** in order to support the development of innovative domestic and external resource-mobilisation strategies for environmental protection. At the same time to develop robust mechanisms for enhancing citizen participation, accountability and transparency in the use of the mobilised resources and all other public resources.
3. **Gender inequality** putting emphasis in accessing opportunities to address all the SDGs in partnership with governments and other stakeholders.

The need for critical interventions to enable the effective implementation of SDGs included stimulating the economy; improving employment levels, especially amongst the youth; raising investment; and attracting funding for sustainable development. There was also identified a need to strengthen the capacity of the state, as well as partnerships between government, and the private sector. It is also worth pointing out that the UN High-level Political Forum on Sustainable Development (HLPF) highlighted the following needs for South Africa:

1. Inclusion of all South Africans, especially those who had been left behind and were still behind
2. Effective and democratic institutions capable of implementing the SDGs
3. Political commitment to, and national ownership of, the 2030 Agenda for Sustainable Development at a time when multilateralism was being threatened
4. Improved data analysis
5. Meaningful engagement with civil society
6. Solution-oriented VNRs that capture interconnections

7. Stakeholders willing to move out of their comfort zones so that implementation could advance at a swifter pace
8. Further mainstreaming of the SDGs into planning, and integration of SDGs into budgets
9. Bringing multiple actors together for implementation. South Africa had confirmed its commitment to realising the 2030 Agenda based on the principles of:
10. Collaboration: creating strong partnerships between national, provincial and local government, civil society, Chapter 9 institutions, trade unions, the private sector and academia
11. Coherence: recognising the integrated nature of the SDGs
12. Climate change adaptation and resilience in Africa, which responded to SDG 13 (Climate action)
13. Changing disease patterns in Africa, which responded to SDG 3 (Good health and wellbeing)
14. The grand challenge of water security in Africa, which responded to SDG 6 (Clean water and sanitation)
15. Harnessing modern agricultural biotechnology for Africa's economic development, which responded to SDG 2 (Zero hunger).

The Commonwealth Local Government Forum (CLGF) has been also active in South Africa aiming to support the country in localising the SDGs through promoting local economic development and gender equality. CLGF works with the public authorities at the local and central levels which are concerned to implement issues related to SDGs. To support the mainstreaming of the SDGs in South African National Development Plans, the UN is in discussions with the government to field a Mainstreaming, Acceleration and Policy Support (MAPS) mission that will, among other things, assess the alignment of the SDGs to the Medium-Term Strategic Framework (MTSF 2014-2019) and identify SDGs Indicator Accelerators.

3. SDGs and Higher Education in the African Context

The Millennium Development Goals (MDGs), the predecessor of the Sustainable Development Goals (SDGs) have been widely criticised for overlooking higher education as an important factor in the development process. Similarly, Higher Education or any other concept suitable to this educational level is when analysing the 17 goals and 169 targets of the SDGs is hardly mentioned. Quality Education is explicitly referring in Goal 4, which stipulates inclusive and equitable education and lifelong learning opportunities.

Rethinking and revising education to address the knowledge, skills, perspectives and values related to SDGs is of paramount importance to current and future societies. This implies a review of existing curricula in terms of their objectives and content with the aim to develop interdisciplinary and cross-disciplinary understanding and knowledge of social, cultural, economic and environmental sustainability (Makrakis, 2011). These include skills for problem-based learning, creative, reflective and critical thinking, using appropriate ICTs and reforming teacher training practices so that transformative lifelong learning is fostered (Makrakis & Kostoulas-Makrakis, 2017). Problem Based Learning (PBL) is preferred as the methodology because of its compatibility

with ESD and the strengths and advantages it offers for supporting teachers' professional development and learning. In the context of an evolving paradigm in pedagogy enabled by ICTs, teachers have to see themselves functioning as facilitators and mentors, as resources and as curriculum developers (Makrakis, 2006) as well as transformative intellectuals (Giroux & McLaren, 1996) reflecting the following table of paradigm shifts in teaching and learning to address SDGs.

