SOUTH AFRICA'S IMPLEMENTATION OF THE 2030 AGENDA FOR SUSTAINABLE DEVELOPMENT

"SOLVING COMPLEX CHALLENGES TOGETHER"

VOLUNTARY NATIONAL REVIEW (VNR) REPORT 2019

✓ ABREVIATIONS AND ACRONYMS

10YFP	Ten Year Framework Programme
3G	Third Generation Network
4IR	Fourth Industrial Revolution
5G	Fifth Generation Network
AAAA	Addis Ababa Action Agenda
AfDB	African Development Bank
AIP	Africa Investment Programme
AMD	Acid Mine Drainage
APRM	African Peer Review Mechanism
ASGISA	Accelerated and Shared Growth Initiative for South Africa
AU	African Union
BBBEE	Broad Based Black Economic Empowerment
BERD	Business Expenditure on Research and Development
BRT	Bus Rapid Transit
CABLE	Community Atmosphere Biosphere Land Exchange
CAOs	Community Advice Offices
CAOSA	Centre for the Advancement of Community Advice Offices of South Africa
CASP	Comprehensive Agricultural Support Programme
CGE	Commission for Gender Equality
CIMERA	Centre of Excellence for Integrated Mineral and Energy Resource Analysis
CNG	Compressed Natural Gas
CO_2	Carbon Dioxide
CoE	Center of Excellence
CoG	Centre of Government
CoGTA	Department of Cooperative Governance and Traditional Affairs
CRDP	Comprehensive Rural Development Programme
CSIR	Council for Scientific and Industrial Research
CSOs	Civil Society Organisations
DAFF	Department of Agriculture, Forestry and Fisheries
DBE	Department of Basic Education
DBOM	Design, Build, Operate and Maintain
DCS	Department of Correctional Services
DEA	Department of Environmental Affairs
DFIs	Development Finance Institutions
DHET	Department of Higher Education and Training
DIRCO	Department of International Relations and Cooperation
DoE	Department of Education
DoH	Department of Health
DOJ	Department of Justice
DoW	Department of Women
DPME	Department of Planning, Monitoring and Evaluation
DRR	Disaster Risk Reduction
DSD	Department of Social Development
DST	Department of Science and Technology
DTA	Department of Traditional Affairs
DTI	Department of Trade and Industry
DVA	Domestic Violence Act
DWAF	Department of Water Affairs and Forestry
DWS	Department of Water and Sanitation
ECD	Early Childhood Development
EEA	Employment Equity Act

EFAL	English as a First Additional Language
EGRS	Early Grade Reading Study
EPWP	Expanded Public Works Programme
ESEID	Economic Sectors, Employment and Infrastructure Development
EU	European Union
FBAE	Free Basic Alternative Energy
FBE	Free Basic Electricity
FfD3	Financing for Development (3rd International Conference)
FGM	Female Genital Mutilation
FMGP	Forest Molecular Genetics Programme
FTE	Full-Time Equivalent
G&D	Governance and Administration
G77	Group of 77 (coalition of 134 developing nations)
GBS	Group B Streptococcus
GCIS	Government Communication and Information System
GCNSA	Global Compact Network South Africa
GDP	Gross Domestic Product
GEAR	Growth, Employment and Redistribution
GERD	Gross Expenditure on Research and Development (as a percentage of GDP)
GFIP	Gauteng Freeway Improvement Programme
GloPID-R	Global Programme for Infectious Diseases – Research
GNP	New Growth Path
GW	Gigawatt
GWh	Gigawatt Hours
HFCT	Hydrogen Fuel Cell Technology
HIV	Human Immunodeficiency Virus
HLPF	High Level Political Forum
HLPW	High Level Panel on Water
HSRC	Human Sciences Research Council
HySA	Hydrogen South Africa
ICT	Information and Communication Technology
ICTS	International Cooperation, Trade and Security
IDPs	Integrated Development Plans
IDZs	Industrial Development Zones
IEP	National Integrated Energy Plan
IMD	Indigenous Microbial Diversity (based technologies)
INEP	Integrated National Electrification Programme
IPPs	Independent Power Producers
IRENA	International Renewable Energy Agency
IRP	Integrated Resource Plan
ISHP	Integrated School Health Policy
JCPS	Justice, Crime Prevention and Security
KBA	Key Biodiversity Areas
LBPL	Lower-Bound Poverty Line (R785 in April 2018 prices and R647 in April 2015 per person per month)
LCAs	Life Cycle Assessments
LCRPGR	Land Consumption Rate to Population Growth Rate
LCS	Living Conditions Survey
LED	Local Economic Development
LRA	Labour Relations Act
LTE	Long Term Evolution
MAFISA	Micro Agricultural Financial Institution of South Africa
MAPS	Mainstreaming, Acceleration and Policy Support
MDGs	Millennium Development Goals
MIG	Municipal Infrastructure Grant
MOI	Means of Implementation
MRC	Medical Research Council

MSc	Master of Science Degree
MTSF	Medium Term Strategic Framework
MW	Megawatt
NCD	Non-Communicable Diseases
NDC	Nationally Determined Contribution
NDP	National Development Plan
NEDLAC	National Economic Development and Labour Council
NEES	National Energy Efficiency Strategy
NFSD	National Framework for Sustainable Development
NGOs	Non-Governmental Organisations
NHI	National Health Insurance
NIDS	National Income Dynamics Study
NPC	National Planning Commission
NRDS	National Research and Development Strategy
NRSO	National Register for Sex Offenders
NRF.	National Research Foundation
NSF	National Science Foundation
NSI	National System of Innovation
NSSD	National Strategy for Sustainable Development and Action Plan
NURCHA	National Urban Reconstruction and Housing Agency
NW&SMP	National Water and Sanitation Master Plan
NWA	National Water Act
NWMS	National Waste Management Strategy
NWP	National Water Policy
NWRS	National Water Resources Strategy
ODA	Official Development Assistance
OSD	Occupational Specific Dispensation
PAIA	Promotion of Access to Information Act of 2000
PEP	Post-Exposure Prophylaxis
PEPUDA	Promotion of Equality and Prevention of Unfair Discrimination Act
PGDS	Provincial Growth and Development Strategy
PHC	Philosophy of Primary Healthcare
PhD	Doctoral Degree
PIRLS	Progress in International Reading Literacy Study
PoA	Programme of Action
PSET	Post School Education and Training
PV	Photovoltaic
PwC	Pricewaterhouse Coopers
QES	Quarterly Employment Statistics
R&D	Research and Development
RADP/RECAP	Recapitalisation and Development Programme
RBIG	Regional Bulk Infrastructure Grant
RDI	Reference Daily Intake
RDP	Reconstruction and Development Programme
REIPPPP	Renewable Energy Independent Power Producers Programme
RHLF	Rural Housing Loan Fund
RIAT	Rural Innovation Assessment Tool
RISDP	Regional Indicative Strategic Development Programme
SA	South Africa
SACE	South African Council for Educators
SADC	Southern African Development Community
SAEON	South African Environmental Observation Network
SAIAB	South African Institute for Aquatic Biodiversity
SAMPI	South African Multidimensional Poverty Index
SANEDI	South African National Energy Development Institute
SANSA	South African National Space Agency
SAPs	South African Police Service
SARChI	South African Research Chairs Initiative

SASA	South African Schools Act
SCP	Sustainable Consumption and Production
SDGs	Sustainable Development Goals
SEACMEQ	Southern and Eastern Africa Consortium for Monitoring Educational Quality
SFWS	Strategic Framework on Water Services
SHIP	Strategic Health Innovation Programme
SHSs	Solar Home Systems
SME	Small and Medium Enterprise
SMMEs	Small, Medium and Micro Enterprises
SNP	School Nutrition Programme
SOA	Sexual Offenses and Related Matters Act
SOC	Sexual Offences Courts
SOCAT	Surface Ocean CO2 Atlas
SOEs	State Owned Enterprises
SoNA	State of the Nation Addresses
SPCHD	Social Protection, Community and Human Development
Stats SA	Statistics South Africa
STER	Single Transport Economic Regulator
STI	Science, Technology and Innovation
STIs	Sexually Transmitted Infections
TB	Tuberculosis
TFM	Technology Facilitation Mechanism
TIMSS	Trends in International Mathematics and Science Study
UBPL	Upper-Bound Poverty Line (R1 183 in April 2018 prices and R992 in April 2015 per person per month)
UK	United Kingdom
UNCCD	United Nations Convention to Combat Desertification
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNFCCC	United Nations Framework Convention on Climate
UNSC	United Nations Security Council
USAID	United States Agency for International Development
VAT	Value Added Tax
VEP	Victim Empowerment Programme
VFR	Victim Friendly Rooms
VHF	Very High Frequency
VNR	Voluntary National Review
VRESM	Variable-resolution Earth System Model
WIPO	World Intellectual Property Organisation
WSA	Water Services Act
WSAs	Water Source Areas
WSDPs	Water Services Development Plans
WSIG	Water Services Infrastructure Grant
WTO	World Trade Organisation
YES	Youth Environmental Services

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✓ OPENING STATEMENT

SOUTH AFRICA

2019 VOLUNTARY NATIONAL REVIEW (VNR)

OPENING STATEMENT

"*We can in fact change the word and make of it a better place.*"

Nelson Mandela

The adoption of the 2030 Agenda for Sustainable Development in 2015 signalled the universal commitment of the world's leaders together to confront challenges that must be successfully overcome if humankind is to survive on this planet. From our own experience as South Africans, we fully appreciate the significance of a common cause that unites diverse people to successfully defeat even the otherwise most intimidating of human challenges and adversity. For it was with similar solidarity and support from the international community that South Africa was freed from the yoke of apartheid in 1994. Apartheid was an atrocious, anti-human and anti-development political system that the world, through the United Nations declared a crime against humanity, and whose scars still linger in the socio economic fabric of now democratic South Africa.

South Africa's first Voluntary National Review (VNR) is testimony to the national commitment to the full and integrated implementation of the 2030 Agenda. The National Development Plan (NDP): Vision 2030 – "Our future, make it work, was adopted in 2012, as South Africa`s development loadstar and roadmap. It predated the 2015 adoption of the United Nations' 2030 Agenda for Sustainable Development and the African Union (AU) Agenda 2063 - "The Africa we want". The NDP has a 74% convergence with the Sustainable Development Goals (SDGs), and prioritises job creation, the elimination of poverty, the reduction of inequality and growing an inclusive economy by 2030.

Recognizing the interconnectedness of these complementary aspirations and developmental agendas, South Africa has recently established a national coordinating mechanism for national engagements and reporting on the 2030 Agenda, the AU's Agenda 2063 and the Southern African Development Community's (SADC) Regional Indicative Strategic Development Plan (RISDP), in alignment with the NDP. This national coordinating mechanism will ensure that national resources are optimally deployed, together with international support, the provision of public sector finance,

technology and capacity building which are required for successful integrated implementation of these development agendas.

This first review will assist all South Africans in understanding the impact of policies and programmes towards realising sustainable development and the considerable developmental challenges that remain. Although sustainable development objectives are integrated into government planning systems and processes at national, provincial and local level, much more needs to be done to ensure that all national stakeholders are more effectively engaged in delivering on the ideal of providing a better life for all.

Despite the significant progress that South Africa has made on its developmental journey since the advent of democracy in 1994, the country remains amongst the most unequal societies in the world. Achieving the SDGs is therefore in South Africa's best interest as the country pursues the vision of the Constitution of a united, non-racial, non-sexist and prosperous nation, at peace with itself and the rest of the world.

As part of our efforts in this journey, access to free education for children from poor households has been expanded, and over 9 million children attend no-fee schools. Support for early childhood education has been significantly increased, and every South African child will be provided with digital workbooks and textbooks on a tablet device over the next six years. Individuals benefiting from the social protection system have significantly increased from 3 million in 1994 to 17,5 million in 2018. South Africa has the biggest anti-retroviral treatment programme in the world with more than 4.5 million people on regular treatment.

Major strides have been made in addressing gender inequalities since 1994. Legislative frameworks have been developed aimed at ending all forms of discrimination against women and girls. Representation of women in national parliament has increased from 25% in 1994 to 41% in 2016, further increasing to 44% following 8 May 2019 national election.

The newly elected His Excellency President Cyril Ramaphosa recently appointed a Cabinet of which 50% are women. Initiatives to mainstream youth empowerment are underway, including to reduce the barriers to youth employment.

Wider access to affordable and reliable energy is a prerequisite for broad-based economic development in South Africa with due regard to the imperative for a just transition to a low carbon economy. Domestic and international implementation of the United Nations Framework Convention on Climate Change and its Paris Agreement is critical. Legislation and policies have been adopted, including the introduction of a carbon tax, to address climate change and to enhance the country's ability to adapt the ongoing environmental changes. South Africa is among the pioneers in adopting Green Economy strategies.

Significant progress has been made in harnessing science, technology and innovation to contribute towards addressing poverty, unemployment and inequality in South Africa, guided by the Ten-Year Innovation Plan, the National Research and Development Strategy aligned to the NDP.

In implementing an innovation agenda for inclusive development, South Africa continues to harness innovative technology solutions to improve access to basic services, such as safe drinking water, sanitation and electricity.

While South Africans can rightly derive inspiration from the progress that has been made under the democratic dispensation, government is conscious of the challenges that persist, and of new ones that emerge.

The country is still plagued with the growing disparity in wealth and the concomitant inequality that feeds into social discontent. Despite targeted policies and legislation, discrimination and gender-based violence against women and children persist.

Regular national, provincial and local elections provide all political role-players with the opportunity to engage communities on the country`s development trajectory as well as on the implementation of the NDP and SDGs.

In this regard, as this maiden VNR has highlighted deepening progress and making headway against our challenges requires a more enhanced stakeholder engagements and partnerships and where necessary, social compacts. As South Africa looks ahead to 2030, it seeks to build on the solid progress achieved and the strong policy, legislative and planning foundation, consolidating and expanding the many areas where public and private resources have been invested with positive results.

South Africa looks forward to a successful journey to 2030!

MR TSHEDISO MATONA

SECRETARY OF NATIONAL PLANNING

THE PRESIDENCY, SOUTH AFRICA

✓ HIGHLIGHTS

2019 marks 25 years since South Africa's first democratic election. Since 1994, South Africa has made progress in reducing extreme poverty through a progressive, pro-poor tax system that supported the provision of social assistance and free basic services – old-age pension, child grants, orphan grants, subsidised water and electricity, provision of no Value Added Tax (VAT) on certain food items, and more public schools declared no-fee schools. The various programmes that South Africa has implemented in order to achieve SDG 1 include: land reform and agriculture, free higher education, and growing entrepreneurship[1]. The South African government has rolled out programmes aimed at training people without a business background on how to start their own businesses. Furthermore, the South African government has implemented a "Social Wage" in terms of free education, free primary health care, social protection, RDP housing, and provision of free basic services to poor households[2]. In addition, as a way of showing commitment towards reducing poverty in the country, South Africa's expenditure on social grants has been increasing to R164.9 billion in 2016/17 financial year and is projected to increase to R209.1 billion by 2019/20.

When the first democratic government came into power under former President Nelson Mandela, government expanded access to schooling, replaced the school system segregated by race and schools in poorer areas received more state funding. The education situation has in many respects changed dramatically - literacy levels among those aged between 15 and 64 is almost 100% and sustained efforts have been and continue to be made to improve the physical conditions in which children learn. The rate of early childhood learning level is high (with almost 95% of the country's children participating in organised learning in the year before the official primary school entry age). In 2017, up to approximately 18% of people aged 15 to 24 participated in formal or non-formal training.

The South African government has committed itself to addressing gender inequalities since 1994 (SDG 5). South Africa is a signatory to regional and international conventions that deal with gender issues, especially for women[3] (Mpani & Nsibande, 2015). South Africa has developed numerous legislative frameworks which are directly in line with the goal of ending all forms of discrimination against all women and girls everywhere. These include the Constitution, the Promotion of Equality and Prevention of Unfair Discrimination Act

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[1] UN 2018

[2] Stats SA 2015

[3] The Convention on the Elimination of all forms of Discrimination against Women (CEDAW), the Declaration on the Elimination of Violence against Women, the Discrimination (Employment and Occupation) Convention, the Equal Remuneration Convention, the Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa (generally referred to as Maputo Protocol), the Solemn Declaration on Gender Equality in Africa, the Southern African Development Community (SADC) Protocol on Gender and Development

(PEPUDA) 4 of 2000, the Employment Equity Act (EEA) 55 of 1998, the Labour Relations Act (LRA) 66 of 1995, and the Basic Conditions of Employment Act 75 of 1997. The country has made significant progress in terms of involving women in national parliament since 1994 and remains one of the outlier in terms of this achievement internationally. The proportion of seats held by women in national parliament has increased from 25% in 1994 to 44% in 2009, after which it decreased in 2013 to 42%. As of 2016, the proportion of seats held by women in national parliament stood at 41,6% (Statistics South Africa, 2017). In a recent Cabinet in May 2019, the President announced that 50% of cabinet ministers are women.

Progress is being made with regard to SDG 9 on industry, innovation and infrastructure. For an example, Gross Expenditure on Research and Development as a percentage of GDP (GERD) has increased slightly over recent years, from a low of 0,72% in 2013 to 0,8% in 2015. It is, however, still far from achieving the target set by national policy, and still has some way to go to recover to levels experienced in 2008 (0,89%). The number of Full-Time Equivalent (FTE) researchers per million of the population has increased substantially during the 2007 to 2015 period from 398,6 to approximately 475,1. In South Africa, the 3G networks have achieved almost universal population coverage, and LTE networks now cover slightly more than three quarters of the population.

South Africa is among the pioneers in adopting Green Economy strategies and has put in place many programmes and policy frameworks in the recent past, to translate the NDP Vision 2030 into action. The country is currently implementing programmes to promote energy efficiency, green transport, sustainable housing and climate resilient agriculture.

Communities remain at the heart of all efforts to boost the Green Economy and Biodiversity Economy sectors ensuring that they derive maximum benefits while conserving biodiversity and natural resources.

Examples include:
- *Donation and release of wildlife at the Erin Game Ranch in the Northern Cape to celebrate the inscription of the Khomani Cultural Landscape as a World Heritage Site.*
- *The Double Drift Community Wildlife Economy Project in the Eastern Cape where zebra and hartebeest were released during the 3rd Biodiversity Economy Indaba as part of efforts to boost the community's beneficiation which includes extensive game breeding of high value and plain game species for live sales; beneficiation of products such as game meat, product development from skin and hides, and ecotourism activities such accommodation.*

South Africa continues to actively and constructively engage in efforts to fully operationalize the Paris Agreement and to raise ambition, both at the international and national level. In this regard, the Paris Agreement makes provision for the communication every five years of contributions and intended efforts of State parties with regard to mitigation, adaptation and provision of support (SDG 13) on

urgent climate action to combat climate change and its impact. South Africa submitted its Nationally Determined Contribution (NDC) to the international community. The NDC has three distinct components, namely, (i) mitigation, (ii) adaptation and (iii) means of implementation. It builds on South Africa's 2009 emission reduction pledge, and presents an emission reduction trajectory range for 2025 and 2030.