Paradigm shifts in teaching and learning

CONCEPTUAL CATEGORIES	PEDAGOGICAL ASSUMPTIONS	
	Old Paradigm	Evolving Paradigm enabled by ICTs
Curriculum	Text-book driven content Vertical Reproducing subject content Prescribed Absolute truth/answers Knowledge reproducing Decontextualised Limited resources	Learner-generated content Horizontal Learning to transform Negotiated Relative truth/answers Knowledge construction Contextualised Unlimited resources
Instruction	Teacher-centred classroom Monologic/Uncritical Expository Disempowered	Learner-centred classroom Dialogical/Critical Scaffolding Empowered
Learning	Linear learning Uniperspective learning Receptive learning Individual learning School-based learning	Non-linear learning Multiperspective learning Inquiry-based learning Networked/distributed Place/Community-based learning

Source: Makrakis (2012).

In the African context there have been initiatives addressing the integration of SDGs in Higher Education Institutions. In early July 2019, during a global event organised by the Higher Education Sustainability Initiative, the Association of Commonwealth Universities, the Agence Universitaire de la Francophonie and the International Association of Universities) representing more than 2,000 universities globally expressed the role of HEI for the SDGs. During that event, they declared that, despite the relatively limited references to Higher Education within the SDG framework, none of the SDGs can be achieved without the contribution of HEIs through research, teaching and community engagement. Similarly, Likewise, the Association of African Universities and the International Network for Higher Education in Africa had a special focus on Higher Education and the SDGs. It has been emphasised that HEIs higher education will be the drivers for implementing the SDGs and effectively implement Africa's long-term vision of the transformative Agenda 2063

(African Union), in spite of the hardships that the African continent is facing. In this context, it is worth pointing that South Africa is named as one of the nine leading countries of the SDGs. It has to be pointed, however, that the effort is placed on the policy and secondarily on the action to lead the implementation of SDGs.

South African has been positioned as the SDG Hub and at the University of Pretoria an online platform has been developed for the exchange of data, thoughts and knowledge, products on the SDGs in South Africa and across the region. It is anticipated that this hub will facilitate research and innovation. The Civil Society Organisations (CSOs) play a key role and are highly encouraged to establish local partnerships with academia and other organisations, including governmental ones. It is also widely agreed that the successful implementation of the SDGs depends largely on the effective integration of SDGs in HEIs. HEIs should play a critical role by training current and future decision makers. A major role of HEIs is to shift from an education oriented to replicate what exist towards transforming society to empower citizens so that they are able to face the complex and key challenges of the 21st century, especially climate change and social inequality.

In response to the above, the SULITEST (Sustainability Literacy Test) was created, which has been grown into a pedagogical tool of reference and is used worldwide. SULICET provides HEIs, companies and other organizations around the world as well with an internationally recognized and locally relevant tool to measure and improve sustainability literacy for all. It also provides an online training and assessment tool called The Sustainability Literacy Test. This tool is available for HEIs and other organizations beyond academia to raise awareness on sustainability and assess sustainability literacy for their students, staff and other stakeholders. According to data released 16,575 candidates from 170 universities in 31 countries took the SULITEST between September 2016 and July 2017, with an average score of 55% of expected answers. As of June 2017, 612 universities and organizations from 57 countries have registered to use the Sulitest and 61,667 candidates have already taken the test. This demonstrates that the Sulitest is a powerful tool for engaging individuals and organizations on the path to sustainability, The mapping conducted for 2016-2017 provides a first snapshot of the current awareness on challenges covered by the SDGs. The first results reveal a first group with a higher level of awareness (average scores > 60%): SDG2 Zero Hunger; SDG 8 Decent Work and Economic Growth; SDG11 Sustainable Cities and Communities; SDG14 Life below water; SDG15 Life on Land and SDG16 Peace and Justice, Strong Institutions. A second group with average scores of 58 and 57% on SDG4 Quality Education and SDG17 Partnerships for the Goal. A third group with a medium level of awareness (between 46 and 53%): SDG1 No Poverty; SDG5 Gender Equality; SDG6 Clean Water and Sanitation; SDG7 Affordable and Clean energy; SDG9 Industry, Innovation and Infrastructure; SDG10 Reduced Inequalities; SDG12 Responsible Consumption and Production and SDG13 Climate Action. Finally, SDG3 Good Health and Well-Being is clearly associated with a lower level of awareness in our sample with an average score of 34%, which calls for more urgent initiatives in terms of education and awareness for this goal. SULITEST also provides opportunities to multi-disciplinary approaches and exploration not only of various themes within sustainable development (e.g. soil quality, forest health, social inclusion, etc.) but also the interconnectedness of these themes.



4. South African Partners' Situation

4.1 The Case of University Kwa Zulu Natal (UKZN)

University Kwa Zulu Natal administration and staff have taken initiatives in integrating SDGs within their institution's functions and establish connection with the broader society and region. UKZN Public Governance expert, Professor Purshottama Reddy in a paper presented in the CLGF Conference in Lusaka entitled: Local Government and Local Economic Development in Southern Africa: Towards the Localisation of the SDGs stated that it is vital for local government to ensure that the best and most capable staff are recruited to ensure efficient and effective discharge of services to both meet the SDGs. He noted with concern that many countries in the southern Africa region have invested in skills and capacity development, but this has not resulted in significant enhancement of capacity and improvement in local government performance. Reddy acknowledges that a driver of poverty reduction, women's empowerment and inclusive growth should be prioritised by senior municipal functionaries and possibly be mainstreamed in local administration. Increasingly, Indigenous Knowledge Systems (IKS) are being recognized as inherently encompassing most of the aspects and principles of SDGs. The Centre in Indigenous Knowledge Systems (CIKS) at the University of KwaZulu-Natal (UKZN), South Africa, in

collaboration with the Sikh Human Rights Group, use their multi-and transdisciplinary, cultural and community-based nature, to promote the role of traditional medicine, food security, biodiversity, environmental management and curriculum studies and development (with emphasis on non-western paradigms), human rights and justice, for sustainable community livelihood and development, through research, human capital development, knowledge brokerage, networking and community engagement.

UKZN in cooperation with UNISA had already identified IKS (Indigenous Knowledge Skills) as a tool of transformation in their core business of research, teaching, learning and community engagement. Most of the CIKS partner institutions are located in predominantly rural provinces where majority of the people depend on their IKS for livelihood in terms of healthcare, food security, biodiversity and environmental management, including climate change adaptation and mitigation. The CIKS has since its inception recognized that in order to ensure the transformative sustainability of IKS, there is need to integrate it in the educational system at all levels. This was also aimed to facilitate the building a critical mass of IKS human capital for IKS development. The Secretariat established at UKZN, as the coordinating unit is composed of the Director (Prof Hassan Kaya), and all other functionalities such as Research Manager, Senior Administrative Officer responsible for finance all assisted by a multi-disciplinary pool of postgraduate research assistants.

Another UKZN initiative is “Engineers Without Borders”- UKZN (EWB-UKZN) South Africa. This organization provides a platform for students and professionals from the UKZN community to apply their skills to uplift their community. It primarily aims to improve the quality of life of their community in a sustainable manner through engineering, technology and science. Particular attention is given to Sustainable Development Goals (SDGs).