The overarching climate change policy that will help South Africa attain its NDC, emission reduction objectives is the post-2020 mitigation system. The development of this mitigation system is currently underway and will include a range of measures as contemplated in the National Climate Change Response Policy, 2011. The system is being introduced in phases. Phase one (2016-2020) is voluntary as there is not yet a legal basis to set emission limits for sectors or companies. The second and subsequent phases, namely the post-2020 period, will become mandatory as and when climate change response legislation in the form of the Climate Change Bill/Act is formally approved by government.

South Africa has implemented a comprehensive set of strategies, policies and sector plans within key sectors of the economy to reduce the rise in GHG emissions and to achieve meaningful reductions. These include, among others, the Integrated Resource Plan, the Energy Efficiency Strategy, the Industrial Policy Action Plan (IPAP), the Green Transport Strategy, the Climate Change Adaptation and the Mitigation Plan for the South African Agricultural and Forestry Sectors and National Waste Management Strategy. In addition, there have also been positive steps to decarbonise the electricity sector, through the implementation of the Renewable Energy Independent Power Producers Procurement Programme (REIPPPP).

With regard to SDG 16 on peace, justice and strong institutions, the goal deals with broad and complex issues that government has to deal with. South Africa has made some progress in areas such as in incidences of rape brought to the attention of the police per 100 000, a reduction in the percentage of school attending children who experienced any physical punishment and/ or psychological aggression at school during the past three months (this dropped from about 11.4% in 2015 to about 6.3% in 2017), and the existence of independent national human rights organisations in compliance with the Paris principles.

While progress has been made towards reaching many SDGs, significant challenges remain. The latest report on "poverty trends in South Africa" shows that, despite the general decline in poverty (SDG 1) between 2006 and 2011, the war on poverty is far from over. This indicates that efforts to combat poverty must be expanded and accelerated as the country experienced increased levels of poverty between 2011 and 2015.

Women, children, black South Africans, people living in rural areas, and those with little or no education remain the main victims of poverty in South Africa.

Even though South Africa is making progress on SDG 3 on good health and wellbeing, historic inequities from the apartheid era are still prevalent in the healthcare system. Universal health coverage and getting better value for the money spent on healthcare, as well as more funding, remain a challenge. The key challenges facing the healthcare sector in South Africa include: poor access to and quality of healthcare in some areas, lagging behind on mental healthcare services and services for the disabled. While access to health care has improved in South Africa, there are still disabled people without necessary supportive equipment and therapy. With regard to health professionals in the public sector, South Africa has been experienced a challenge of retention of skills, due to many senior health professionals leaving the country. To counter the challenge, South Africa introduced Occupational Specific Dispensation (OSD) for health professionals in the public sector.

Regarding SDG 4, on quality of education, about one-third of schools have computers for pedagogical purposes, but at just under 19% the proportion of schools with access to the internet for the same purposes is considerably lower, and markedly lower than in many other countries with which South Africa needs to compete, and collaborate on the world stage. South Africa is aware of and concerned about the drop-out rate from the educational system. This is especially marked when the progression rate from Grade 1 to Grade 12 is calculated and not simply the drop-out rate within the upper levels of the secondary school system.

South Africa is making significant strides towards the realisation of SDG 7 on affordable and clean energy, but there are few challenges that still need to be addressed. One of the challenges is non-availability of data on affordability. Moreover, affordability remains a concern especially considering that not every poor household can access energy subsidies such as Free Basic Electricity (FBE) and Free Basic Alternative Energy (FBAE). Another concern is, the poor uptake of off-grid solar systems is a concern, with less than 1% of the country's population utilising off-grid solar energy technologies to meet cooking, lighting, and heating needs during the period 2014-2017. Moreover, gaps still exist regarding the implementation of policies and programmes to meet the target on universal access to clean energy. The primary policies and programmes on universal electrification in South Africa currently aim for a 97% electrification target and not 100% as per the international targets.

The challenges for South Africa relate to the increasing informal settlements in urban areas which make it difficult for the country to achieve a 100% access to electricity. Furthermore, the implementation of off-grid electrification programmes aimed at complementing the grid connections, is hampered due to several short-comings, such as lack of proper coordination between the stakeholders managing

installations. The barriers to renewable energy in the country, include a lack of capacity, marginalisation, corruption, poverty, and environmental degradation, the energy innovation system, and the high cost of renewable energy technologies.

Over the years, South Africa has been battling with high levels of inequality (SDG 10), following the collapse of the apartheid regime in 1994. With the advent of democracy, the country set out to close the inequality gaps within its social and corporate structures. The quest to combat inequality was further backed by the adoption of the Constitution, the NDP, MDGs and currently the SDGs. According to the World Inequality Report published in 2018, South Africa stands out as one of the most unequal countries in the world. The country continues to struggle to reduce inequality despite introducing policy measures and programmes, such as, Broad Based Black Economic Empowerment (BBBEE), access to education, the Employment Equity Act (EEA) and women empowerment strategies to mention a few.

A major challenge facing South Africa with regard to SDG 16 on peace, justice and strong institutions, relates to discrimination. Discrimination in South Africa still persists despite the concerted efforts of a wide range of organisations, as well as government to counter racial and gender based discrimination. Since 2017, racial discrimination has been increasing. As a result, the Presentation and Combating of Hate Crimes and Hate Speech Bill, 2018 is one of the strides that the Department of Justice is making of to counteract discrimination in the country (DOJ,2019). In the 2015/2016 financial year, Statistics South Africa embarked on mapping and scanning of the governance statistics sub-system in the country as part of a process to identify and bridge data gaps relating to governance statistics. This was accompanied by extensive local and international stakeholder consultation, coinciding with the ratification and refinement of the UN Sustainable Development Agenda and the African Union Agenda 2063. This has enabled Stats SA to benefit from best practice identified by the international community for the purposes of SDG indicators and reporting, especially in relation to SDG 16.

Within the context of limited resources and the need to bridge the data gap, a decision was made to convert the Victims of Crime Survey (VOCS) into the Governance and Public Safety and Justice Survey (GPSJS). Given the broad range of issues that had to be covered by the survey, a decision was made to cover particular content in a three-year rotational cycle. Data collection for Year 1 (2018/2019) ended in March 2019 and the first report that will cover issues around discrimination, access to justice, constitutional values and democratic expression is due in July 2019. Given the importance of crime statistics in South Africa, the experience of victimization, as well as reporting to the South African Police, will be included in all three iterations. A short publication comparing victimization and reporting rates in the survey to crime rates reported to the police, is due to be

published. A more comprehensive report similar to the current VOCS statistical release will be produced every three years.

Many of these challenges are also experienced in other middle-income countries across the globe.

The 2030 Agenda for Sustainable Development provides South Africa with a framework to identify and address the most urgent and complex of its development challenges. Solving these challenges by 2030 will require consolidating successes, learning from experience and fostering innovative new approaches.

South Africa is committed to realising the 2030 Agenda for Sustainable Development, based on the following principles:

✓ **Collaboration.** The complexity of the challenges faced by middle-income countries across the globe require strong partnerships between the government, civil society, chapter 9 institutions, trade unions, the private sector and academia. This will require building on South Africa's rich history of civil society and trade union activism, utilising its private sector's commitment to sustainable and inclusive growth, unlocking the potential of expertise in its academic institutions and making use of such as institutions, especially the South African Human Rights Commission (SAHRC) which can assist in adopting a rights-based approach in the implementation of SDGs and enhancing coherence across implementing, monitoring and reporting agencies.

✓ **Coherence.** The 2030 Agenda emphasises the integrated nature of development goals. South Africa is committed to improve coherence between policies. This includes improving vertical coherence between national, provincial and local levels as well as horizontal coherence between different sectors. South Africa is currently setting up a comprehensive development planning mechanism to improve coherence. More coherent ways of addressing its complex challenges will also allow South Africa to increase the efficiency with which policies are implemented.

✓ **Impact.** In order to improve the livelihood of South Africa's most vulnerable groups and individuals, the 2030 Agenda should be approached with a sense of urgency. Better collaboration and more coherence should lead to short-, medium- and long-term impact – particularly on the lives of those currently excluded from the benefits of economic growth.

The Process of Review

The review process was a collective effort with relevant sectors and stakeholders participating and being consulted on the drafting of the report. Sector Working Groups, led by Statistics South Africa (Stats SA), were formed.

The approach of the review process in South Africa is based on the notion of inclusivity and the principle of "Leaving No-one Behind" when implementing Agenda 2030 for Sustainable Development. It is nonetheless recognised that there will always be room for improvement in broadening outreach efforts, with the given triple challenges of poverty, inequality and unemployment in South Africa.

The Voluntary National Review (VNR) was prepared by collecting information from primary sources and reviewing secondary information sources, namely official documents and data led by Stats SA and the Department of Planning, Monitoring and Evaluation (DPME) within The Presidency. The primary sources included extensive stakeholder engagement and inter-governmental consultation. Since the nature of SDGs calls for collective effort, the government of South Africa facilitated the participation and the contribution of stakeholders such as Non-Governmental Organizations (NGOs), Private and Business Sector associations, Academia, chapter 9 institutions such as SAHRC and Civil Society Organizations (CSOs). Part of the secondary sources included desk-reviews of ministry reports, sectoral policies, the National Development Plan (NDP) and relevant legislation documents.

Recalling the indivisible nature of SDGs, South Africa has brought together various government ministries to take on the SDGs mandate in accordance with their departmental mandates. The SDGs ultimately aim to improve the environment, eradicate abject poverty and improve the standard of living for the people. The cross-sectoral or inter-governmental approach has responded particularly to the indivisible nature of the SDGs in South Africa, thereby placing the country on a path to sustainable growth and development.

Domesticating SDGs

The SDGs find expression within the NDP: Vision 2030. This finding emerged from a mapping exercise to assess the convergence between the NDP and SDGs in 2018, conducted by the DPME and UNDP. The exercise 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. While this indicates good progress for the country, ambitious transformational action involves creating greater awareness of and support 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.

> **SUCCESS STORY – PRIVATE SECTOR**
> *"In 2018, Liberty Holdings mapped our Sustainability Strategy to selected United Nations SDGs, South Africa's NDP and the African Union Agenda 2063. Liberty's 2018 Report to Society discloses our Social, Environmental and Economic (SEE) impact against our five selected SDGs. Liberty's business strategy adopted a five values model, one of which focuses on sustainable development. Liberty is a responsible corporate citizen and applies the King IV principles to our business governance, which includes giving our full support to the NDP and SDGs by creating shared value for the societies in which we operate. Creating positive societal impact through our responsible investments and promoting financial inclusion through education to contribute to the reduction of inequalities in South Africa."*
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> *Jeanne Van Heerden, Liberty Head of Sustainability, **Liberty Holdings***

Localisation of the SDGs is taking place in some of the municipalities, such as eThekwini, in South Africa. In localising the SDGs, the eThekwini Municipality considered the alignment of SDGs with the sustainable development concept made up of four development pillars, namely human rights, people, planet and P prosperity. Furthermore, the municipality undertook an alignment exercise between the National Sustainability Framework (NSF) and the SDGs. The overall conclusion on the alignment exercise is that the concept of sustainability as envisaged in the municipality's urban agenda is aligned to the development goals.

South Africa and the SDGs

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 took a prominent role globally and on the African continent in guiding the process and negotiating for the adoption of the SDGs in its capacity as Chair of the G77 and China. Furthermore, South Africa's former First Lady, Ms Graça Machel, served on the High-Level Panel of Eminent Persons and South Africa's former Statistician-General, Pali Lehohla, led the African team under the African Union banner in formulating the indicators for the African Common Position., 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.

Nevertheless, the enthusiasm for the SDGs is more pronounced at the political and senior levels of policy making, while still building up steam within government, civil society, the private sector and the greater society. In some notable instances, however, significant leadership has been forthcoming from the Global Compact Network South Africa, the South African SDG Hub at the University of Pretoria, STI Multi-Stakeholder Forum and Civil Society forums, such as the one led by Africa Monitor. The key questions that arise on the process of SDGs implementation are on how to monitor, evaluate, and finance the Agenda. Countries are at different levels of proficiency regarding monitoring and evaluation, as well as on conducting the relevant surveys.

Within the private sector, the Global Compact Network South Africa conducted extensive dialogues about the value of the 2030 Agenda and the 17 Sustainable Development Goals. The response indicates that the frameworks present significant alignment and opportunity to deliver on the needs of South Africa, the African continent and the world. Large organisations tend to have made significant inroads in aligning the Global Goals into their business. However, they identify a lack of meaningful platforms and forums for effective collaboration within their sectors, across the private sector, with communities, and with the public sector. Many of the companies are actively preparing to share tools and techniques that they have developed to accelerate South Africa's delivery of the 2030 Agenda.

South Africa's baseline report on the SDGs, done in 2017 by Statistics South Africa, is being widely used as an exemplar of good practice. Notwithstanding this, effective implementation will still require strong commitment, better communication strategy, better domestication at local level and proper coordination of progress from various stakeholders.

Good Practices

The South African Government through its departments has enacted distinct programmes across the SDGs as part of creating a conducive environment to ensure that full scale SDGs implementation is realized throughout the country.

Government initiated Operation Phakisa, which is one of the mechanisms put in place to implement the NDP. Operation Phakisa is a fast results delivery programme launched in July 2014 to help the country implement the NDP, with the ultimate goal of boosting economic growth and creating jobs. Operation Phakisa is furthermore a cross-sector programme where various stakeholders engage to implement initiatives and create concrete actions to address constraints to delivery in a prioritised and focused area, as well as for public accountability and transparency. It is also a results-driven approach, involving setting clear plans and targets, ongoing monitoring of progress and making the results public. Current Operation Phakisa priority projects focus on the oceans economy; health; education; mining; biodiversity economy; agriculture, land reform and rural development; chemical and waste economy.

Other programmes introduced by government entail:

✓ **Working for Ecosystems**
Working for Ecosystems aims to reverse environmental degradation through ecological restoration and maintenance programmes. It further aims to regain natural habitat composition, structure and function and thereby enhance ecosystem services, such as carbon sequestration, water regulation and purification, as well as reducing the risk of natural disasters by improving landscape/catchment stability and resilience.

✓ **Youth Environmental Services (YES) Programme**
The Youth Environmental Services (YES) Programme is expected to benefit 2700 young people over a period of three years. Upon exiting the programme these young people will be placed in either permanent employment or further training institutions.

✓ **Expanded Public Works Programme (EPWP)**
The Expanded Public Works Programme (EPWP) is one of the many programmes offered by the South African Government through the National Department of Public Works. The EPWP aims to provide poverty and income relief through temporary work for the unemployed to carry out socially useful activities,

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. As a result, the private sector in South Africa has developed a prioritisation framework to ensure key goals delivered and make an impact on other goals. The framework differentiates priority areas as follows:

✓ SDGs that reflect value systems and the outcomes most desired by companies;
✓ SDGs that will have a direct impact within business operations; and
✓ SDGs that can be impacted by evolving or changing value propositions

The identified SDGs that are most important for the private sector from a value proposition perspective included SDG 1: no poverty; SDG 2: zero hunger and SDG 4: quality education. SDG 5: gender equality and, SDG 10: reduced inequality, SDG 13: climate action and SDG 17: partnerships. With SDGs with company value proposition, are on industry innovation and infrastructure (SDG 9) and the cluster of goals on climate change (SDG 13), responsible resource consumption (SDG 12) and environmental impact. The Nedbank framework below illustrates an example of prioritisation.

Source: Nedbank Sustainable Development Framework,
Creating value by using our financial expertise to do good, Nedbank 2018

Civil Society Organisations (CSOs) also, have a platform for dialogues and information-sharing on the implementation and domestication of SDGs within the country. The CSO's platform is led by Africa Monitor.

Broad South African Challenges

The progress that is being made by the country is not without challenges. The root cause of the challenges being experienced in South Africa emanates from mismatch in planning frameworks mismatch that the country is faced with since the dawn of democracy in 1994. As an example, there is a lack of a well-defined implementation framework for the NDP. Currently, this gap is filled by the Medium Term Strategic Framework (MTSF), but there is a need for alignment between the NDP, the MTSF, the Provincial Growth and Development Strategy (PGDS) and the Integrated Development Plans (IDPs) at local government level.

Another challenge facing the country pertains to SDGs the process of implementation of and the NDP, with regard to. alignment of goals and more effective allocation of resources.

Stakeholders in South Africa note that the country is faced with significant sustainability and transformation deficits. An opportunity therefore exists to leverage the 2030 Agenda and the 17 SDGs. To this end, significant efforts need

to be made by all sectors and stakeholders to enable effective partnerships to prioritise, align and deliver on the objectives.

South Africa is uniquely differentiated from other countries because of the action implemented after the end of apartheid to drive transformation through Broad-Based Black Economic Empowerment (B-BBEE). As a consequence, the extent is unparalleled, and many companies are taking incremental rather than transformational action. The spirit and intention of B-BBEE could feasibly be made more attractive by leveraging the SDGs and the NDP to drive action. This can be an opportunity to simplify and align frameworks enabling a refreshed narrative and the creation of new incentives.

Meaningful collaboration and prioritisation of the global goals in a South African context is critical. In accordance with the SDGs principle of "leaving no-one behind", there is a need to make participation easier by aligning the frameworks and incentivising, where possible.

Lessons Learned
Broader consultation amongst all stakeholders in compiling the report was a challenge. More effective means of consultation will have to be more consistently pursued in a timely manner to address the diversity and spread of all our people.

Areas of Assistance and Capacity Building
There is a need to conduct research across the government sector to investigate if there can be a formal approach that can be adopted while engaging with SDGs. Each department has a role to play as the SDGs are spread across national departmental, provincial and local mandates.

A clear mandate and resources are required in implementing and maintaining an effective, focus, ongoing and comprehensive engagement with all sectors of society that incorporates the domestic, regional and international imperatives of sustainable development. The Government Communication and Information System (GCIS), working in tandem with and supported by community-based media outlets, could be capacitated to more consistently and continuously develop non-partisan messaging around the SDGs.

1. INTRODUCTION

Since 1994, remarkable progress has been made in South Africa through the establishment of a very solid foundation for democratic governance and improvements in access to education, health services, water, electricity, housing and social protection for those who were excluded by the Apartheid government. Nonetheless, despite the progress, developmental challenges more persisted.