4.2 The Case of the University of Venda

The University of Venda (UNIVEN) as in the case of UKZN was involved in the establishment of the Centre in Indigenous Knowledge Systems (CIKS) in 2014 that pioneers in the implementation of SDGs as it concerns the quest for utilization indigenous knowledge and skills for sustainable development practices. UNIVEN have a rich bio-diversity including traditional medicine and African IKS-based rural communities. As stated by Tinarwo (2017) the University of Venda (UNIVEN) works closely with government departments in the implementation of SDG-related programmes, such as:

- UNIDO funded: Capacity Building for Domestic Biogas Digesters from the main project “Promoting organic waste-to-energy and other low-carbon technologies in small and medium and micro-scale enterprises (SMMEs): Accelerating biogas market development (36 Months duration) • SANEDI funded: Clean Renewable Energy Mix and Energy Efficiency projects,

- NRF funded: Biogas Research Laboratory for South Africa (BIRLSA): South Africa/Austria Joint Scientific and Technological Cooperation Call for Applications for 2017-2018 Joint Projects (24 months duration)
- LEDET supported: Establishing Green Economy Centre of Excellence on campus (Limpopo Provincial Green Economy Plan since 2014)

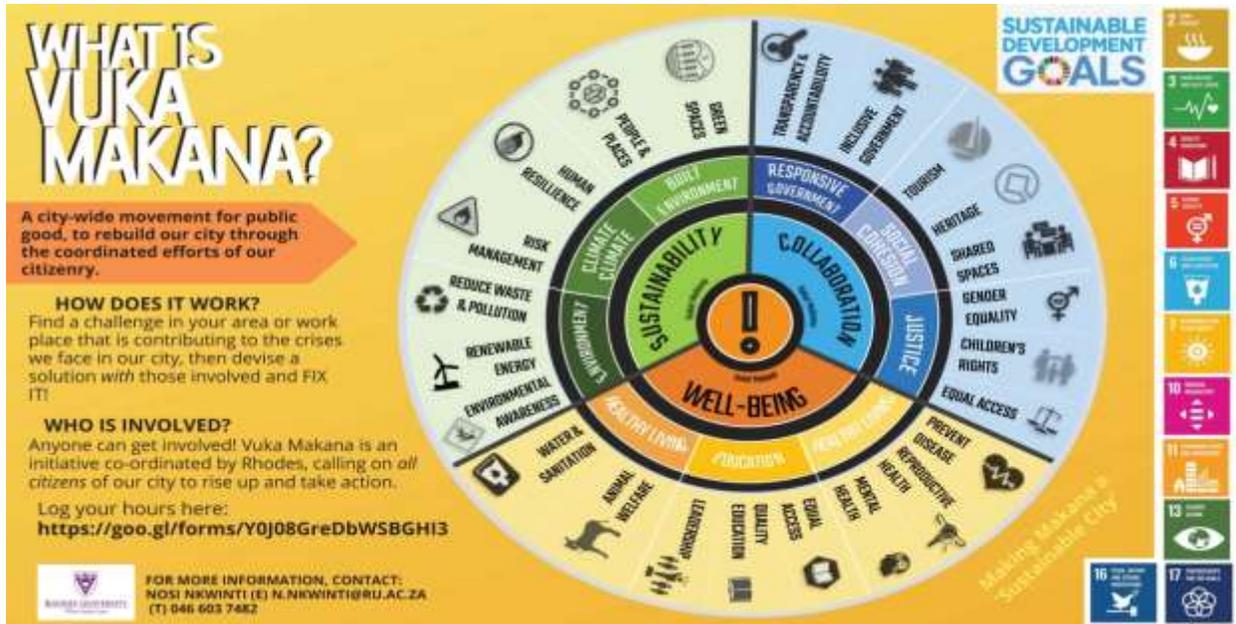
Another project named BIRLSA aims to:

- Develop and improve supporting facilities for proper development of the biogas technology in Limpopo.
- Build the necessary human capacity for efficient biogas technology adoption in South Africa • Enhance North-South cooperation through the collaboration of the two universities (UNIVEN and BOKU) Research Plan WP1: Practical training program and development of a biogas laboratory.
- Train staff members from the University of Venda in BOKU laboratory on optimum utilisation of biogas laboratory equipment.
- Develop state-of-the-art biogas laboratory plan for implementation at the University of Venda.
- Develop an educational program in biogas that aims to increase the knowledge on State-of-the-art, which will help students reach the basic tools and knowledge necessary for: - Analysing alternative uses of biomass and identify potential uses of biomass for a sustainable conversion into biogas- Applying appropriate available technologies- developing technical and economic feasibility studies.