South Africa's policy development and planning systems underwent various changes since 1994. During the early stages, a "democratic" approach was adopted where sectors and departments were given the space to develop their own plans that were informed by their particular mandates. The central guidance, where it existed, occurred through the State of the Nation Addresses (SoNA) and the Programme of Action (PoA) managed at the centre of government. The various policy development changes in South Africa since 1994 were as follows:

✓ **The Reconstruction and Development Programme (RDP)** with the broader socio-economic policy aim to establish a more equal society through reconstruction and development as well as strengthening democracy for all South Africans4. The RDP identified five major policy programmes outlined in the White Paper on the Reconstruction and Development Programme (1995), namely to create a strong, dynamic and balanced economy; develop human resource capacity of all South Africans; ensure that no one suffers racial or gender discrimination in hiring, promotion or training situations; develop a prosperous, balanced regional economy in Southern Africa; and democratise the state and society. In short, this policy was aimed at addressing and redressing the inherited gross inequalities of apartheid, socially, economically and spatially.

The RDP was successful in some areas such as social security in which the government established a very extensive welfare system. The system catered for the aged, people with disabilities, children in need, foster parents and many others too poor to meet their basic social requirements. Under this programme, free healthcare programmes were implemented for pregnant women and small children, and free meals were provided for between 3,5 to 5 million school children.

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[4] RDP document,
https://www.sahistory.org.za/sites/default/files/the_reconstruction_and_development_programm_1994.pdf

✓ Government introduced a macroeconomic policy framework called the **Growth, Employment and Redistribution (GEAR)**[5] strategy in 1996 to stimulate faster economic growth, and generate the resources required to meet social investment needs. The policy encompassed most of the social objectives of the RDP, but was also aimed at reducing fiscal deficits, lowering inflation, maintaining exchange rate stability, decreasing barriers to trade and liberalising capital flows.

The successes of the GEAR policy included the fiscal deficit, as well as inflation and government consumption targets being met to some extent, reporting figures of 2.2%, 5.4% and 18% respectively by the end of 2000. GEAR brought greater macroeconomic stability, better reporting and increased accountability. The management of public finances improved drastically and the negative growth rate of the early nineties was reversed. Lastly, the tightening of monetary policy and restructuring all government levels led to a reduction in government expenditure.

✓ In 2006, **Accelerated and Shared Growth Initiative for South Africa (ASGISA)** was adopted. ASGISA envisioned the following aims: Reduce poverty by 2010, halving unemployment by 2014 from the 28% in 2004 to 14% and also recognized that the policies implemented to address these issues needed to be at the forefront of economic policy decision- making.

✓ In 2009, President Jacob Zuma announced, during his State of the Nation Address, that the **New Growth Path (GNP)**[6]. The NGP was aimed at accelerating growth in the South African economy, with the aim to rapidly reduce poverty, unemployment and inequality.

The conditions required for social and economic transformation to overcome the apartheid legacy subsequently started shifting the emphasis towards a more strategic and long-term approach, culminating in the adoption of the **NDP: Vision 2030** and the **MTSF** being the five-year implementation plan for the NDP.

In 2012, the **NDP: Vision 2030** became the country's blueprint for economic growth and development. The NDP provides thorough analysis of the underlying structural factors that South Africa needs to address in order to realise the Vision 2030 objectives.

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[5] GEAR document, http://www.treasury.gov.za/publications/other/gear/chapters.pdf
[6] https://www.gov.za/sites/default/files/gcis_document/201409/ngp-framework-public-release-final15.pdf

The broad objectives of the NDP are to reduce unemployment, eliminate poverty and reduce inequality. In order to realise these objectives, South Africa's plan is to make sure that economic growth is inclusive, to build human capabilities, to enhance the capacity of the state, and to promote leadership and build partnerships with various stakeholders in society (see various chapters covered in the NDP below).

NDP: Vision 2030 Chapters:

Chapter 3 - Economy and Employment
Chapter 4 - Economic infrastructure
Chapter 5 - Environmental sustainability and resilience
Chapter 6 - Inclusive rural economy
Chapter 7 - South Africa in the region and the world
Chapter 8 - Transforming human settlements
Chapter 9 - Improving education, training and innovation
Chapter 10 - Health care for all
Chapter 11 - Social protection
Chapter 12 - Building safer communities
Chapter 13 - Building a capable and developmental state
Chapter 14 - Fighting corruption
Chapter 15 - Nation building and social cohesion

In this way, the sustainable development paradigm for South Africa is a national priority that is fully integrated into the country's NDP.

There is substantial convergence between South Africa's NDP and the United Nations 2030 Agenda on Sustainable Development, Sustainable Development Goals (SDGs). This is evident in the policy aspects and the overarching imperatives, such as:
- ✓ Raising employment through faster economic growth.
- ✓ Improving the quality of education, skills development and innovation.
- ✓ Building the capability of the state to play a developmental, transformative role.
- ✓ Leaving no one behind.

The NDP, by design, addresses the three dimensions of sustainable development, namely poverty, inequality and unemployment in a manner that is just, inclusive, environmentally and socio-economically sustainable for both current and future generations.

The NDP resonates very strongly with all the broad focus areas of the SDGs, such as, leave no one behind; put sustainable development at the

core of all development programmes; integrating social, economic and environmental issues of sustainability in all areas of human effort; transform the economy for growth and inclusive growth; build peaceful and effective, open and accountable institutions for all; and forge a new partnership for development.

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.

The NDP indicates that raising living standards requires a combination of initiatives that include increasing employment, higher incomes through productivity growth, a social wage and good quality public services. For example, an improvement in education will lead to higher employment and earnings, while more rapid economic growth will broaden opportunities for all and generate the resources required to improve education.

2.   REVIEWING THE 2030 AGENDA TOGETHER (METHODOLOGY AND PROCESS FOR PREPARATION OF THE REVIEW)

Reliable reporting on the 2030 Agenda requires the availability and use of quality data and extensive engagement within and beyond government.

2.1   Lead departments in the South African government

DPME and Stats SA have partnered to produce South Africa's Voluntary National Review (VNR).

Building on its experience during the Millennium Development Goals (MDGs) era, Stats SA released South Africa's *SDG Indicator Baseline Report* in 2017.[7] This report covered Tier I and Tier II indicators on which reliable data is available. At the time of publication, 156 of 230 indicators had agreed standards and methods. South Africa was able to report on 63% of these indicators. With the *SDG Indicator Baseline Report* as basis, Stats SA initiated a process aimed at producing a national SDG Report, providing extensive analysis of the data on South Africa's progress. This report will be released in 2019 and its analyses form the basis for VNR's discussion of South Africa's progress and challenges.

DPME is responsible for the overall coordination of the VNR. This includes ensuring adequate quality control and stakeholder consultations.

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[7] http://www.statssa.gov.za/MDG/SDG_Baseline_Report_2017.pdf

2.2 Enabling engagement of stakeholders beyond the South African government

DPME and Stats SA have designed an extensive co-ordinated stakeholder engagement schedule. This schedule consists of two phases.

✓ *Phase 1: Data collection, analysis and validation*

A process of collecting, analysing and validation of national data commenced in November 2018. Experts were contracted to draft seventeen SDG goal reports, and open invitations were sent to civil society, multilateral organisations and academia to provide data and validate SDG goal reports. Between January and March 2019 various platforms were created to validate each of the seventeen goal reports. In order to ensure the broadest possible societal engagement, Stats SA covered all travel and accommodation costs.

The drafting of goal reports formed the basis for the drafting of four SDG thematic reports and an SDG country report. This process took place concurrently with Phase 2 and fed directly into the VNR drafting process. These reports were aimed at highlighting inter-linkages between SDGs and were clustered together as social, economic, environmental and peace and justice SDGs.

✓ *Phase 2: Expanded stakeholder engagement and VNR drafting*

During Phase 2, DPME took the lead and co-ordinated a process aimed at incorporating the data collected, analysed and validated in Phase 1 into the VNR.

Open invitations were extended to civil society organisations, trade unions, the private sector, academia, chapter 9 institutions including SAHRC and other stakeholders. A zero draft VNR was used as basis for these consultations and input was used to draft an updated VNR.

The table below provides a schematic overview of key milestones in the drafting of the VNR.

Activity	Date / Timeframe	Responsible institution / persons	Comments
Zero draft of VNR prepared	March 2019	DPME	Goal reports used as basis for compilation of zero draft of VNR.
VNR stakeholder consultation within government			Draft VNR discussed within government.
Draft VNR updated (Thematic Reports incorporated)			Input from government stakeholders incorporated into updated VNR. Thematic reports incorporated into draft VNR.
VNR stakeholder consultation 1: CSOs	April 2019	DPME	Draft VNR discussed with CSOs for input.
VNR stakeholder consultation 2: Trade unions			Draft VNR discussed with trade unions for input.
VNR stakeholder consultation 3: Private sector			Draft VNR discussed with trade unions for input.
VNR stakeholder consultation 4: Other			Draft VNR discussed with other stakeholders for input.
Draft VNR updated and VNR main messages prepared			Input from stakeholders used to prepare draft VNR and VNR main messages. Updated thematic reports and draft country report incorporated into VNR.
Submission of draft VNR main messages to Cabinet			
VNR main messages finalised and draft VNR updated	May 2019	DPME	
Submission of VNR main messages to UN			
Submission of full VNR to Cabinet			
Submission of full VNR to the UN	June 2019	DPME	

3. **POLICY AND ENABLING ENVIRONMENT (LOCALISING THE 2030 AGENDA)**

South Africa is deeply committed to the 2030 Agenda for Sustainable Development and the SDGs. This commitment is intertwined with its contribution to setting Africa's long-term development goals.

In 2013 the AU, under the leadership of South Africa, laid down eight development ideals, which were later translated into the seven aspirations of the African Union's Agenda 2063. At the same time, AU Heads of State and Government decided to establish a High-Level Committee comprising ten member states, including South Africa, to develop the Common African Position on the post-2015 development agenda. Subsequently, on the side-lines of the United Nations 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. As Chair of the G77+China, South Africa had the task of leading the group in the context of major international negotiations taking place in 2015.

3.1 **The National Development Plan and the 2030 Agenda**

Areas where a lot of overlap or convergence is realised between the NDP and SDGs are the following:

✓ The economy and employment chapter of the NDP exhibits a very high level of convergence across many SDG targets. Specifically, looking across the SDG target rows in the Integrated Assessment Matrix, Economy and Employment (Chapter 3) and Social Protection (Chapter 11) there are direct linkages to almost all the targets in Goal 1, apart from target 1.a, which concerns ensuring significant mobilisation of resources through, for instance, development cooperation.

✓ The economic infrastructure focus of the NDP has significant convergence with targets in SDGs 1, 5, 6, 7, 9 and 11.

✓ There is a high level of convergence or overlap between the objectives of the NDP Chapter 5 on environmental sustainability and resilience and SDGs 1, 2, 6, 7, 11, 12, 13, 14 and 15.

✓ The NDP recognises South Africa's leadership responsibility and has prioritised inter-regional trade as a key instrument in promoting livelihoods, not only domestically, but also across the continent in a "win win" spirit. Four SDG targets are related to the NDP chapter focusing on South-South and regional cooperation, as well as adherence to various global trading regimes such as the Doha Round.

✓ SDG target 1.4 and SDG targets 11.1, 11.2, 11.3, 11.7 and 11.b are specifically aligned to the NDP chapter that focuses on transforming human settlements.

✓ The actions and programmes outlined in the NDP chapter on improving education, training and innovation strongly converge with SDG 4, 5, 8 and 9.

✓ A very strong convergence exists between the health care for all objective actions in the NDP and SDG targets 1.1, 1.2, 1.4 and all the targets under SDG 3 on good health and well-being.

✓ The NDP chapter on social protection has strong overlap with SDG 1, SDG 2, SDG 4 and SDG 10.

✓ Chapter 12 of the NDP focuses on issues related to security, access to justice and the rule of law, which strongly overlaps with SDG 3 targets 3.5, 3.6 and 3.7., SDG target 10.7 and all targets in SDG 16.

✓ The objectives on fighting corruption as espoused in the NDP overlaps with SDG 16.

✓ The NDP clearly states that, "the country's vision is a society where opportunity is not determined by race or birth right; where citizens accept that they have both rights and responsibilities. Most critically, South Africa seeks a united, prosperous, non-racial, non-sexist and democratic country." This overlaps with SDG targets 10.2, 10.3 and is also congruent with SDG 16.

3.2 Coordinating the 2030 Agenda in South Africa (Institutional Mechanism)

South Africa views the co-ordination of the 2030 Agenda as a strategic opportunity to improve coherence between global, regional, national and sub-national development plans. Doing so requires a combination of strengthening existing structures and creating new co-ordination mechanisms.

Nationally, the DPME is responsible for monitoring the implementation of the NDP. The DPME also leads the quarterly reporting process to Cabinet on the implementation of the outcomes of the MTSF – an important implementation vehicle of the NDP. The DPME and Stats SA work together to align and coordinate data sources and determine data needs and quality for reporting on the MTSF indicators and targets.

In order to ensure South Africa's effective implementation together with the integrated follow-up and review of the SDGs and other agendas, such as, AU Agenda 2063 and the Southern African Development Community (SADC) Regional Indicative Strategic Development Programme (RISDP), a national coordination mechanism has been developed and approved by Cabinet. The national coordination mechanism will be led by the DPME. In line with the principle of utilising the existing structures, the national coordination mechanism leverages the current government structures and processes in order to avoid duplication.

South Africa's National Coordinating Mechanism

- ✓ Cabinet - the highest structure in the coordination of the implementation of SDGs, Agenda 2063 and SADC RISDP
- ✓ Cabinet Committees, Clusters (ministerial level)
- ✓ **Inter-Ministerial Committee on Sustainable Development Agendas (new)**
    - o Directors-General National Steering Committee
        - ▪ Inter-Departmental Implementation Committee (senior officials' level from all implementing line departments)
        - ▪ Inter-Departmental Working Groups – (thematic working groups/task teams at officials' level)
- ✓ Presidential Co-ordinating Council
- ✓ **National Sustainable Development Stakeholders Forum (new)**

The National Sustainable Development Stakeholders Forum will serve as a national platform of dialogue with non-state stakeholders, including private sector, civil society, chapter 9 institutions including SAHRC, academia, development partners etc. on the SDGs, Agenda 2063 and SADC-RISDP.
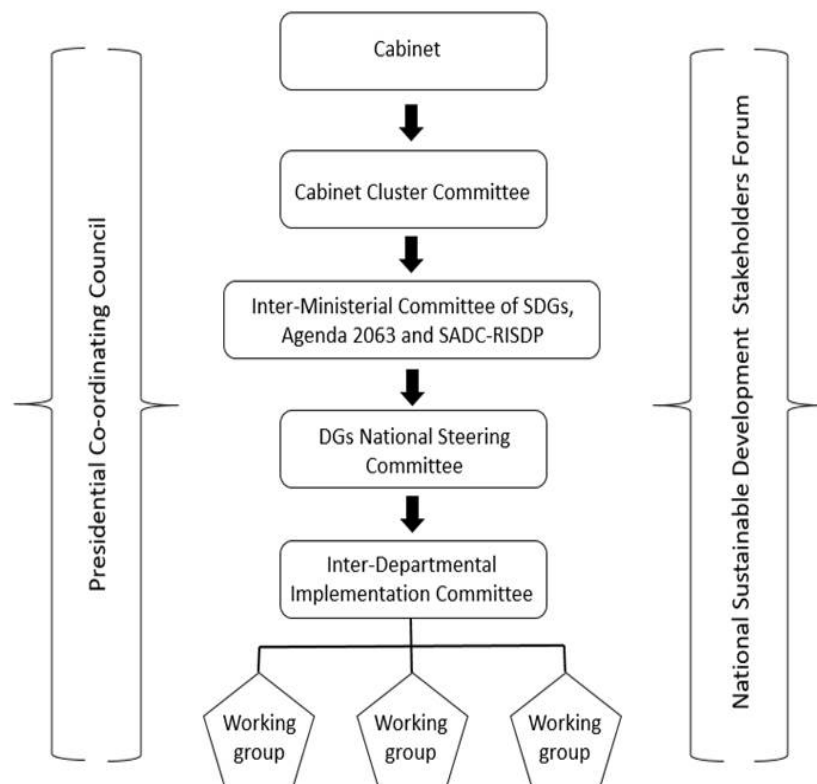
Furthermore, the national coordination mechanism has a national steering committee made up of Directors-General from the following departments:

✓ **Department of Planning, Monitoring and Evaluation** – Chairs the meetings. In addition, it leads on monitoring and evaluation of sustainable development agendas implementation and matters related to statistics.

✓ **Department of International Relations and Cooperation** – Leads on foreign policy and diplomatic engagements related to SDGs, Agenda 2063 and the SADC-RISDP

✓ **Department of Environmental Affairs** - Leads on environmental sustainability matters which cut across the various agendas

✓ **Department of Women** – Leads on Gender issues which are cross-cutting

✓ **Department of Basic Education** – Leads on issues in this sector across the agendas

✓ **Department of Higher Education** – Leads on issues in this sector across the agendas

✓ **Department of Cooperative Governance and Traditional Affairs** – Leads on local government-related issues across the agendas

✓ **Department of Finance** – Leads on resource identification and allocation for implementation

✓ **Department of Science and Technology** – Leads on Science, Technology and Innovation (STI) matters in support of the SDGs; Agenda 2063 and SADC-RISDP

✓ **Department of Public Service and Administration** – Oversees South Africa's African Peer Review Mechanism (APRM) commitments, which have links to the UN, AU and SADC agendas

✓ **Department of Communication** - Leads on communication related to the development agendas

The five groups of key stakeholders that will be included in the national coordination mechanism:

✓ *National government.* The 2030 Agenda, Agenda 2063 and SADC-RISDP have been adopted as global, continental and regional frameworks for development, and the responsibility for them lies with national governments. National governments have the responsibility of leading national efforts driving their implementation.

- ✓ **Provincial and local government.** Delivery on many of the development agenda targets is anchored in the programmes of sub-national level governments. The alignment of such national plans with the 2030 Agenda, Agenda 2063 and SADC-RISDP is therefore critical. One of the key lessons learned from the MDGs era is that there has been less focus on these levels of government in planning the national institutional coordination framework. The development of a coordinating system for the country will affirm the roles of these levels of government.

- ✓ **Parliament.** To succeed, the 2030 Agenda, Agenda 2063 and SADC-RISDP should not be the exclusive domain of the executive branch or a ministry-driven exercise. South Africa's Parliament will be mobilised around all the development agendas to ensure legislative oversight.

- ✓ **Civil society, private sector and academia.** There is broad acknowledgement that achieving the goals and targets set in the SDGs will require the efforts of all stakeholders. In designing South Africa's institutional coordination mechanism, these stakeholders' participation and co-ownership will be key for the effective realisation of the SDGs.

- ✓ **The United Nations, African Union, SADC and development partners.** Since the adoption of the SDGs, the UN system has been at the forefront of providing support to countries in their implementation efforts. This acquired knowledge, across different regions and contexts, can serve as a critical resource for the country, along with cooperation with continental and regional multilateral bodies, such as, the AU and SADC, as well as other development partners.

3.3 Creating ownership of the Sustainable Development Goals

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.