UNIVEN also works for the involvement of young scientists in the development of an educational program in biogas: target groups mainly students and young scientists as well as in a number of projects addressing SDGs.

4.3 The Case of Rhodes University (RU)

The University of Rhodes (RU) has been very active in policies and practices concerning the integration of SDGs into the various functions of the University and takes initiatives to connect its activities with the larger local community. One of the most prominent initiatives is Vuka Makana. It is a call for the Makana public and Rhodes community to join forces in the fight for the betterment of community. The initiative focuses above and beyond encouraging citizens to volunteer their time and services for the betterment of their community, the initiative also calls for diverse individuals to integrate, communicate and collaborate in order to brighten up the city. Vuka Makana is also concerned about giving and taking, teaching and learning. In particular, Vuka! Makana aims to connect local organisations and create a structure for citizens to collectively take action. The strategy Vuka Makana uses to rise up and take action is based on the following model: Find something problematic in your street or work place that is contributing to the crisis. This could be cleaning a littered street, helping install rain water tanks where people wouldn't ordinarily have access to that resource, painting a classroom or volunteering weekly with an organisation. ...then fix it! Find some people to help you tackle the issue.



Rhodes Business School is also committed to championing and collaborating on efforts that will assist in achieving the Sustainable Development Goals as set out by the United Nations. We have begun efforts to address 2 of the goals as a starting point.

SDG 3: Good Health and Wellbeing

- Health Consortium: Peer educator training

SDG 4: Quality Education

- Certificate in School Leadership
- SGB Introductory Talks
- Designing School Leadership Development Programmes with Impact

Rhodes University, announced that its Institute for Water Research was one of four excellence award winners. The ARUA–UKRI programme supports 13 ARUA centres of excellence and research excellence to support four multidisciplinary and multinational projects that address SDGs issues. The director of the Institute for Water Research, Professor Carolyn Palmer, led the award-winning project, "Unlocking resilient benefits from African water sources" addressing key SDGs. This important award encourages and supports recipients to develop into expert hubs where leading researchers can collaborate and undertake global/local research priority themes such as water and energy. The following table that was communicated by the Rhodes University Team in the Durban Workshop summarises themes, subthemes in connection to SDGs objectives and involved organisations and individuals.

Themes	Sub Themes	RU IDP, RU TSR, SDG & NDP References	Objectives	Organisations & Individuals
SUSTAINABILITY	ENVIRONMENT	Promote Conservation SDG 15.1, 15.3, 15.5, 15.8 and 6.6 and NDP 10.2	Promote inclusive and sustainable use and conservation of eco system services	CBC. RU Environmental Sciences Dept. Epistemic Justice and Engaged