In South Africa, the implementation of the global, continental and regional agendas is carried out through the implementation of the NDP and involves participation of all the relevant line-function departments across government, private sector and civil society.

It should also be noted that the achievement of South Africa's domestic development priorities and the domestic implementation of the 2030 Agenda continue to be supported through cooperation with individual bilateral development partners and international development organisations, such as, the United Nations Development Programme (UNDP).

South Africa's national coordination mechanism for sustainable development Agendas has also been the mechanism for the drafting of the Voluntary National Review (VNR), in consultation with various stakeholders across society.

3.4 Incorporation of the Sustainable Development Goals in national frameworks

The SDGs agenda involves a deliberate commitment to and focus on inclusivity and sustainable development, presenting an opportunity to improve coherence across economic development and sustainable environmental management principles in order to maintain a balance between inclusive economic growth and sustainable use of natural resources. It should be borne in mind that the interconnectedness and inter-relatedness of the SDGs provides an opportunity for South Africa to enhance policy coherence across sector policies.

The UNDP has a tool called Mainstreaming, Acceleration and Policy Support (MAPS). The MAPS tool supports governments to mainstream SDGs into national development plans. The MAPS, among other things, assesses the alignment of the SDGs to NDP, identifies SDGs indicator accelerators, and policy gaps towards implementation of SDGs. SDGs Indicator Accelerators refer to the SDG indicators with the highest multiplier effects in achieving the national objectives of the NDP.

The SDGs are expected to be delivered within dynamic contexts and varying historical legacies, where actors and systems intersect at multiple levels, some with competing priorities and interests. A combination of individual, organisational, institutional and state efforts and processes have to coalesce to achieve developmental goals and advance common humanity. The successful implementation of the SDGs depends on sustained coordination of policies, programmes and strategies at all levels. Developmental policy objectives can only be met if the state has the capacity to deliver on these policies. All stakeholders involved in contributing to these developmental objectives must ensure alignment of the SDGs to national plans and programmes of action across sectors.

There has been substantial progress in the development of South Africa's *planning system*, led by the DPME. South Africa's long-term development trajectory as outlined in the NDP is incorporated in the country's macro-planning and socio-economic priorities. The NDP received widespread support and mobilisation across political parties as well as across the public and the private sectors.

There is eagerness within the private sector, to incorporate the SDGs within the operation of companies. In South Africa, the private sector is keen to pursue the following in relation to the 2030 Agenda and SDGs:

✓ How to integrate the 2030 Agenda into corporate strategy and day to day business?

- Getting support with frameworks that can help companies embed the SDGs into their businesses.
- Managing the prioritisation of SDGS to enable collaboration and big impact.
- Leveraging existing SDG toolkits and methodologies.

✓ Finding Opportunities that can both grow business and deliver the goals

- Tackling carbon emissions / accelerating renewable technology.
- Connecting to communities, job creation and reducing poverty.
- South African infrastructure: water, electricity, transport.

✓ Contributing towards strengthening the South African economy

- Improved participation in South African markets within the context of SDGs.
- Building trust in the South African economy with investors and for civil society.
- Looking for international collaboration opportunities.

✓ Drawing small and medium sized companies into the dialogue

- Designing a recognition framework for organisations that align and participate
- Investigating participation sponsorship / funding (JSE has ideas)
- The champion role in driving participation

✓ Using a principles-based approach to drive action on the global goals

- How to further use the ten principles to build a common language for business.

- How to further use the ten principles to provide an ethical framework for business.
- How to create and share tools that enable businesses to take a principles-based approach.

3.5   Integration of the three dimensions

In order to ensure an integrated implementation of the sustainable development agenda and to achieve the transformative vision of the 2030 Agenda for Sustainable Development, institutions need to collaborate on implementation of policies coherently across the economic, social and environmental sectors. Policy coherence is becoming an important prerequisite for balanced, inclusive and equitable growth.

Furthermore, to ensure that the SDGs are reflected in national policies, regulations and enabling legislation, the respective national, provincial and domestic authorities have to be engaged. The oversight function of legislatures is important in order to ensure adequate, efficient and transparent allocation of resources in national, provincial and local budgets for the full implementation of the SDGs.

Mainstreaming sustainable development goals into national, provincial and local level policies requires a coordinated approach to planning and implementation, such as, access to information, space for participation of all participants, empowerment of communities to implement priority actions, capacity building at community levels, and raising of awareness throughout society. Capacity building and knowledge sharing enables the respective spheres of government to advance development planning and implementation practices.

With regard to growth sustainability, this can only be realized through structural and technological transformation, such as the ability of an economy to constantly diversify into rapidly expanding activities characterised by higher technological intensity, greater value added and productivity.

While countries need to pursue economic policies towards reaching sustained growth, the sustainable development agenda recognises that special efforts are required in developing countries. In order to maintain steady long-term economic growth, it is vital to promote, at local and national levels, policies and institutions that support the establishment of productive activities; increase the productivity and research in agriculture; raise industry's share in GDP and foster industrial growth and diversification; facilitate entrepreneurship, creativity and innovation;

accelerate technological upgrading; and encourage the formalisation and growth of micro and small and medium size enterprises.

Translating national plans and intermediate targets into policy interventions, reflecting synergies and achieving the development results at the local level is vital.
For the 2030 Agenda to become a reality, success depends on effective and active local level participation - local governments and communities.

In South Africa, there is still a need to prioritise capacity development at local level, to ensure the local level is effective in delivering the services needed by the people.

Some positive progress has been made in some municipalities in aligning with SDGs, such as eThekwini municipality which has played an active advocacy role for inclusion of local government in global sustainable development talks. Politically, the Mayor and senior council members are members of various global networks, such as United Cities and Local Government (UCLG), the African Forum for Urban Safety, ICLEI, C40, and the Global Task Force. Furthermore, within the municipality, the Deputy City Manager for Human Settlements, the Head of Safer Cities, and the Integrated Development Planning Manager have been tasked to champion SDGs within the municipality.

SUCCESS STORY – ETHEKWINI MUNICIPALITY

SDGs Advocacy
- ✓ All internal communications related to sustainable development and city strategy reflect alignment to the relevant SDGs. For example, any publication or communication on gender equality will refer to SDG, the associate targets and indicators.
- ✓ All master classes held in the municipality have been revised so as to make direct linkages to the SDGs, such as the master class on strategic planning and performance monitoring are reflective of SDGs 11 and 16.
- ✓ SDG awareness and advocacy seminars have been held with senior and middle management so as to sensitise them on the global agenda and the need for alignment of their operational programs to the SDGs.

Development of SDG Toolkits
Through active participation of the eThekwini Municipality in the UCLG, this has assisted the Municipality to develop toolkits for SDG awareness and localisation. Senior staff members within the municipality have been involved in the packaging and development of training modules which can be used to build capacity at local government level on SDGs. eThekwini Municipality, through the strategy office, has provided content and assisted the UCLG and UN Habitat in the development of training modules on:

✓ SDG awareness ✓ SDG strategic planning and implementation ✓ SDG Monitoring and Reporting Currently, 12 staff members have been trained on the methodology of SDG localisation using the above modules.
SDGs alignment with Integrated Development Plan (IDP) Capital projects implemented by line departments have been aligned to each of the SDGs, targets and indicators. The following principles were used in the alignment process: ✓ All SDG targets and indicators were mapped to the roles and responsibilities of the different spheres of government as defined in schedule 4 and 5 of the Constitution of South Africa. ✓ In 2017, SDG indicators which had a local government responsibility and aligned to capital project was 66 out of 98. In 2018, the number increased from 66 to 75.

3.6   Leaving no one behind

The 2030 Agenda for Sustainable Development provides an opportunity to address the challenges of the most vulnerable in order to ensure their inclusion in the benefits of economic growth, advances in social development and environmental protection. At the heart of it, the principle of 'leave no one behind' permeates every aspect of the 2030 Agenda.

It focuses not only on income inequality, but also on discrimination and disadvantage generally. It calls for the "*social, economic, and political inclusion of all, irrespective of age, sex, disability, race, ethnicity, origin, religion, or economic or other status.*" Making progress on this overarching aspiration is important for achieving every one of the SDGs.

Labour market inclusion is key in ensuring social inclusion. Employment is not only a way of securing adequate financial means, it also allows participation and keeping in touch with society. In addition, employment represents a meaningful way to fulfil one's ambitions, obtain new skills and qualifications, and achieve personal development and growth and keeping up to date with life.

South Africa is faced with inter-generational poverty challenges. History has proved that youth raised in a poverty stricken society, more often than not, fall within the same particular life condition. By focusing on empowering the youth, the country therefore stands a better chance of achieving SDG 10 on reduced inequalities. In this regard, government policy has the ability to make a significant difference for a positive outcome. Although the implementation of new social policy reforms targeting the vulnerable and

disadvantaged may entail higher costs initially, inaction will result in higher costs associated with poor outcomes for children across generations. Currently, South Africa's policies address the gender, ethnic and racial foundations of social exclusion that go beyond income.

Globally, there is increasing and sustained pressure on natural resources as a result of unprecedented population growth and rapid urbanisation. Concerted efforts are therefore needed from a developmental planning perspective to address the growing demand in the exploitation of resources.

3.7   Structural Issues

South Africa remains a country where poverty is declining slowly, inequality is extremely high, and production and trade patterns have not shifted from the relative predominance of raw materials exports and the importation of high value added manufactures.

The South African economy has been characterised by failures to deal with poverty, inequality and unemployment, and continued racial imbalances during last two decades. Debate on economic policy should therefore focus on this. Although government has rolled out various social security programmes (i.e. cash transfers) poverty and inequality has persisted. Research reveals that inter-racial differences, poverty and inequality would be even higher without state grants. Several questions thus remained unanswered as to why the market distribution of income in South Africa is so unequal, and what policy interventions other than transfers could improve the situation.

Since the demise of apartheid, the economy has struggled to deal with the triple challenges of poverty, inequality and unemployment. Policy initiatives have not been able to address the deep structural legacies. Although the economy has recorded positive growth rates over the last 20 years, this growth has not been inclusive.

The structural inequalities across race and income groups are further exacerbated in higher education. The post-school systems are also weak. While there are some good universities, the system as a whole is not producing sufficient graduates in key skill categories. This was undoubtedly constrained growth in the first decade of the 21st century. Even more serious, is the relatively small number of suitable graduates emerging from vocational and technical training colleges.

Post-1994, it was hoped that there would be structural changes of the economy that would result in an era of strong economic growth, based on

a transforming economy. However, the economic shackles of apartheid have not been released and the economy has not been transformed.

The economic slowdown has raised the unemployment rate and income inequality remains wide. To revive economic growth to increase well-being, job creation and inclusivity, bold structural reforms are required, supported by social partners, including measures to broaden competition in the markets, limiting the size and grip of State Owned Enterprises (SOEs) in the economy, reducing the cost of energy, developing transport infrastructure and improving the quality of the education system.

Uncertainties regarding various government policies has not been conducive for economic growth, (such as delays to the mineral resource law and prospective plans for land reform and intellectual property rights) and have weakened business confidence.

South Africa could become a more attractive place to do business if government adopted much cleaner, simpler and consistent rules on what drives the economy – ranging from BEE to sector code and import requirements.

It is essential to have structural reform in the South African economy to promote increased productivity. For example, there is a need to promote competition within the product market that will reduce the barriers to entry by increasing the scope for new entrants and to make the economy more competitive and less concentrated. To address high unemployment levels, the labour market needs to be flexible, efficient and provide a conducive environment for small and medium enterprises to create employment opportunities. A structural shift should thus take place within the economy that will lead to an investment-led growth path as opposed to its traditional reliance on consumption as a driver of economic activity.[8]

Many of South Africa's markets that have been sanctioned for cartelization, including food, agricultural inputs, steel, and energy, were historically tightly regulated and protected oligopolies or monopolies. During the 1990s, the South African government undertook a range of market reforms to open these markets to trade and competition. But many markets remain oligopolistic, with a high degree of vertical integration and, in some cases, strategic behaviour that reflects previous regulatory conditions[9].

South Africa's lagging productivity growth and declining export performance have been associated with a lack of competitive pressure in its domestic markets— both in input markets and in downstream markets.

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[8] Cassim (2015). The Political Economy Growth and Reform in South Africa: Some Lessons from India's Licence Raj System. The Journal of the Helen Suzman Foundation | Issue 75 | April 2015
[9] Promoting faster growth and poverty alleviation through competition, the World Bank, 2016.

Open and competitive markets improve private sector competitiveness through cost reduction, innovation, and reallocation, which spur productivity growth.

Dealing with the triple challenges (poverty, inequality and unemployment) in South Africa will require many policy instruments and interventions. It is essential that the policy debates should focus mainly on high growth rates, and employment intensity of that growth. This entails encouraging employment intensity, which requires demand side and supply side policy reforms and direct interventions. The supply side encompasses efforts regarding skills matching, as well as addressing the particular spatial pattern of work and residence in South Africa. The demand side includes a change in the mind-set which restricts informal employment, and temporary safety nets through public works programmes. Finally, redistribution of market incomes through state grants, and better deployment of public expenditure for access to services, is also key. South Africa has had significant successes in some areas, but education remains a channel through which inequalities continue to be perpetuated and strengthened.[10]

Government needs to deal with the problem of low growth which is not inclusive. This challenge highlights the need for government to become ever more agile and responsive. In so doing, it will move on many fronts simultaneously, engaging with the real economy, and learning about the problems confronting civil society, as well as responding smartly and creatively. Above all, it will have to rebuild trust to foster the conditions required for structural change and reform[11]

Openness poses challenges; but, it also provides substantial growth opportunities through links to global demand and technical advances. South Africa's democratic elections in 1994 initiated a still ongoing process of re-engagement with the global community pushing up demand for imports and opening opportunities for export. Secular stagnation in mining placed the onus on other exporting sectors to grow. This onus remains as mining still represents around 30% of exports. To exploit the opportunities present in international markets and to facilitate transition away from dependence on mining exports, export oriented policies are required.

Access to high-quality imported intermediate inputs is an important component of an export orientation. There also appears to be space for enhanced competition from imports to reduce mark-ups and spur firm productivity and growth. Regarding manufactures, South Africa's most

[10] Bhorat et al (2014) Economic policy in South Africa past, present, and future. DPRU WORKING PAPER 201401
[11] Cassim (2015). The Political Economy Growth and Reform in South Africa: Some Lessons from India's Licence Raj System. The Journal of the Helen Suzman Foundation | Issue 75 | April 2015

productive firms are larger and much more likely to engage in direct importing and/or exporting. In terms of breaking out of the current economic malaise, large, productive firms with existing links to international markets likely have the highest near-term growth potential.

South Africa has a revealed comparative advantage in services exports. The past two decades also illustrate that South Africa has done relatively well in supplying rapidly growing African markets more generally. These two features interact as in the examples of servicing mining equipment and the sale of consumer goods in South African supermarkets located abroad.[12]

Economic growth in South Africa appears to be powerfully skills-constrained. Wage trends strongly indicate that demand for skilled labour has regularly exceeded supply causing highly skilled wages to rise dramatically. Part of this rise can be explained by global forces, notably skills-biased technical advance. However, the extraordinary rapidity of the rate of change in highly-skilled versus lower-skilled wage ratios over the past two decades points to local factors as well. Growth in services exports and high-quality manufactures, both of which frequently require substantial inputs of highly-skilled labour, has almost surely contributed to the relative rise in highly-skilled wages. The post-apartheid expansion of government provided public services and concomitant skilled labour requirements to design and manage these services within the public sector are a second likely contributing factor.

The skills constraint is pernicious. As noted, it constrains growth, most obviously in sectors that require substantial inputs of skilled labour. Because exporting requires skills, the skills constraint applies with particular force to exporters, who have already been identified as particularly important. The skills constraint is likely a part of the explanation for the coexistence of increased productivity and declining employment in manufacturing firms since 1994. Skills constraints are currently limiting services exports to rapidly growing markets in Africa and beyond[13].

Overall, an extensive public infrastructure programme will ease binding electricity and transport bottleneck overtime. Let alone improved state-owned enterprises efficiency, greater private sector participation would assist the state balance sheets that are stretched. Normalisation of industrial relations combined with greater competition in product markets, will assist in reducing skills mismatching issues to boost job and sustainable growth, lower vulnerability and enhance the economy's capability to rebalance towards exports and investment. There is a need to manage

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[12] UN-WIDER 2016. Growth and development policy -New data, new approaches, and new evidence
[13] UN-WIDER 2016. Growth and development policy -New data, new approaches, and new evidence

policy shifts in governments stance in a number of sectors to prevent further deterioration of the business confidence. Maintaining balanced macroeconomic policies which are favourable to investors, is likely to boost investor confidence.

4. PROGRESS ON GOALS AND TARGETS

SDGs in South Africa build on the legacy of the Millennium Development Goals (MDGs). Two-thirds of MDGs were translated into SDGs following the adoption in 2015 of the 2030 Agenda for Sustainable Development. South Africa finds itself faced with abject socio-economic challenges, such as, poverty, high unemployment and inequality. Since the adoption of SDGs in 2015, South Africa has made progress in addressing these challenges.

The section below provides an overview of the progress that South Africa has made until now in implementing the SDGs.

4.1 Goal 1: End poverty in all its forms everywhere

Poverty is a multifaceted problem that manifests itself in economic, social and political terms.

Since the advent of democracy in South Africa, reducing poverty has been the focus of government's development efforts. This focus, was initially covered in the Reconstruction and Development Plan (RDP) of 1994 and reiterated in the NDP published in 2011.

Summary of Policies towards Eradicating Poverty in South Africa:
- ✓ The Constitution
- ✓ Reconstruction and Development Programme (RDP) established in 1994
- ✓ Land Reform Programme – 1994
- ✓ Growth Employment and Redistribution (GEAR) – 1996
- ✓ Expanded Public Works Programme (EPWP) - 2003
- ✓ Comprehensive Agricultural Support Programme (CASP) – 2004
- ✓ Integrated Sustainable Rural Development Strategy / Programme - 2001
- ✓ Accelerated and Shared Growth Initiative South Africa (ASGISA) – 2006
- ✓ Comprehensive Rural Development Programme – 2009

✓ New Growth Path (NGP) – 2010
✓ Recapitalisation and Development Programme – 2010
✓ National Development Plan (NDP) – 2012
✓ National Policy on Food and Nutrition Security – 2014
✓ National Integrated Early Childhood Development Policy – 2015

The NDP is fundamentally geared towards the elimination of poverty and the reduction of inequality through job creation programmes, as well as creating conducive conditions for entrepreneurship for the majority of the people to be in employment and other economic activity. In South Africa, numerous policies, programmes, and projects have been implemented to deal with poverty.

South Africa has made progress in reducing extreme poverty through a progressive, pro-poor tax system that supported the provision of social assistance and free basic services – old age pensions, child grants, orphan grants, subsidised water and electricity, provision of no Value Added Tax (VAT) on certain food items, and more public schools declared as no-fee schools.

In 2014, South Africa published its official Multidimensional Poverty Index known as the SAMPI. The SAMPI is made up of eleven (11) indicators across four dimensions, namely health, education, living standards and economic activity.

To reduce poverty, South Africa has since 2000 been assisted by one of its key programmes, rapid expansion of social grants. Social grants, provide financial assistance to 17 million South Africans. Statistics surveys show that the elderly is covered comprehensive with 71,9% of all older persons receiving an old-age grant in 2015. In addition, about 92,2% of those classified as poor received grants. Approximately a third of households with children (34,3%) are covered by child support grants, with poor households having notably higher coverage at 61,3%[14].

A study by Posel 2016/17, using the National Income Dynamics Study (NIDS), 2008-2014/15, found that social grants to have significant impact on reducing poverty in South Africa. The study also found that without social grants, poverty would be 8% higher than the current level.

Using the international poverty line of $1.90 a day, South Africa has performed well in reducing poverty by 55%. This is consistent with the

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[14] South Africa's SDGs Baseline report

results of the study by Finn and Leibbrandt (2017) who analysed the dynamics of poverty in South Africa using the NIDS data. The study found that over the period 2008 to 2015, there was a high poverty exit rate.

The latest *"Poverty Trends in South Africa"* report shows that despite the general decline in poverty between 2006 and 2011, the war on poverty is far from over and that efforts to combat poverty must be expanded and accelerated as the country experienced increased levels of poverty between 2011 and 2015. Women, children, black South Africans, those living in rural areas, and people with little or no education remain the main victims of poverty. These groups require special focus and targeted interventions if poverty levels are to drop to the SDG target of 20% by 2030 (from 40% in 2015) based on the Lower Bound Poverty Line (LBPL). The majority of children are poor because they are in poor households. If children are poor, they are less likely to go to school and even if in school, they will perform poorly.

The provinces with the highest levels of poverty are Limpopo and the Eastern Cape, and those with the lowest levels are the Western Cape and Gauteng. According to Stats SA, there is "significant disparity in poverty levels between population groups in South Africa". In 2015, nine out of every ten poor people in South Africa (93%) were black. White people in South Africa have the lowest levels of poverty. In 2015, only 1% of the population group lived under the upper-bound poverty line of R992 per person per month.

South Africa has three poverty lines that capture different degrees of poverty and allow the country to measure and monitor poverty at different levels. They were first published by Stats SA in 2012. The poverty lines were based on spending and consumption data from the 2000 Income and Expenditure Survey. Stats SA's first poverty trends report was released in 2014.

In 2015, the poverty lines were rebased – this means that the poverty lines were recalculated using new data from the 2010/2011 Income and Expenditure Survey. The latest poverty trends report was released in 2017 and include poverty estimates for 2006 to 2015.

In South Africa, some of the contributors toward poverty include low economic growth, lack of jobs (high unemployment) and policy uncertainty. Unemployment causes families to live in unsanitary conditions due to a lack of financial means to improve living conditions. The likelihood of staying unemployed has increased by 10%. The youth bear the burden of unemployment. They graduate from poverty as children into being

unemployed as youth, despite attending tertiary education institutions to acquire relevant academic qualifications.

According to StatsSA, there is an undeniable relationship between poverty and education. Research indicates that the higher a person's qualification, the more likely they are to be employed and absorbed into the formal labour force, and therefore, are less susceptible to falling into poverty. In 2015, 79.2% of South African adults were without education and lived in poverty.

According to Stats SA (2017), approximately, 13.6 million people in South Africa are extremely poor, this is about 25.2% of the poor living in extreme poverty. The report released by Stats SA (March 2018) indicates that nearly half of South Africa's population is considered chronically poor at the Upper Bound National Poverty Level (UPBPL) of R992 per person per month, using 2015 prices.

South Africa has made progress in reducing the proportion of the population living below the Lower Bound Poverty Line (LBPL) with a decline from 51% in 2006 to 40% in 2015.

The number of households, that received basic services from municipalities between 2016 and 2017 increased from 12 718 048 units in 2016 to 12 989 037 units in 2017 (2.1% increase in a year)[15]. Of those that received water services, 36.6% received it as a free service.

Access to sanitation services in South Africa increased from 2015 to 2017. The percentage increase, between 2016 and 17, in sewage and sanitation services was 3.8%[16].

Stats SA (2018) indicates that approximately 90% of the South African population is connected to the electricity grid.

The Living Conditions Survey (LCS) by Stats SA (2015) indicates that poor households headed by females had better access to housing and electricity, but not to water, sanitation and refuse removal services.

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[15] Statistics South Africa 2017

[16] Statistics South Africa, Non-financial census of municipalities, 2017.

SUCCESS STORY

Significant progress has been made by the Department of Science and Technology (DST) in contributing towards addressing poverty, unemployment and inequality in South Africa through the implementation of a broad range of programmes, including various sector-specific initiatives. DST's efforts in this regard are guided by the Ten-year Innovation Plan, the National Research and Development Strategy and the National Development Plan. Also, DST provided support to the Economic Sectors, Employment and Infrastructure Development Cluster and to the government's Nine-Point Plan project management team.

Targeted decision support through innovation for inclusive development initiatives, the DST continued in its endeavours to engage policymakers and relevant stakeholders in advancing the integration of innovation in the inclusive development agenda through policy seminars. The DST policy dialogue to advance the discourse on the role of science, technology and innovation in local economic development (LED), formed a critical part of the National LED Conference hosted by the Ministers of Cooperative Governance and Traditional Affairs and Small Business. The policy dialogue presented a rare opportunity to engage local government officials, academics, students, researchers and other local stakeholders on the important role of knowledge, technological solutions and all forms of innovation in building strong local economies that support job creation, inclusive development and poverty alleviation. Following the DST revision of the National LED Framework, in partnership with the Department of Cooperative Governance and Traditional Affairs, the conference saw the launch of the Framework and set the tone for the agenda for innovation-driven LED.

During the reporting period, DST and the Human Sciences Research Council (HSRC) brought together over 70 LED officials from selected rural municipalities and rural-based universities under the banner of "Owning tools for local innovation assessments: Benefits for local municipalities". The seminar provided a platform for participants to share their experiences in using the tool, which enables users to detect rural innovations and identify interventions that have the potential to be high impact catalysts. This provides a valuable opportunity to demonstrate the importance of the relationship between municipalities and universities in relation to LED. One of the important outcomes of the seminar was an agreement to establish a community of practice involving all participants, in order to continue expanding the gains of RIAT in those municipalities.

To improve the integration of innovation into the delivery of basic services, the DST's collaboration with the Department of Cooperative Governance and Traditional Affairs as well as the South African Local Government Association enabled the demonstration of the Municipal Innovation Maturity Index, a tool introduced to diagnose innovation

integration challenges and measure the innovation readiness and maturity of a municipality. This is critical for municipalities to adopt and employ innovative technology solutions in the delivery of basic services and contribute towards improving the quality of life. The Municipal Innovation Maturity Index supports the NDP goal of building an innovative and capable state. In implementing the innovation for inclusive development agenda, South Africa continues to harness innovative technology solutions to improve access to basic services such as safe drinking water, sanitation and electricity. The technology demonstration and diffusion in support of basic services is executed in a manner that is aligned to local economic development, improving the quality of life in an environmentally sustainable and resilient way. On this basis, the period under review also saw the promulgation of service delivery policies founded on innovation as one of the pillars, e.g. the water and sanitation policy, the human settlements framework, etc.

South Africa is not lacking in implementing initiatives towards reducing poverty. The country has implemented a number of initiatives to achieve SDG 1, such as land reform and agriculture, free higher education, and growing entrepreneurship[17]. Government has, for example, rolled out programmes aimed at training people without a business background to start their own businesses.

In addition, the South African government has implemented a "Social Wage" in terms of free education, free primary health care, social protection, RDP housing, and provision of free basic services to poor households[18].

South Africa's expenditure on social grants has increased from R164.9 billion in the 2016/17 financial year to a projected R209.1 Billion in the 2019/20 financial year.

Though much has been done to reduce head count poverty, more could be done, such as targeting vulnerable groups with female headed households in rural areas. Another challenge facing the country relates to the misalignment of budgets with the SDGs and indicators outlined in the NDP.

Towards 2030, the enhancement of social protection, private cash transfers, collection action, growth stimulation, and reducing risk in the labour market especially for vulnerable groups such as women, could contribute towards further reducing poverty in South Africa. Social protection has proven to successfully reduce extreme poverty (World Bank 2016). Labour market incomes were an important source in reducing poverty between 2006 and 2015 (World Bank 2016).

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[17] UN 2018
[18] Stats SA 2015

Interventions that simultaneously stimulate growth and reduce inequality are likely to have much more impact in reducing poverty than interventions that either stimulate growth only or reduce inequality only. The effect of current policy interventions on inequality and poverty, such as employment tax incentives and the national minimum wage, are as yet very modest. The World Bank (2016), regard job creation for the poor as having a greater impact on inequality and poverty.

South Africa needs to consider a multi-stakeholder approach in dealing with poverty. An integrated framework by McKague, Wheeler & Karnani (2015), for example, suggests that the various stakeholders have different roles to play, such as the private sector, government and civil society. The study suggests the following roles for the various stakeholders:

- ✓ Private sector – beyond selling to customers, the sector could include working with the poor as sources of information, as producers and suppliers, as well as employees and distributors;
- ✓ Government – provision of public services, infrastructure and regulation;
- ✓ Civil Society – act as a catalyst and watchdog to ensure that both the private and public sector live up to societal regulations and expectations.

The issues faced by women in the labour market needs the country's attention. Women and those living in female headed households still face the risk of poverty. According to Rogan (2016), this is partly due to the disadvantages that women face in the labour market which carry over to their higher risks of multidimensional poverty. Therefore, addressing the challenges or disadvantages of women in the labour market could reduce the multidimensional poverty and accelerate the reduction of poverty among women.

Success Story - Private Sector

Retail banks, especially those with big footprints, want to enable value and inclusion for a diverse population experiencing severe inequality. Across the board, banks are realising that they can play an important role on Goal 1: No poverty, by reducing poverty through further creation of accessible and responsible financial products. Greater access to finance across banking services and products are a priority. South African banks understand the critical role that they can play in helping the poorest citizens to escape the poverty trap.

4.2 Goal 2: End hunger, achieve food security and improved nutrition and promote sustainable agriculture

In South Africa, a number of overarching policies and strategic documents emphasis the development agenda around food security and nutrition. These include the Constitution, the NDP: Vision 2030, the MTSF 2014-2019, and the Agricultural Action Plan for 2015-2019.

Food security is integral to the Bill of Rights and resonate with some sections of the Constitution. The Constitution refers to food security in Section 27 1 (b) of the Bill of Rights, which states that *"every citizen has a right to access to sufficient food and water"* and that "*the State must take reasonable legislative and other measures, within its available resources, to achieve the realisation of this right"*. Section 28 1 (c) states that *"every child has the right to basic nutrition, shelter, basic health care services and social services",* and Section 35 2 (e) further provides that "every detained person and sentenced prisoner has the right to adequate nutrition". Section 7 (2) of the Constitution requires that the *"State must respect, protect, promote and fulfil the rights in the bill of rights".*

The South African government has increased its commitment to provide food security schemes aimed at the poor and vulnerable, in addition to infrastructure development and social wage policies (Stats SA, 2017c, p. 32). These have contributed significantly to the improvement of living standards of South African people (Stats SA, 2017c, p. 32).

The NDP recognises food security as an integral component to deliver on social protection (Chapter 11 of the NDP: Vision 2030) and to achieve an integrated and inclusive rural economy (Chapter 6 of the NDP 2030). The NDP acknowledges that the ability to access food rather than its availability is key towards determining the food security of households and individuals (NPC, 2012). Furthermore, the NDP iterates the need to enhance agricultural production and calls for the increased investment into the research and development of innovative farming methods to improve agricultural productivity, as well as skills development among extension officers to address the needs of smallholding farmers.

However, though the NDP addresses several issues regarding ending hunger and addressing the structural causes of addressing food security, there are no clear set targets on how the outcomes are to be achieved. For example, the NDP illustrates the desired number of direct and indirect jobs to be created by 2030, which would presumably end hunger and malnutrition. However, the plan does not indicate the proportion of food for households which will be affected as a result of say, 100 000 additional jobs created, and how many jobs will be created per annum.

South Africa has developed a National Food and Nutrition Security Plan. This policy intervention includes support for land reform, the provision of social grants, field crop production, and the provision of nutrition education.

The policy defines food security as the right to have access to and control over the physical, social and economic means to provide sufficient, safe and nutritious food at all times, such as, meeting dietary food intake requirements for a healthy life by all South Africans. It is made up of six strategic objectives which look at establishing a multi-sectoral Food and Nutrition Security Council to oversee:

- ✓ alignment of policies, legislation and programmes,
- ✓ coordination and implementation of programmes and services that address food and nutrition security;
- ✓ establishing inclusive local food value chains to support access to nutritious affordable food;
- ✓ expanding targeted social protection measures and sustainable livelihood programmes;
- ✓ scaling up of high impact nutrition specific interventions targeting nutritionally vulnerable groups across the life cycle;
- ✓ developing an integrated communication plan to influence people across the life cycle to make informed food and nutrition decisions; and
- ✓ developing a monitoring and evaluation system for food and nutrition security, including an integrated risk management system for monitoring risks related to food and nutrition security.

Strategic objective 2 is the largest contributor to the estimated costs of the plan. It represents 78,2% of the plan's total costs. This strategic intervention proposes the doubling of the number of extension officers employed over the National Food and Nutrition Security Plan period. Strategic objective 3, in terms of costs, proposes the implementation of early registration of children born in public facilities; implementation of a universal child support grant registration; and the expansion of the coverage of the meal provision programmes at Community and Nutrition Development Centres, Early Childhood Development Centres, and schools.

Regarding the progress made in South Africa to end hunger, about three-quarters of the population had been food secure in 2008, showing an improvement of roughly 50% from 2005. The GHS survey of 2017 indicates that there was a decline in the percentage of households that are vulnerable to hunger, from 24,2% in 2002 to 10,4% in 2017 (Stats SA, 2017b, p. 56). This suggests that the global financial crisis also had a negative effect on addressing hunger in South Africa. Equally, the proportion of people vulnerable to hunger decreased from 29,3% to 12,1% between 2002 and 2017 (Stats SA, 2017b, p. 56). One of the contributing factors towards the attainment of this outcome is South Africa's commitment towards social assistance. South Africa is the lead country in Africa allocating the most to social assistance (3%) as a proportion of GDP (World Bank, 2018b, p. 71).

The South African National Space Agency (SANSA) is mandated to promote the peaceful use of space; support the creation of an environment conducive to industrial development in space technology; foster research in space science, communications, navigation and space physics; advance scientific, engineering and technological competencies and capabilities through human capital development, outreach programmes and infrastructure development; and foster international cooperation in space-related activities.

An important part of government's Nine-Point Plan is revitalising agriculture and the agro processing value-chain by increasing support for existing smallholder farmers, and exploring ways to substantially expand the number of agricultural producers. Lack of access to actionable information inhibits agricultural growth, and crop monitoring products (such as Crop Arable Land Fraction and Crop Anomalies) and biophysical products (such as Chlorophyll Content and Canopy Water Content) were therefore produced and distributed by SANSA to stakeholders to support crop monitoring activities during the 2016/17 and 2017/18 summer growing seasons. The stakeholders included Mob insurance, an SME that uses data obtained from satellites to insure smallholder farmers against weather-

related risks, Senwes, an agricultural company, and the Grain Farmer Development Association. The Grain Farmer Development Association received crop monitoring products on a weekly basis for use in precision farming.

South Africa has done relatively well in maintaining the number of animal genetic resources. However, conservation of plant genetic resources between 2016 and 2017 was disrupted due to drought conditions, which affected mainly deciduous fruit genes. The total number of farmers who benefit from animal improvement schemes grew from 1 288 to 8 676 between 2011 and 2017. The large increase in farmers who receive assistance, provides a positive outlook for the quality and quantity of livestock production in South Africa. Increased livestock production could contribute towards food security, as well as improved livelihoods in rural communities.

In South Africa, the total official development assistance to the agriculture sector has declined between 2013/2014 and 2015/2016. During the period under review, the assistance provided by government towards the development of agriculture decreased from R899 000 to R430 000, for the financial year 2013/2014[19]

The level of commitments made was however high relative to actual disbursements. For instance, R31 492 000 and R40 860 000 were committed for the years 2014/2015 and 2015/2016, respectively. However, only 8,5 percent of the amount committed in 2014/15 was disbursed. The situation worsened in the subsequent year, when 1.1 percent of the commitments was disbursed. The level of stringency in donor funding, particularly as regards middle-income countries is plausible in explaining the decline in disbursements.

Despite the progress the country is making, South Africa still faces challenges. Over three million households are reported to have run out of money to buy food at the end of 2016 (Stats SA, 2016, p. 166), of which 90.8% were black South Africans (Stats SA, 2016, p. 167). Furthermore, the prevalence of underweight children and stunting in children below five years is a major concern, indicating the lack of nutritious food.

In South Africa, 13% of children under five years are regarded as overweight, which is more than double the global average of 6,1%. Also, the percentage of children who are considered short for their age, was 27% in 2016, as opposed to 23,9% in 2008. The challenge of stunting was found

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[19] Statistics South Africa, SDG Country report 2019

to be more severe in rural areas, followed by urban informal areas (DSD and DAFF, 2014).

Going forward, as a high-priority, South Africa needs to address food insecurity, address stunting and challenges of obesity in children. Furthermore, there is a need to complement efforts made to reduce the number of people vulnerable to hunger by ensuring access to safe and quality food for all households and all persons.

SUCCESS STORY

Financial Services Sector

The financial services sector is also prioritising industry innovation and infrastructure in the agricultural sector, taking on the importance of food security, with sustainable food production systems and of land reform.

4.3 Goal 3: Ensure healthy lives and promote well-being for all at all ages

South Africa's Constitution, including the Bill of Rights (Constitutional Assembly, 1996), clearly stipulates the right to equitable healthcare for all South Africans and progressive realisation of improvement in access to and quality of care. The South African Constitution guarantees everyone *"access to health care services"* and states that *"no one may be refused emergency medical treatment."* Hence, all South African residents, including refugees and asylum seekers, are entitled to access to health care services.

The Reconstruction and Development Plan (RDP), proposed free service for mothers and children, followed by free primary health care for all, as well as a clinic building programme.

The National Health Act, 61 of 2003 provides a framework for a structured health system within the country, taking into account the obligations imposed by the constitution and other laws on national, provincial and local government regarding to health services.