				Research Centre. RU Geography Dept.
	Biodiversity and values SDG 12.8 and 15.9	Raise awareness and shift values related to biodiversity		ELRC. Amakhala. Eco Schools. RU Environmental Science Dept.
	Marine Protection SDG 2.3, 14.1, 14.2, 14.4, 14.5, 14.6, 14.7, 14 a and 14 b.	Conservation and sustainable use of marine and fresh water resources		RU Ichthyology Dept. Epistemic Justice and Engaged Research Centre.
	Anti-Poaching SDG 15c and 15.7	Promote policy and practices that significantly reduce poaching of protected species		Indalo. Amakhala. Grahamstown Protection. African Rhino Conservation Collaboration.
	Seed Bank SDG 2.5 and 15.6	Promote genetic diversity and equitable access to genetic resources through the creation of seed banks		Mike Powell.
	Less Waste and Recycling and Resource use. SDG 12.3, 12.5, 12.6, RU IDP – “ <i>enhance implementation of environmental and sustainability practices and policy</i> ”	Develop sustainability policies and practice that conserve resources, substantially reduce waste and promote recycling		CSD Recycling. Masihlule. Cliff Jones.
COMBAT CLIMATE CHANGE	Resilience and Sustainability SDG 2.4, 12.2, 13.2, 13.3, and 13b.	Harness human capabilities to build resilience in the face of the effects of climate change		ELRC. RU Environmental Sciences Dept.
	Risk management and disasters SDG 1.5, 11.5, 11b, and 13.1	Promote policy and practices aimed at mitigating adverse effects of disasters		Theo Hartzenberg. Roman’s research group. Nikki Kohly.
BUILT ENVIRONMENT	Green spaces SDG 11.7	Create and provide universal access to public green spaces		RU Environmental Sciences Dept. Charlie Shackleton. RU Anthropology Dept.
	Digital development and equity SDG 9c	Reduce the digital divide and provide access to the information technology		Sudo Student Society. RUPEP PC Programme. Rod Amner.
	Urban planning and human geography SDG 11.3 NDP 8.2 and 8.4 and 8.8	Promote equitable participatory and inclusive urban planning and management		RU Geography Department.
	Improved and equitable Infrastructure SDG 9.1, 11.1, 11.2, 11c, IDP Goal 6 and NDP 8.3	Develop and ensure access to quality, sustainable quality infrastructure		-
ECONOMIC SYSTEMS	Rights and Access SDG 8.5 and 8.8	Protect labour rights		Legal Aid. Legal Activism. Law Clinic.

				Legal Resources Centre. Neil Aggett Labour Studies Unit.
		Finance SDG 8.10, NDP 13.1, 13.4, 13.5	Promote equitable access and responsible use of financial resources	GBS Financial Literacy. RUPEP Savings & Credit Groups. ADC. Ubunye.
		Youth SDG 8.6, NDP 4.9	Increase the number of youth in employment, education and training	ADC – Thabiso Life Skills. GADRA.
		Tourism SDG 8.9, 12b	Harness potential of tourism to promote local culture and employment	Fingo Festival. National Arts Festival. Kwam eMakana. Makana Tourism. Grahamstown Foundation.
		Land and Livelihood NDP 7.1, 7.3, 8.9 and 10.6	Promote active rural and urban economies through support mechanisms that ensure access to land and secure tenure rights	Legal Resources Centre.
		Opportunities TSR national arts festival SDG 8.3, 9.5, 10.1, ND 13.6 and 13.7	Creating opportunities within the labour market to stimulate economic growth for the bottom 40% of the population to ensure more equitable distribution of income	Grahamstown Business Forum. RU Economics Dept.
		Financial sustainability IDP 4	Promote financially sustainable public institutions	The Committee of Third Stream Income. All RU Funding Offices.
COLLABORATION	JUSTICE	Less Corruption SDG 16.5 and NDP 11.3	Promote activities that address corruption and bribery	Moral Regeneration Movement. PSAM. Unemployed People’s Movement. Grahamstown Residents Association. Corruption Watch.
		Accessible and Strong Justice system NDP 1 and 3.1 SDG 16.3	Strengthen the justice system to promote equitable access to justice	RU Law Faculty. Legail Aid. Legal Resources Centre. Law Clinic. Thuthuko.
		Restorative Justice NDP 3.3	Facilitate practices of restorative justice	Existential Conversations. RU Drama Dept’s Prison Work.
		Access and Success in Education SDG 4.1, 4.2 and 4.3 NDP 1.6 IDP Goal 2	Promote epistemic justice through increasing education at every level and enhancing student success (access to HE)	ECD Reading Programme. Joza Youth Hub. GADRA. Whistle Stop School. RUPEP. All Makhanda Reading Clubs. Ubuntu Knowledge. Shakespeare Schools Festival. Transnet Scholarships. Joyce Sewry – Khanya