The NDP provides an overarching policy framework for the health sector, including policy direction on the key elements of strengthening and governance of the health system. The NDP identifies nine health goals for South Africa, including raising life expectancy to 70 years, reducing maternal, infant and child mortality, and significantly reducing non-communicable diseases (NCD), injuries and violence. Addressing the social

determinants of health and disease is identified as a key priority required to achieve these goals. These goals and priorities were taken into account in the development of the South Africa Department of Health Strategic Plan 2014 to 2019. The NDP aims to combat the high cost of private health care, and also address the need for quality healthcare. in addition, the Department of Health is also on a mission to offer quality healthcare to all South African citizens, irrespective of their economic status.

In terms of policy, South Africa's National Strategic Plan for HIV, TB and STIs 2017-2022 guides the country's response the HIV, TB and STI epidemics.
The plan is a multi-stakeholder collaboration from government, civil society, communities, and the private sector to implement the reduction of HIV, TB and STI morbidity and mortality in the country.

The high cost of living combined with low income rates means that about seven in every 10 households rely on public health facilities.

The philosophy of Primary Health Care (PHC) forms the basis of South Africa's health policy and provides guidance for healthcare service delivery. The principles of primary healthcare underpin healthcare delivery in South Africa. These principles include equity; community participation; social and economic development; interventions focused on the determinants of poor health, health promotion, prevention, cure and rehabilitation; an integrated referral system to facilitate a continuum of care; teams of health professionals with specific and sophisticated biomedical- and social skills; adequate resources; and a client-centred approach.

Two South African chemists have made a breakthrough in cancer research that paves the way for early diagnosis and specialised treatment based on each cancer's unique genetic expression pattern. Deaths of children under five years old have decreased, following the roll-out of the Prevention of Mother to Child Transmission Programme. Access to early childhood development programmes increased from 55% in 2002 to 91% in 2013, and access to basic education is nearly universal, at 98%.

Case Study - National health insurance

The National Health Insurance (NHI) aims to make sure that all citizens have access to essential healthcare. It states, however, that, even though healthcare is a human right, "*large numbers of our people continue to die prematurely and to suffer unnecessarily from poor health.*"

The under 5 mortality rate in South Africa has decreased from 34 per 1000 live births in 2014 to 30 per 1000 live births in 2015. With regard to the percentage of mothers and children who received post-natal care within six days has increased from 69.7% in 2013 to 70.6% in 2017. Yet, when compared to peer upper-middle-income countries, this rate is still unacceptably high. The same goes for maternal mortality.

Stats SA (2014) report on perinatal deaths in South Africa and the fifth Rapid Mortality Surveillance Report in 2015 indicate that 72% of neonatal deaths occur in health facilities. The infant mortality rate trend indicates a decline from 33,4 per 1 000 live births in 2010 to 22,3 per 1 000 live births in 2015.

To show commitment in this area, South Africa's health expenditure increased from R18.172 billion in 1995/6 to R184,217 Billion in 2016/17. However, there was a challenge regarding the buying power of the health budget, as health inflation, salary and benefit increases and the cost of imported goods were higher than the general inflation.

while there was an increase in the number of subsidised health professionals being trained, the country faced the challenge of retaining health professionals in the public sector, especially at senior level. To counter the challenge, South Africa introduced Occupational Specific Dispensation (OSD) for health professionals in the public sector.

Even though South Africa is making progress, historic inequities of the apartheid system are still prevalent in the health system. Universal health coverage and getting better value for the money spent on health and more funding remain a challenge. The key challenges facing the health sector in country, are poor access and quality in some areas, lagging behind on mental health services and services for the disabled, and quality of care. While access to health care has improved in South Africa, there are still disabled people without necessary supportive aid and therapy.

To achieve the SDG on Health, South Africa needs to scale up key interventions within the health system. There is a need to introduce and adopt innovative models in health-care delivery to accelerate progress. To achieve the needed innovation, the bottlenecks in the system must be overcome and much-needed leadership must be provided.

Notable high level interventions include: improvement and strengthening the supply chain processes for the procurement of quality medicines, vaccines, medical equipment, and health information management products. South Africa needs to demonstrate improvements in quality of health care services

underpinned by evidence based clinical practise. There is a need to improve the operational efficiency and utilisation of human resources in the health system supported by appropriate strategies in recruitment, retention, and human resources forecasting.

Case Study

South Africa affirms that health is essential in building wealth and that a substantial input into the economy could be made by having a healthy workforce. *It is in this regard that South Africa continues to invest in innovation to enhance access to essential healthcare as well as research and development of appropriate medical devices, diagnostics and vaccines to address key health challenges such communicable and non-communicable diseases.* For example, the DST, the Department of Health and the Medical Research Council (MRC) have implemented a number of projects under the Strategic Health Innovation Programme (SHIP). The research and development (R&D) focus is presently on diagnosis, vaccines, new and improved drugs and medical devices, in the areas of HIV, TB, diabetes, cancer and neo-natal conditions. Translational research aims, through clinical research, analysis and information exchange, to move from pure research into making information accessible and usable by the public. The DST focuses on new and improved drugs, therapeutics and delivery systems, making sure that drugs are adaptable to context by working with major manufacturers and trying to use South African resources. In the area of drug development, the DST is working with various institutes, with similar approaches to vaccines and biological medicines, and focuses, in the diagnostics area, on more user-friendly, easier and faster diagnostics able to deliver results rapidly and reduce patients' waiting time at clinics. Much focus continues to be placed in harnessing ICTs to improve administration and efficiencies of primary health care facilities, an aspect that is key for the early detection and rapid response to health challenges for example for learners in rural areas. The following are some of the projects carried out under the partnership with the MRC.

DSTs contribution/activities

The following are some of the examples of how the DST has contributed to product development, to strengthen South Africa's ability to locally manufacture active pharmaceutical ingredients and to develop the ability to locally manufacture vaccines and biologics: In supporting the development of new technologies to reduce maternal deaths, an Uterine tamponade has been introduced for the management of postpartum haemorrhage, modelling the potential impact on maternal mortality and morbidity in sub-Saharan Africa. The DST supported the Tshwane Khulelwe project, an initiative that aims to curb maternal mortality. The primary objective of the project was to evaluate the clinical significance and benefit of routine screening with Umbiflow, a portable umbilical artery Doppler device developed by the South African Medical Research Council and the Council

for Scientific and Industrial Research, of an unselected population in a low-resource primary health care setting. The device is meant to assist in detecting foetuses at risk of stillbirth, and is cost-effective compared to other such devices.

✓ In contributing to the eradication of under-five mortality rate, the DST has provided the Extended Programme of Immunisation vaccines via BIOVAC in which DST holds a 47% share.
✓ To reduce neonatal death, the department is supporting a project focusing on the implementing of the Umbiflow device as a routine screening tool for antenatal care. The Umbiflow is a sophisticated portable device that allows health care practitioners to assess placental function, and specifically its ability to supply sufficient oxygen and nutrition to the growing foetus. Umbiflow was designed and developed by the South African Medical Research Council and the CSIR for use by nursing staff and midwives at primary health care facilities and antenatal clinics in remote and low-resource settings. While it was initially aimed at reducing unnecessary referrals for pregnant women with foetuses that were small for gestational age, it has since been shown to be an effective tool for screening low-risk pregnancies and identifying those with at-risk foetuses requiring intervention.

Group B Streptococcus (**GBS**) is a cause of neonatal invasive diseases as well as of severe infections in the elderly and immune-compromised patients. The DST has supported the development of the GBS vaccine, providing an effective means of controlling **GBS** disease.

✓ The DST also supported the development of new prevention and treatment technologies:
✓ HIV drug resistance test, broad-spectrum microbicide, novel HIV vaccine development, broad neutralising antibody passive immunity therapy, genital inflammatory test;
✓ new TB diagnostics and treatment regimens: point of care TB diagnostics; TB drug resistance test, TB drug discovery (part of international group);
✓ new malaria treatment regimens; developed the Sterile Insect technology to reduce mosquito populations-development of novel anti-malaria drug, sterile insect technology for mosquitoes;
✓ provides continuous supply of the HIBB vaccine;
✓ contribute to the development of diagnostics and treatment regimens; development of a novel febrile disease diagnostic, incl. Ebola, Malaria drug development, sterile insect technology against malaria;
✓ support the development of diagnostics and treatment regimens for non-communicable diseases: early detection of diabetes diagnostic, diabetes drug – aspalathin, breast

✓ cancer diagnostic test, cancer treatment, balloon aortic valcoplasty. Lab on a disk - pneumonia test; development of medical devices and diagnostics; support the development of health Apps for essential medicine list, HIV and TB treatment guideline, Road to Health, MomConnect.
✓ The DST has also supported the development of houses that are environmentally friendly, fire proof and well ventilated (in conjunction with the Swiss Embassy).

The DST has furthermore established international linkages through its participation in the activities of Glopped-R (Global Programme for Infectious Diseases - Research) which is geared towards assistance with epidemics and outbreaks.

4.4 Goal 4: Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all

Education is one of the priorities of the NDP, as it highlights that quality education is the key in unlocking people's potential, and in providing economic opportunities for everyone.

Education in South Africa is governed by two national departments, namely the department of Basic Education (DBE), which is responsible for primary and secondary schools, and the department of Higher Education and Training (DHET), which is responsible for tertiary education and vocational training.
The South African Schools Act (SASA), 1996 (Act 84 of 1996) is aimed at ensuring that all learners have access to quality education without discrimination, and makes schooling compulsory for children aged seven to fifteen. The Act and the South African Council for Educators (SACE) regulate the teaching conduct.

South Africa has the most unequal school system in the world. Many of the problems have their roots in apartheid. The Bantu Education Act of 1953 set out to ensure that whites received a better education than blacks. Black pupils received about a fifth of the funding compared to their white peers. They were taught almost no maths or science. Most independent church-run schools that provided a good education in black areas were shut down.

The first democratic government in 1994, expanded access to schooling. It also replaced a school system segregated by race with one divided by wealth. Schools in poorer areas receive more state funding. But schools in richer areas charged fees. In theory, these schools need to admit pupils even if their parents cannot afford the fees. In practice, they are fortresses of privilege. There are still about 500 schools built from mud, mainly situated in the Eastern Cape.

In South Africa, education is a priority at all levels of overall policy and planning. Below are key policies that relate to the education sector in South Africa:
- ✓ The NDP - stresses the role of education, training and innovation at all levels in eliminating poverty and reducing inequality, while also making an emphasis on the impact of education on realising common citizenship and social upliftment (NPC, 2012). The NDP aims are embodied in the Medium-Term Strategic Framework 2014-2019 (MTSF), which is the action plan for the implementation of the NDP (Republic of South Africa, 2012).

✓ The Twenty-year Review (1994-2014) reviewed government performance over 20 years, thereby monitoring progress in implementation, including in education (Department of Planning, Monitoring and Evaluation, 2014).

The Action Plan to 2019: Towards the Realisation of Schooling 2030 –is a Department of Basic Education (DBE) policy document that breaks down what the department wants to achieve in relation to learning and enrolments (13 goals) across its range of activities and how it intends to achieve this (14 goals). It aligns with many of the SDG targets for basic education (Department of Basic Education, 2015a).

In South Africa. literacy levels among those aged between 15 and 64 is almost 100%, and sustained efforts have been and continue to be made to improve the physical conditions in which children learn. Virtually 100% of the country's schools have had electricity installed, with the data showing that 100% have access to drinkable water. Although around one-third of schools have computers for pedagogical purposes, at just under 19% the proportion of schools with access to the internet for the same purposes is considerably lower, than in many of South Africa's peer countries with which South Africa needs to compete, as well as collaborate, on the world stage.

The rate of early childhood learning level is high, with almost 95% of the country's children participating in organised learning in the year before the official primary school entry age. Among those aged 16 to 18, approximately 95% have completed Grade 7; just under 90% of those aged 19 to 21 have completed Grade 9; and just under 51% have completed Grade 12. While the participation rates in the lower grades are creditable, those in the top grades are too low. South Africa is concerned about the drop-out rate from the educational system; this is especially marked when the progression rate from Grade 1 to Grade 12 is calculated, and not simply the drop-out rate within the upper levels of the secondary school system.

Democratic South Africa's tertiary sector has seen profound changes, with mergers between universities in previously ethnically-divided homelands and between universities and former technikons. In 2017, up to approximately 18% of people aged 15 to 24 participated in formal or non-formal training. South Africa, like many other countries encourage the growth of female participation in higher education. This trend is particularly marked in many economically advanced countries even in countries where

female participation had historically been low, there is some evidence of such an increase. South Africa is thus part of a broader world trend[20].

In South Africa, the Department of Basic Education's priority is to improve literacy by supporting the use of African languages as a media of learning and teaching. The approach being followed is to provide sufficient reading materials, particularly in African languages, and, in this way improve learner performance to appropriate levels. There is also a focus to strengthen English as a subject and as a medium of instruction in the intermediate phase and beyond.

DBE has been implementing Early Grade Reading Study (EGRS) at provincial level since 2015, in collaboration with academic researchers. Currently underway in Mpumalanga is a second EGRS focusing on the acquisition of English as a First Additional Language (EFAL) in the Foundation Phase. Other initiatives to improve literacy and numeracy include the partnership between the DBE and the National Education Collaboration Trust which rolled out the Primary School Reading Improvement Programme for 11 000 Foundation Phase teachers across all provinces. The DBE also collaborates with ICT businesses such as Vodacom and Microsoft, and international organisations such as the United Nations International Children's Emergency Fund, to provide professional development for educators. In addition, the DBE works with various non-governmental organisations to improve literacy levels in South Africa, such as, the Read Foundation, Molten, Room to Read, the Zenex Foundation, Jika Imfundo and Nali Bali. Programmes supported by such partnerships include the Read to Lead Campaign, Walk to Read, Drop All and Read Day, Dress up as my Favourite Story Character Day, Spelling Bee and Reading competitions, literacy workshops and monitoring of the PSRIP.

The interventions that have been identified in South Africa in order to realise success of the National Strategy for Mathematics, Science and Technology (MST) Education 2019 – 2030, are teacher development, review of the MST curriculum and the provision of appropriate learning support material. The DBE is also developing an Early Grade Mathematics Project which will provide cost-effective policy and programmatic interventions to improve Foundation Phase Mathematics[21].

Case Study

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[20] United Nations Statistics Division, 2019
[21] Department of Basic Education, 2019

The Dinaledi programme for Grade 12 providing additional teachers, training and mathematics and physical science resources had a significant impact on the National Senior Certificate pass rate where it was implemented (Department of Basic Education, 2019).

Overall, according to the Trends in International Mathematics and Science Study (TIMSS) assessment (Grade 9 mathematics and science), South Africa has been the fastest improving country between the surveys of 2002, 2011 and 2015. There appears to have been a significant improvement in the country's Progress in International Reading Literacy Study (PIRLS) results between 2006 and 2011, although no significant change between 2011 and 2016. In SEACMEQ, a large improvement at the Grade 6 level was noted between 2007 and 2013 in both mathematics and reading. However, despite these improvements, absolute levels of learning achieved remain substantially below the desirable level.

In South Africa, the way in which to monitor progress remains debatable, and it has proven difficult to reduce the quality of school infrastructure to a single indicator value. The DBE's draft Rural Education Policy proposes ways of addressing, many of the challenges of resourcing, staffing and other issues in rural schools (Department of Basic Education, 2018). The DBE continues to collaborate with the DST and other stakeholders at national and sub-national levels to strengthen and expand existing initiatives to enhance access to ICTs and appropriate technologies for the basic education system. One of the key partnerships is the National Education Collaboration Trust which demonstrates the commitment of the private and non-profit sectors to improving the quality of basic education. The DST also continues to maintain its Technology for Rural Development Programme (TECH4RED) that continues to demonstrate and transfer innovative technology solutions to contribute towards improving the quality and outcomes of the basic education system.

South African schools, particularly in rural areas, continue to offer learning experiences and resources that are below an acceptable minimum level. The reasons include inexperienced teachers or a lack of subject knowledge, the distance that teachers have to travel to get to work, and the distance learners have to travel from home to school and back. In this regard, the DBE championed the development of a national ICT implementation acceleration process to enable timely and reliable access to ICT in schools and to provide training and interactive content to all schools. Regarding tertiary institutions, while the purpose of the mergers that have taken place since 1994 was to harmonise standards and quality, campuses located in previous homeland areas in many instances continue

to struggle to compete for students with strong academic backgrounds and for staff.

The majority of the youth from 15 to 24 years old are still unable to access post-school education and training. In 2016, 2.9 million students were enrolled in Post-School Education and Training (PSET) institutions while the number of youth from 15 to 24 years old who are unemployed, with no education or training stood at 3.2 million. Additionally, South Africa's international competitiveness is compromised because the levels of education of the labour force lags behind that of many other countries. More specifically, South Africa has 1 901 enrolments in tertiary education per 100 000 of the population, compared to 3 104 in China and 4 023 in Brazil per 100 000 of the population. At 1 901, South Africa's enrolment ranks even below the average of lower-middle-income countries.

There are also concerns regarding the efficiency and quality of parts of the PSET system. The dropout rate remains high even though the trend data shows that the dropout rate has been declining over the years. Furthermore, many of the programmes and curricula offered at our universities and TVET colleges are not adequately responsive to the needs of the economy.

Going to 2030, key priority interventions are as follows:
❖ Offer a diverse set of training opportunities, especially in STEM subjects
❖ Provide skills for sustainable livelihoods
❖ Provide entrepreneurial skills for people to start their businesses and create employment for themselves
❖ Monitor and report on the performance of the PSET system annually by providing reliable data for planning and monitoring through quality management information systems
❖ Increase access to quality early childhood development by improving the policy and regulatory environment and building South Africa's capacity to deliver ECD
❖ Commit to the progressive realisation of free access to quality higher education and skills development programmes; and address the socio-economic factors that limit access, progress, and the successful completion of higher education and training in South Africa.

SUCCESS STORIES
➢ Expansion of TVET colleges to ensure that young people have vocational skills that will help them to find work easily.

- Expanded Artisan Development Programme to enable the country to produce more artisans such as plumbers, welders, and electricians to ensure that young people have skills for self-employment as well as skills to be employed by other companies.
- Expanded access to workplace based learning programmes such as learnerships, apprenticeships and internships. This is being done through our SETAs.
- The Department of Higher Education and Training (DHET) identified 13 priority trades as the required skills identified in terms of all government infrastructure projects, including bricklaying, electrician, millwright, boilermaker and automotive mechanic among others. The Department has entered into service level agreements with a number of major industry partners and associations specialising in these trades, such as the Steel and Engineering Industries Federation of Southern Africa, Retail Motor Industries, the Institute of Plumbers of South Africa and the South African Institute of Welding to assist in enhancing the capacity of 26 targeted TVET colleges across the country. The targeted TVET colleges are expected to play a major role in this process focusing on the development of artisans required for large-scale projects such as strategic integrated projects, Operation Phakisa, War on Leaks and other strategic interventions aimed at increasing economic activity in the country.
- Attempt to ensure that the country's system is responsive to the needs of the labour market. The department initiated a major Labour Market Intelligence project, which provides, among others insights into employment and growth trends of industry sectors, and into imbalances between skills supply and demand. It also provides forecasts of future skills needs. Enrolment planning systems are also in place to direct funding towards occupations that are in demand.
- A website was developed for career development and occupations that are in demand - www.careerhelp.org.za

4.5   Goal 5: Achieve gender equality and empower all women and girls

Since 1994, the South African government has committed itself to addressing gender inequalities. South Africa is a signatory to regional and international conventions that deal with gender issues, especially for the challenges of women[22] (Mpani & Nsibande, 2015).

The Constitution of South Africa, 1996 provides the basis for addressing various discriminatory practices, which includes discrimination against women and girls. The Constitution, for the first time, gives women unprecedented rights and legal recognition as equal citizens at all levels (Hames, 2006).

The Bill of Rights contains one of the most important provisions for gender equality and Section 9(3) of the Constitution, states that "the state may not unfairly discriminate directly or indirectly against anyone on one or more grounds, including race, gender, sex, pregnancy, marital status, ethnic or

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[22] The Convention on the Elimination of all forms of Discrimination against Women (CEDAW), The Declaration on the Elimination of Violence against Women, The Discrimination (Employment and Occupation) Convention, The Equal Remuneration Convention, The Protocol to the African Charter on Human and People's Rights on the Rights of Women in Africa (commonly referred to as Maputo Protocol), The Solemn Declaration on Gender Equality in Africa, The Southern African Development Community (SADC) Protocol on Gender and Development

social origin, colour, sexual orientation, age, disability, religion, conscience, belief, culture, language and birth."

Furthermore, in South Africa, to effect gender equality and the Bill of Rights, the Constitution provides for the establishment of "gender machinery" which consists of a number of Chapter 9 institutions. One of the institutions is the Commission for Gender Equality (CGE), which has the specific role to uphold the provisions pertaining to gender equality in the Constitution.

South Africa's legislative and policy framework is aligned with international conventions to which the country is a signatory. Two of the most prominent laws South Africa has enacted in response to violence against women are the Domestic Violence Act (DVA) No 116 of 1998 and the Criminal Law (Sexual Offenses and Related Matters Act (SOA) No 32 of 2007). These acts notably cover an extensive definition of both physical and sexual violence, and provide broad coverage and harsh penalties for offenders. The SOA has been supported by the development of the National Policy Framework on the Management of Sexual Offences Matters in 2013. Violence against women and children has also been targeted outside the legal sphere through various campaigns, which aim to educate, raise awareness, and emphasise the importance of every member of society's role in the eradication of violence against women. Some of these include the 16 Days of Activism Against Gender Violence Campaign, 365 Days of Action to End Violence Against Women and Children, the 365 Day National Action Plan, Orange Day and Women's Day.

The NDP addresses the challenges South African women face by prioritising a number of subsidiary goals which affect women, such as poverty and unemployment. The NDP reinforces the notion that women's empowerment and participation in the economy is critical for economic transformation in South Africa. Furthermore, the NDP recommends that:

- ✓ specific focus should be placed on unemployed women in relation to public employment;
- ✓ all sectors of society should support the promotion of women leadership;
- ✓ measures should be put in place to provide women access to basic services, and antiretroviral treatment and routine micro-biocides; and
- ✓ women should feel protected by law, having no fear of crime. (Department of Women, 2015)

South Africa has developed the South African Integrated Programme of Action (POA) Addressing Violence Against Women and Children (2013-

2018), which has served as South Africa's action plan for addressing gender-based violence.

South Africa is also in the process of developing the Draft Prohibition of Forced Marriages and Child Marriages Bill, which will provide even greater protection from this harmful practices.

Both MDG 3 and SDG 5 significantly focus on reducing high levels of gender inequality in social structures, such as political participation, educational disparities, patriarchy and economic empowerment. Women have been excluded from the mainstream economy, income and leadership roles. This has left a negative mark on South Africa, as it has in the significant majority of countries around the world. While women make up 51% of South Africa's population, they fill just 44% of skilled posts, according to labour data released in 2017 from Stats SA. As with much of the world, women are still paid less than their male counterparts. According to the 2017 Pulse of the People report, women on average earn 27% less than men. In addressing this challenge, various programmes have been introduced to increase the participation of women in science, technology and innovation. These programmes include scholarships, internships, technology skills development and targeted technology support platforms, led by both government and non-state sector partners.

South Africa took significant strides in addressing high levels of inequality through MDG 3 and later through SDG 5. MDG 3 had seven indicators of which South Africa achieved five with the exception of: "*Proportion of seats held by females in national parliament and female share of non-agricultural wage employment*". However, from 1996 to 2013, the proportion of seats held by women in parliament increased from 25% to 44%, while the target is 50%. An important gap is the non-availability of data on female representation in local government. The journey towards the reduction of gender inequality in South Africa has further been driven by the new impetus following the adoption of SGDs in 2015 building from the MDGs.

South Africa is committed to developing numerous legislative frameworks to achieve an end to all forms of discrimination against all women and girls everywhere, some of which include the Constitution, Promotion of Equality and Prevention of Unfair Discrimination Act (PEPUDA) 4 of 2000, the Employment Equity Act (EEA) 55 of 1998, Domestic Violence Act No. 116 of 1998, the Labour Relations Act (LRA) 66 of 1995, and the Basic Conditions of Employment Act 75 of 1997. These legal frameworks are aligned with the requirements set out for the achievement of Target 5.1, which reiterates the strength of the legislative and policy environment. Discrimination has also been rooted out through other initiatives, which will

be addressed under other goals. Although South Africa has developed a substantial legislative framework, this still has to expand to areas, such as quotas for political representation, ensuring there are no exceptions for marriage below the legal age, and ensuring marital rape and rape on the basis of no consent are explicitly included in legislation. Furthermore, more effective means of monitoring the progress of South Africa towards ending discrimination needs to be developed.

Despite available legal frameworks in South Africa, the following gaps still exist:
✓ No legislation dictating a quota for women representation in national Parliament and political party candidate lists, and as such, no means in place to enforce these actions.
✓ Failure to explicitly criminalise marital rape or rape without proof of forced physical penetration.
✓ No legislation mandating equal remuneration for work of equal value.
✓ Legislation which provides for exceptions for marriage under the age of 18.

The prevalence of marriage by girls under 15 years decreased significantly between 2010 and 2014, with only seven recorded early marriages during 2014. Incidences of child marriages in South Africa seems to be decreasing, which is a positive sign that Target 5.3 may be achieved by 2030. The decrease may indicate that legislative frameworks, which include the Recognition of Customary Marriages Act, may be having an effect.

In South Africa, the prevalence of gender-based violence (which includes harmful cultural practices) remains high despite the existing legislative frameworks. In 2017, the Stop Gender Violence Campaign compiled a report based on a vast amount of research on the nature of gender-based violence. The report contained inputs of NGOs, government, including provincial and consultative meetings (Stop Gender Violence Campaign, 2017). Through this report, the authors identified a number of gaps and weaknesses in the institutions that are responsible for the effective implementation of policies and laws aiming to eliminate gender-based violence. *See table below*

Challenge Areas, Gaps and Weaknesses in Existing Laws

CHALLENGE AREA	GAPS AND WEAKNESSES
	South African Police Service (SAPs)

Policy and guidelines	✓ Unavailability of "station orders" as mandated by the SOA, which explain how police should deal with certain categories of crime as outlined by the DVA and SOA (Vetten, 2010) ✓ Inadequate reporting of domestic violence incidents (Vetten, et al., 2009; Department of the Civilian Secretariat for Police, 2016) and maintenance of the Domestic Violence Register (Vetten, et al., 2009; Department of the Civilian Secretariat for Police, 2016) ✓ Absence or lack of functional Victim Friendly Rooms (VFR), as mandated by the Victim Empowerment National Instruction
Training	✓ Poor officer communication ✓ Highly inconsistent responses to reported rape cases (Artz & Smythe, 2007) ✓ Poor quality investigations due to lack of availability of investigating officers, high caseloads and inadequate qualifications (Artz & Smythe, 2007) ✓ Premature closing of cases due to insufficient contact information for the complainant (Artz & Smythe, 2007) ✓ Infrequent crime scene investigation (Artz & Smythe, 2007; Sigsworth, et al., 2008) ✓ Long delays between the reporting of rape and the time of arrest (Artz, et al., 2004) ✓ Failure to provide victims with a copy of their statements and to adequately document their contact information for follow-ups (Artz, et al., 2004; Vetten, et al., 2008; Sigsworth, et al., 2009) ✓ Inappropriate collection and management of forensic evidence (Vetten, et al., 2008; Sigsworth, et al., 2009) ✓ Failure to monitor the training of SAPS officers(Wakefield, 2014)
Resources	✓ Failure to ensure protection orders are instated due to a lack of human or financial resources to follow up on applications (Vetten, 2010) ✓ Inadequate reporting and statement-taking due to understaffed and under-resourced police stations (Artz, et al., 2004)
Accountability and coordination	✓ Poor coordination between SAPS and health clinics resulting in lack of referral of medical attention, including HIV post-exposure prophylaxis (PEP) (Wakefield, 2014) ✓ Lack of coordination between investigating officers and prosecutors regarding the collection and provision of sufficient evidence, which leads to case delays (Artz, et al., 2004; Vetten, et al., 2008) ✓ Insufficient monitoring of training quality and alignment of training standards with the required experience when dealing with the implementation of the SOA and DVA (Combrink & Wakefield, 2009) ✓ Failure to submit six-monthly reports to Parliament, as required by the DVA, on complaints and disciplinary actions against police officers, as well as the police's response to recommendations made by the Independent Complaints Directorate (Vetten, 2010)
Department of Health (DOH)	
Policy and guidelines	✓ Failure to establish guidelines for physical, psychological and emotional violence and include these forms in the DOH's mandate; as it stands, only sexual violence forms part of its mandate (Stop Gender Violence Campaign, 2017)

Training	✓ Lack of trained staff, especially forensic nurses to conduct timely forensic exams (Stop Gender Violence Campaign, 2017) ✓ Poor quality forensic exams, lack of sensitivity and information sharing (Stop Gender Violence Campaign, 2017) ✓ Lack of empathy and sensitivity training of nurses which may lead to secondary traumatisation (Coovadia, 2009) ✓ Overemphasis on PEP, rather than on the full range of services needed by survivors, such as emotional and psychological support (Rohrs, 2011) ✓ Poorly administered PEP; failure to provide victims with sufficient information on PEP (Rohrs, 2011) ✓ Refusal to treat victims prior to a criminal case being filed due to misunderstanding of guidelines (Rohrs, 2011)
National Prosecuting Agency (NPA)/Department of Justice and Constitutional Development (DOJ&CD)	
Training	✓ Insufficient assessment of the sensitivity training of prosecutors and magistrates who deal with victims of sexual assault to avoid secondary victimisation (Waterhouse, et al., 2014)
Resources	✓ Perverse incentives to withdraw cases due to high caseloads faced by overworked and under-resourced prosecutors (Waterhouse, et al., 2014) ✓ Insufficient financial resources for Sexual Offences Courts (SOC) (Stop Gender Violence Campaign, 2017)
Accountability and coordination	✓ Frequent case postponements which lead to the likelihood of cases being dropped by victims, as well as an interruption in recovery processes due to having to relive cases (Waterhouse, et al., 2014) ✓ Low conviction rates(Vetten, et al., 2008; Jewkes, et al., 2009; Waterhouse, et al., 2014)
Department of Social Development (DSD)	
Policy and guidelines	✓ Failure to provide adequate shelter for those who are victims of violence (Stop Gender Violence Campaign, 2017) ✓ Redundant overlaps between the National Register for Sex Offenders (NRSO) and the National Child Protection Register which causes unnecessary administrative burdens (Mollema, 2015)
Resources	✓ Insufficient resources and budgetary constraints which hamper the provision of adequate shelter for women and children (Bhana, et al., 2013) ✓ Failure to appropriately implement the Victim Empowerment Programme (VEP) due to the inadequate allocation of resources needed for staffing and awareness creation (Simpala, 2012; Thorpe, 2014) ✓ Inadequate number of social workers employed due to insufficient financial resources, leading to an overburdening of current employees (Stop Gender Violence Campaign, 2017)
Department of Education (DOE)	
Policy and guidelines	✓ Prevalence of violence, physical and sexual abuse, and gang-related activities despite the existence of policies and codes of

	conduct in schools as provided for by the South African Schools Act 84 of 1996 (Mncube & Harber, 2013) ✓ Failure to integrate the curriculum with lesson plans on gender-based violence and other violence prevention (Stop Gender Violence Campaign, 2017) ✓ Failure to address the prevalence of corporal punishment, despite being prohibited by the South African Schools Act (Mncube & Harber, 2013) ✓ Failure to regulate cyber-bullying by law, therefore limiting the extent of the recourse that is able to be taken (Moodley, 2012)
Resources	✓ Insufficient resources to effectively implement the Integrated School Health Policy (ISHP), which aims to tackle the low service provision, sub-optimal nurse to school ratios and the absence of referral services (Shung-King, 2013)
Accountability and coordination	✓ High frequency of sexual relationships between learners and educators despite prohibition by the Employment of Educators Act 76 of 1998 (Stop Gender Violence Campaign, 2017)
Department of Correctional Services (DCS)	
Policy and guidelines	✓ Failure to establish an official comprehensive policy on the prevention of gender-based violence in prisons of the care of victims of such violence (Stop Gender Violence Campaign, 2017)
Training	✓ Inadequate training of medical staff in prisons in relation to sexual violence (Stop Gender Violence Campaign, 2017)
Resources	✓ Insufficient ratio of officials-to-inmates, leading to a lack of adequate supervision of inmates which is a key factor in the prevalence of sexual violence (Muntingh & Satardien, 2011)
Accountability and coordination	✓ The internal complaints mechanism within the Department of Correctional Services has been deemed to be ineffective, especially in relation to sexual violence (Muntingh & Satardien, 2011)
Department of Traditional Affairs (DTA)	
Policy and guidelines	✓ Failure to provide a sufficient definition of female genital mutilation (FGM) in the Children's Act and Promotion of Equality and Prevention of Unfair Discrimination Act which adequately defines what is prohibited (Stop Gender Violence Campaign, 2017)

Source: Adapted from the National Strategic Plan on Gender-based Violence Shadow Framework, Stop Gender Violence Campaign (2017)

Positive trends that have been identified relate to the elimination of human trafficking, which has decreased from 0,08 in 2013/14 to 0,03 in 2015/16. However, the progress made in this regard only partially monitors the progress of achieving Target 5.3 as these figures only include human trafficking for sexual purposes, excluding trafficking for other purposes.

Intervention areas in South Africa that are in the need of urgent focus towards gender equality and women empowerment by 2030 include increasing resources for various government departments and role-players, improving training, implementing policy and increasing monitoring and

evaluation efforts in reporting on South Africa's progress on gender-related issues.

4.6 Goal 6: Ensure availability and sustainable management of water and sanitation for all

In South Africa, the Constitution, 1996, places a duty on the national government, in co-operation with other spheres of government, to make sure that the limited water resource is used to improve the quality of life for the people of South Africa. The Bill of rights further provides for the right of every citizen to a healthy life, access to food and water and to have the environment protected.

The NDP recognises that water and sanitation services are cross cutting issues and necessary enablers for addressing poverty, unemployment, inequality and economic growth. As such the water agenda macro planning for economic-infrastructure-socio-environmental balance needs to be entrenched in the planning phases of all 28 government departments. The linkage between water provision and economic upliftment within the different sectors must also be clearly understood as a means of increasing the country's GDP performance.

The alignment by the NDP to SDG 6 is demonstrated through what the NDP envisages by 2030:
- ✓ All main urban and industrial centres to have reliable water supply to meet their needs, while increasing efficient agricultural water use will support productive rural communities.
- ✓ Strategic Water Source Areas (SWSA) to be protected to prevent excessive extraction and pollution. The SWSA can be described as the country's most important water source as it supplies the highest volume of water to the county's demand
- ✓ Where rivers are shared with other countries, South Africa needs to ensure that it continues to fulfil its obligations.
- ✓ Before 2030, all South Africans to have affordable and reliable access to safe water and sanitation.
- ✓ Increase water use efficiency across all water sectors by 2030

The management, development, use and protection of South Africa's water resources is governed by a sound legislative environment. The National Water Policy (NWP) forms the basis of the country's water legislative framework post-1994. The policy sets out integrated policy positions for protection, use, development, conservation, management and control of South Africa's water resources (Karodia & Weston, n.d.). The Water Services Act, 1997 (Act No. 108 of 1997) (WSA) provides a legal framework for the provision of water services or potable (drinkable) water and sanitation services. The WSA safeguards the right of access to basic water supply and the right to basic sanitation necessary to secure sufficient water and an environment not harmful to human health or well-being. The WSA

supports SDG 6 Targets 6.1 and 6.2. The National Water Act, 1998 (Act No. 36 of 1998) (NWA) expands from the NWP and provides a legal framework for sustainable water resource management. The NWA directly responds to SDG 6 Targets 6.3, 6.4, 6.5, 6.6.

The National Water Resources Strategy (NWRS) is the legal instrument for implementing the provisions of the NWA and provides strategic guidance to the broader water sector as to the range of activities required over a five-year period, to realise identified water resource management goals. The NWRS gives effect to the achievement of various SDG Targets, including 6.3, 6.4, 6.5, 6.6.

The Strategic Framework on Water Services (SFWS) (2003) expands on the WSA and provides a comprehensive summary of policy with respect to the water service sector in South Africa and sets out a strategic framework for its implementation. In light of this, the SFWS has direct links to indicators of Target 6.1. and 6.2 of SDG6.

Aligned to the WSA and SFWS, the National Sanitation Policy, 2016 provides policy positions to address the identified policy gaps and challenges, as well as to address the country's new national and international development imperatives regarding sanitation.

South Africa's current status on the implementation of SDG6 Targets is as follows:

- ✓ **Targets 6.1 & 6.2** – ("By 2030, Achieve Universal and Equitable Access to safe and affordable drinking water for all" & "By 2030, achieve access to adequate and equitable sanitation and hygiene for all and end open defecation paying special attention to the needs of women and girls and those in vulnerable situations")

  In South Africa, the provision of safely managed drinking water services has improved from 77% in 2015 to 80% in 2017. However, rural and urban disaggregation indicates that only 67% of the rural population had access to safely managed water services in 2017, while 87% of the urban population received safe water services. This indicates that there are water service provision disparities between rural and urban areas. Mothetha, et al. (2013) suggests that these disparities exist because rural municipalities often lack capacity and skills required to support water services provision.

  Indicator 6.2.1 evaluates the percentage of the population that receives safely managed sanitation services. In 2017, 70% of the national population had access to basic sanitation services as compared to the 67% in 2015. Progress in the reduction of sanitation backlogs is being hampered by infrastructure related challenges, such as lack of infrastructure, particularly in rural areas and ageing infrastructure as a result of poor operation and maintenance besides the utilisation of sanitation infrastructure beyond the design capacity.