				Maths. CHERTL – Extented Studies. S@M.
SOCIAL COHESION	Activism NDP 14.3	Advance causes which cause forms of inequality		PSAM. UPM.
	Creating spaces for dialogue NDP 3.5 and 14.7 “Knowledge should be shared with the community in various spaces – TSR)	Creating spaces for dialogue to facilitate knowledge sharing, community participation and healing		UBOM! Shakespeare Schools Fest.
	Heritage SDG 11.4, NDP 14.8	Cultivate the appreciation and knowledge of South Africa’s rich heritage		RUCE. Fingo Festival. Museums. AMP. Grahamstown Foundation. Arts Festival. DSRAC. Isikolo sama-Afrika. Sakhuluntu.
	Shared Spaces NDP 14.6	Creating opportunities to share public spaces across race, class and gender		Trading Live. Sakhulutsha.
RESPONSIVE GOVERNANC E AND INSTITUTIONS	Transparent governance NDP 9.9 and SDG 16.10	Promote transparent governance and protect fundamental freedoms		Rhodes Business School Leadership Training. PSAM. King IV.
	Inclusive Governance SDG 10.2, NDP 14.9	Promote inclusive governance through participatory processes involving citizens		GRA. Grahamstown Revive. Ward Councilors’ Meetings. Water Forums. IWR.
	Financial	Strengthen local governance		
	Increase Governance Capacity NDP 6.7, 3.2, 3.4, 9.2, 9.8, 12.1, 12.2, TSR – Partnership with MM	Increase government capacity and support through improving technological and human resources; using local agencies for the delivery of government services.		RU IFOS.
	Identity and Relevance IDP goal 3 TSR “co creation and sharing with gtown, and ec comm, participation in SL” TSR Research – enhance profile of engaged research in annual research report	Ensure the relevance of our education research through the promotion of knowledge co creation and a focus on our context		Epistemic justice and Engaged Research Centre.
	Promote the public good IDP 7, TSR 7, TS: grow number of targeted resreach projects for development of the EC	Establish university as institutions that work for the public good through reciprocal learning relationships		ECP. Engaged Research. S@M. Volunteerism & Service Learning.
	PARTNERSHIP S	Integrated Water management	Adopting integrated and participatory approaches to	

		SDG 6.5, 6b NDP 11.5	national research management.	
		Multi stakeholder partnerships SDG 16.7, 17.6, 17.7 TS interdisciplinary knowledge groups IDP increase percentage of partnerships with co management and participatory involvement of community members. Grow number of partnership with the other universities in the province	Establish multi stakeholder participatory partnerships for the sharing of knowledge resources to support the achievement of the SDG's	Local communication forums. VC Project. Joza Youth Hub. VESTAS Aftercare. CE Symposium. ADC. SHAER.
		Global SDG 17.9 and NDP 1.7 TSR ' new knowledge should be shared through building local and global com of practice that seek to answer and respond to global challenges TSR partnership with other university prov, national and internationally	Establish and maintain global partnership to increase mobility and capacity.	Common Good First. SAHECEF.
		Local IDP	Establish and maintain mutually beneficial partnerships between institutions NGO and Local government	RUCE. NPO Forum. Sarah Baartman District Education Forum.
WELL BEING	Access to food resources and sanitation	Nutrition and food security SDG 2.1, 2.2 NDP 1.1, 13.3	Ensure adequate nutrition to reduce hunger, malnutrition and meet developmental milestones through all life stages	RU Environmental Sciences (Gamu). CSD Jam. ADC. Lebone. St Mary's DCC. School Nutrition Programme.
			Promote policies and systems that foster food security	Common Ground Society. Umthathi. ELRC. Children of the Soil. Schools – Fikizolo.
		Water and Sanitation SDG 6.1 and 6.2	Promote practices which prevent water scarcity and promote water quality	Galela Amanzi.
			Access to sustainable, reliable, and safe water, sanitation, and hygiene facilities	BRCG – Roman's Group

	Education	Institutional cultures IDP 5	Cultivate inclusive and positive cultures in education institutions	Ncedana . TAI Mentoring. 9/10ths. Sibanye. APD. GADRA Mentorship Programme.
		Accountability and supporting Educators SDG 4c	Provide structures for teacher training support and accountability	Principal's Programme. CSD. PGCE. GADRA Vestas Programme. RUMEP.
		Responsive and Relevant IDP 1, SDG 4.7 and NDP 1.5, 5.2 TSR re SL and access post school pop	Promote responsive and relevant practices at Higher Education Institutions in order to foster the development of civic minded graduates and creating a capable work force.	ECP. Service Learning.
		Leadership and Systems NDP 1.3, 1.2, SDG 4a TSR leadership training primary school	Equip education leaders and systems at all levels to improve infrastructure and enhance the quality of schooling	Principal's Programme. Ulwazi IT. Awarenet. S@M.
	Healthy Lives	Reduce/Prevent disease SDG 3.3, 3.4 and 3b	Support the development of research and activities to prevent diseases	Prof Thabelo Nyokong. Adrian Adkins. RU Faculty of Pharmacy .
		Access SDG 3.7	Improve access to health care services	Phelo Phepha Train. Theo Duxbury. First Things First. RU Counselling & Wellness Division.
		Support the health care system NDP 2.1	Ensure a strong and inclusive health care system	RU Faculty of Pharmacy . RU Health Care Centre .
		Reproductive Health SDG 5.6	Ensure universal access to reproductive and sexual health and rights	CSSR. Ubunye. Janice Limson.
		Mental Health IDP strengthen ability of students counselling	Create awareness, de-stigmatize and support to mental health services	RU Community Psychology Masters 1 class. iThemba. RU Conselling Centre. Fort England buddy Programme. RU Psychology Clinic. PSAM. Phelo Phepha Train.
		Promote and Educate SDG 3a and NDP 2.2	Create awareness and education activities to promote healthy lives in particular focusing on HIV AIDS and Substance abuse	Jabez. Raphael Centre. Aunty Stella. RU Peer Education. FAMSA. RU Conselling & Wellness Divison. Pharmarcy Health Promotion – Theo Duxbury.
Safety	Children SDG 5.3, 8.7, 16.2	Promote and protect children's rights and eliminate harmful practices against them	Child Welfare. CPAF. Home of Joy. Eluxolweni. DCC. Jabez. Lebone.	

		End violence SDG 16.1	Promote peace and seek an end to conflict and violence	Masifunde.
		End Gender Based Violence IDP – promote sexually responsive citizenry SDG 5.2	Promote and protect the rights of woman and girls. Eliminate all forms of Gender Based Violence.	SHAER. CSSR. Silent Protest. Theorising the harm of rape (Philosophy dept).
			Protect and promote the safety of domestic animals.	SPCA. SOAR. Amatracton.
No inequality		Access to Resources SDG 1a, 1.2 and 1.4 NDP 14.10	Reduce inequalities by ensuring equal rights and access to natural, social, and economic resources.	Raphael Centre (ABCD). Ubunye. MobiSam.
		Improve quality of Household life SDG 5.4, NDP 4.2	Develop policies and practices aimed at improving the quality of household life through equality	CSSR. Masibambane. FAMSA.
		Promote non- discriminatory policies SDG 5c, 10.3, 16b, NDP 14.4	Promote and enforce non- discriminatory laws and policies	PSAM. Law Faculty. RU Transformation Summit outcomes. ISER. Neil Aggett Labour Studies Unit. GAP.
		Woman SDG 5.1, 5.5. 5a and 5b	Ensure woman’s full and effective participation and equal opportunities in society and end all forms of discrimination against all women	GenAct

Organisations in the blue highlight are the ones we had put a cloud around and the ones in yellow are the ones we said they will need support from RUCE.

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