Nationally, open defecation practise has decreased from 4% in 2015 to 2% of the population in 2017. A decrease was also experienced in rural areas from 8% in 2015 to 4% in 2017 while in urban areas a decrease was experienced from 2% in 2015 to 1% in 2017. Open defecation persists in rural areas due to a lack of sanitation facilities and dilapidation of existing facilities.

Regarding access to hand-washing facilities on premises with soap and water, only 65% of the population nationally was achieved in 2017. The disaggregation of data reflects that 18% of the population in rural areas do not have access to hand-washing facilities on premises, nor soap and water.

✓ **Target 6.3 -** By 2030, improve water quality by reducing pollution, eliminating dumping and minimizing release of hazardous chemicals and materials, halving the proportion of untreated wastewater and substantially increasing recycling and safe reuse globally.

South Africa has set Resource Water Quality Objectives as a means to protect its water resources. The health of a water resource is measured against these. In 2016, 58% of South Africa's water bodies complied with resource water quality objectives. This means that approximately 40% of water bodies in South Africa have poor water quality resulting from pollution and the destruction of river catchments. In South Africa, there is a lack of alignment between the various entities that undertake water quality monitoring on data programs, platforms and collections approaches. This suggests that current water quality data is not comprehensive, and as a result it does not provide the full extent of water quality levels in South Africa's rivers and groundwater. Although some ground water data was available for baseline reporting, there is no readily available method of measuring the indicator for groundwater water quality.

In 2017, 52% of wastewater was safely treated and lawfully discharged into the water resource. However, it should be noted that the 52 percent is only limited to waste water treatment works; other sectors that discharge wastewater, such as mines are not represented due to limited availability of data to support effective reporting.

✓ **Target 6.4 -** By 2030, substantially increase water-use efficiency across all sectors and ensure sustainable withdrawals and supply of freshwater to address water scarcity and substantially reduce the number of people suffering from water scarcity.

The percentage computation on water stress indicates South Africa's water stress level to be at 41%. This is extremely high for a semi-arid country which is highly dependent on freshwater sources. Water stress leads to a deterioration of freshwater resources in terms of quantity (depletion of aquifers from over-use, drying up of rivers and streams)

and quality (nutrient enrichment, saline intrusion, pesticides, organic matter pollution). (European Environment Agency, 2019).

Non-revenue water stands at 41 percent nationally which includes high levels of leakage within existing infrastructure, mainly due to poor maintenance. Poor revenue management means that a high level of income is forfeited.

✓ **Target 6.5 -** By 2030 implement Integrated Water Resources Management (IWRM) at all levels, including through trans-boundary cooperation as appropriate.

South Africa has obtained a score of over 70% on the implementation of IWRM. A lot of effort has been made by the national government to create a conducive environment for implementation of Integrated Water Resource Planning through putting up policy, establishing relevant institutions and developing instruments. However, a lot of work still needs to be done to ensure policies, strategies and plans are implemented with a view of also supporting the protocol of shared water sources in the SADC region. South Africa has signed four bilateral corporation commissions with Lesotho, Botswana, Namibia, Swaziland and Zimbabwe with a view of strengthening Integrated Water Resource Management, technology transfer and access to clean water.

✓ **Target 6.6 -** By 2020, protect and restore water-related ecosystems, including mountains, forests, wetlands, rivers, aquifers and lakes.

In South Africa, dams and estuaries account for 0.17% and 0.23% of the land area respectively, while wetlands account for 2.7% and lakes only account for 0.1% of the country's total land area. The low land coverage of estuaries and wetland is a result of poor protection and severe pressure, for example from intensive agriculture, mining and urban sprawl (Department of Water Affairs and Sanitation, 2017:26). It should be noted that rivers are excluded from the analysis, as South Africa does not have rivers that noticeably change in their extent. However, rivers are a key ecosystem type, and in future an indicator that measures the trends in river ecosystem integrity will need to be included.

✓ **Target 6.a -** Amount of water- and sanitation-related official development assistance (ODA) that is part of a government-coordinated spending plan.

Regarding ODA, in 2016, the country received an amount of R2 million from the Belgian government to contribute to the delivery of Target 6.2, through the Tirhelo Bosha Programme.

✓ **Target 6.b -** Support and strengthen the participation of local communities for improving Water and Sanitation Management.

Reporting on Indicator 6.b.1. reflects that there are legislated planning tools in place such as IDPs and WSDPs, to support the participation of local communities in water and sanitation planning. WSAs have a legislative mandate through the Water Services Act, to develop WSDPs which comprise part of IDPs. Although South Africa is fully compliant in terms of this SDG6 target, the target indicator does not measure performance or impact of community participation. South Africa is thus creating a new indicator to measure such performance, which may support other countries with a similar dilemma.

South Africa is committed to achieving the 2030 Agenda on SDG6. The President of South Africa committed to cast political weight behind South Africa's obligation for action to achieve the 2030 Sustainable Development Agenda in his capacity as a panel member of the UN and World Bank High Level Panel on Water (HLPW) that submitted its outcome document and recommendations in March 2018. This will further ensure that water as scarce resource is valued and that all initiatives are geared towards building a sustainable and resilient economy and society, as initiatives of the panel.

South Africa, Senegal and Mauritius as members of the HLPW that developed a legacy programme, the Africa Investment Programme (AIP), aimed at transforming and improving the investment outlook for water security and sustainable sanitation for prosperous, peaceful and equitable societies on the continent. The AIP will further contribute immensely to the means of implementation, through mobilisation of 62 funds for infrastructure projects. AIP will further advance SDGs, support jobs and industrialisation, contribute towards the AU agenda 2063, the Africa Water Vision 2025 and the AfDB High Five priorities, integrate Africa and enhance the wellbeing of African nations through the creation of sustainable jobs.

The South African Government has prioritized service delivery since 1994 and clear targets have been set, including a target of 90% reliable water supply services by 2019. Over the past few years, the country has increased and continues to invest in infrastructure development to ensure that water resources are being exploited to meet the country's water demand.

The 2030 Agenda for Sustainable Development reflects the evolution of the multilateral approach to water going beyond just access to safe drinking water, to a broader approach to water. This includes aspects of tackling water scarcity, water pollution, protecting and restoring water-related ecosystems and calling for cooperation and coordination at all levels. On this basis South Africa is one of countries that have a high level of transboundary management and protection of river systems to ensure peaceful management of our water resources.

The SDG programme has also been highlighted as one of the key drivers of the National Water and Sanitation Master Plan (NW&SMP), which seeks to address South Africa's water and sanitation challenges through partnerships with stakeholders countrywide, and within the SADC region.

The NW&SMP has also been given the same political support and commitment from the President of South Africa which is aligned with the 2030 target outlined in the NDP and the SDGs.

Despite the progress being made in South Africa, some key challenges are being experienced towards achieving SDG6. Some of the challenges are:

✓ **Water Resource Management:** South Africa is a water scarce country with limited water resource and is under severe water stress. If the country does nothing, it will have a 17% water deficit by 2030 in terms of supply and demand. This requires serious and committed action by all. Compounding factors affecting South Africa's water resources, include excessive water loss occurring at all water-use sectors. The agricultural sector is the main consumer of water in South Africa, (61%) and at the same time experiences approximately 27% loss. The increased water losse is a direct consequences of limited prioritisation in water conservation and demand management. Similarly, limited prioritisation of WCWDM is also contributing the excessive water losses in the municipal sector. Moreover, the municipal sector is heavily challenged with aging infrastructure, which is affecting the sector's ability to address water losses.

✓ **Service Delivery Gaps:** South Africa's population has experienced substantial growth between 1994 and 2016, increasing from 40 million to 56,6 million people. This has led to a greater number of households that need to be served. Population and social dynamics are therefore hampering the delivery of indicator 6.2.1.

South Africa has made progress with the delivery on some targets. However, there are a number of challenges that need to be addressed, including unplanned often complex spatial layout of households in informal settlements which present significant challenge when installing water services infrastructure (Ensor, 2016). Also, violent social protests and vandalism to water service infrastructure affect the delivery of water services.

In order to establish the areas of need between now and the future (2030) state, it is necessary to quantify and qualify the gaps that exists. Base line figures on access to water supply and reliable service delivery have been established for the country in partnership with Stats SA. The key challenges are moving from 65% to 90% reliability and ensuring 100% access to piped water supply. Furthermore, the impact of the ongoing drought on South Africa's water security should not be underestimated. The projected water deficit gap of 17% by 2030 may be even bigger.

Since 2016, the delivery of SDG6 targets has been highlighted through programmes aimed at ensuring that access to safe water and sanitation is accelerated. Currently 86% and 83% of households have access to safe water supply and sanitation respectively. Delivery on the goals has also been supported by the improvement and monitoring of nation's water quality levels. Water quality levels in freshwater sources is declining alarmingly for a country which is heavily reliant on surface water for social and economic development.

Terrain is also an issue regarding access to sanitation services, particularly for rural areas. For example, there are areas where the topography and terrain are so challenging that it becomes impossible to provide the basic sanitation facilities. Regarding urban areas, a key challenge hampering the delivery of safe sanitation services, especially in informal settlements, is the location of the settlements away from bulk and sewer services to connect to (Armitage et al., 2015).

Regarding sanitation shortfalls, the adoption of the new National Sanitation Policy, 2016 which is aimed at closing the gaps and unlocking challenges in sanitation policy implementation will assist in turning around the current situation (DWS, 2016:ii).

✓ **Poor Asset / Revenue Management:** Asset management is a critical component towards long-term sustainability. So far, the functionality problem is increasing year on year due to the sector's ineffective asset management. With close to 30% of the country's infrastructure being dysfunctional and 41% of our water unaccounted for, South Africa needs to take the management of our assets very seriously to avoid future disaster. If we do not react immediately and turnaround the existing challenges, we are facing a major crisis.

Like other product, the delivery of water as a service to the consumer must generate income to ensure sustainability. Efficient service delivery encourages consumers to pay for that service, promoting even better infrastructure and services. Poor service delivery on the other hand, discourages payment for service, which leads to further degradation of the infrastructure. To avoid this vicious cycle, Infrastructure Asset Management and Revenue Management go 'hand in hand'.

Every Water Service Authority has a legal requirement to implement a five-year Infrastructure Asset Management Plan (IAMP), as well as a five-year year Revenue Management Plan (RMP). This requires adherence and application by all

✓ **Environmental / Ecological:** South Africa's ecological infrastructure is under pressure from habitat destruction, development and excessive pollution. Despite efforts being made to rehabilitate and improve the health of the country's freshwater ecosystems, this is being constrained by limited financial and human resources. Moreover, limited monitoring points and a decline in monitoring infrastructure is affecting South Africa's ability to collect data and establish reliable data platforms on the health of freshwater ecosystems.

South Africa is enhancing implementation of SDG 6 in an integrated way, addressing the themes of water security, flood protection, water supply, sanitation provision, and climate change, as well as systematically facilitating water pollution prevention and control, aquatic ecosystem conservation and water resources management.

The country is fully committed to improving national water infrastructure to secure and manage natural water sources, while taking into consideration the traditional knowledge of indigenous and local communities on water resources and sustainability.

- ✓ **Water Conservation and Demand Management:** South Africa's domestic water consumption is high at 235 litres per capita, compared with the world average of 173 litres per capita. Consumers' mindset and habits must be changed to reduce water usage and to use water more efficiently.

  The high levels of physical losses and non-revenue water in water-use sectors are being addressed through progressive programmes aimed at increasing water use efficiency and reducing water stress. The 41%of non-revenue in municipalities needs to be prioritised, considering that South Africa is a water scarce country. The potential water deficit of 17% by 2030 can significantly be mitigated if leakage and water losses are reduced from 41% to an efficient 12%-14% countrywide.

  Agriculture consumes approximately 80% of our country's water supply; small savings within this sector can create larger benefits for other consumers. Challenges also exist in improving water-use efficiency levels in agriculture, despite the progress that has been made. There is insufficient flow measurement at all critical control points of the irrigation schemes, including measurement at canal tail ends. This creates problems in determining water balances of the schemes, and the level and type of water losses at scheme and sub-scheme level with a view to identifying potential areas to improve water-use efficiency.

- ✓ **Funding Requirement:** The Investment Framework clarifies that the estimated investment requirement over 10 years is R899 billion (new R381 billion, upgrade R133 billion and rehabilitation R385 billion). There is a funding shortfall of 37% that must be addressed. South Africa requires radical revision of water and sanitation tariffs to meet the shortfalls.
  Besides driving the funding requirements of the NW&SMP, the funding needs will be captured within the national grants to enhance delivery of water and sanitation services, including but not limited to the 3 key Grants:

  - ✓ Municipal Infrastructure Grant (MIG)
  - ✓ Regional Bulk Infrastructure Grant (RBIG)
  - ✓ Water Services Infrastructure Grant (WSIG)

In conclusion, South Africa will have to make infrastructure asset management and revenue management a priority in order to address backlogs with existing infrastructure, and build new infrastructure while ensuring full sustainability through efficient and effective operation and maintenance of all infrastructure.

South Africa will also have to increase water-use efficiency and curb water wastage to ensure the sustainability of reliable water supply. Water supply will have to be increased by optimising the water mix to include desalinated water and treated AMD. The adoption of new technologies to help support water-use efficiency, will be instrumental in moving the water-use sector to water less operations.

The water sector, municipalities in particular, will have to plan more efficiently and ensure that their plans are accurate, realistic, implementable and informed

by accurate and available data, and must be aligned to the 2030 Goals of the SDG and the NDP.

South Africa will furthermore have to focus on improving hygiene practices. Poor hygiene poses health risks through the transfer of bacteria, viruses and parasites found in human excreta. The prioritisation of basic hygiene facilities, especially in rural areas, is critical since rural areas are often far from the nearest hospitals or clinics.

Providing access to water and sanitation in South Africa is a challenge, particularly in rural areas, and there are growing service delivery backlogs. To contribute to addressing these challenges, the DST, in collaboration with the Bill and Melinda Gates Foundation, invested in a programme to pilot innovative sanitation technologies. This programme has enabled access to decent and appropriate sanitation services to previously underserved rural communities. It is also contributing to technology localisation and unlocking industrialisation opportunities for South Africa. Furthermore, an innovative water-efficient sanitation technology solution from the University of Loughborough in the UK is being localised in South Africa. The South African team spearheaded by the DST has developed and constructed a local prototype, which is being tested and once optimised, a model for mass production will be developed.

Despite the challenges described above, which have an impact on access to safely managed water and sanitation services, South Africa remains committed to achieving the SDG 2030 goals (both SDG6 and contributions towards the other 16 SDGs), while providing 100% access to water and sanitation services to its citizens, leaving no-one behind.

Case Study
- In support of the SDG6, the industry and Environment directorate within DST is supporting the Wastewater Bioremediation Consortium. The consortium undertakes various RDI activities targeted at the technology demonstration and upscaling of the artificially constructed wetlands bioremediation technology. Bioremediation technologies for the treatment of contaminated wastewater streams present a potential alternative for both domestic and industrial sectors, at a time when energy costs are increasing and diverse environmental effects are becoming more apparent due to conventional chemical technologies.
- The 2017/18 financial year saw the Department of Environmental Affairs taking action against polluters across the country. One of these was the suspension of all operations at the Shongweni Landfill Site in eThekwini, KwaZulu-Natal, following non-compliance with the provisions of the law and conditions of the Waste Management Licence. It was the Department's view that there is a potential threat to human health and/or the environment resulting from the operations at the Shongweni Landfill Site.

4.7 Goal 7: Ensure access to affordable, reliable, sustainable and modern energy for all

South Africa maintains that the progressive realisation of access to energy in the country is critical to enable sustainable development and to meaningfully addressing the scourge of poverty in all its dimensions. South Africa also appreciates the need to move towards the use of clean energy sources. It is therefore a priority to develop and implement policies that will support enhanced access to affordable and clean sources of energy in line with SDG7.

South Africa has developed various policies in support of energy access. Some of the available policies that guide energy in the country are:

- ❖ **Overarching National Policies and Strategic Documents**: consisting of broad and high-level policies or strategies that include policy discussions on energy.
  - ✓ National Development Plan (NDP), Vision 2030 (2012)
  - ✓ Draft Integrated Resource Plan (IRP) (2019)
  - ✓ Medium-Term Strategic Framework (MTSF): 2014-2019 (2014)
- ❖ **Cross-Cutting Energy Sector-Specific Policies and Strategic Documents**: consisting of policies or strategic documents with an energy specific focus.
  - ✓ White Paper on Energy Policy (1998)
  - ✓ White Paper on Renewable Energy (2003)
  - ✓ National Integrated Energy Plan (IEP) (2016)
  - ✓ Integrated Resource Plan (IRP) (2010)
- ❖ **Energy Sector Theme-Specific Energy Policies and Strategic Documents: Access to Clean Energy, Renewable energy, and Energy Efficiency**
  - ✓ **Supports Access to clean and renewable energy:**
    - ▪ Universal Access Plan (2005)
    - ▪ New Household Electrification Strategy (2013)
    - ▪ Draft Electrification Master Plan
    - ▪ Electrification Bulk Infrastructure. Policy Guidelines (2015)
    - ▪ Non-Grid Electrification Policy Guidelines (2012)
    - ▪ Schools and Clinics Electrification Policy Guidelines (2010)
    - ▪ Policy Guidelines for the Electrification of Un-proclaimed Areas (2011)
    - ▪ Policy Guidelines for the Electrification of Farm-Dweller Houses (2010)
  - ✓ **Supports both renewable and energy efficiency:**

- Local Government Energy Efficiency and Renewable Energy Strategy
- National Energy Efficiency Strategy (NEES) (2005)
- National Energy Efficiency Action Plan (2013)
- Draft Post-2015 NEES (2016)

✓ **Supports renewable energy:**
- Draft Consultation Paper: Rules for Registration of Small-Scale Embedded Generation (2018)

✓ **Supports energy efficiency:**
- Policy to Support the Energy Efficiency and Demand Side Management Programme for the Electricity Sector Through the Standard Offer Incentive Scheme (2010)

Based on the energy policies and programmes, South Africa centred its efforts on electricity as the primary energy source through which universal energy access will be provided. The country is employing both grid and off-grid connections to ensure universal access to electricity. South Africa has also employed pro-poor energy policies and programmes to ensure that once connected, everyone including poor households can still afford to have electricity services to meet their basic energy needs.

South Africa is one of a range of developing countries that emerged as leaders in the global race to switch to sustainable energy by 2030 according to the World Bank. This was possible thanks to the implementation of policies to improve people's access to reliable and affordable energy, to make industries and homes more energy efficient, and to increase the use of renewable energy.

The primary sources of renewable energy in South Africa are solar, wind, hydroelectric, and biomass. In this regard, South Africa is currently a member of the International Renewable Energy Agency (IRENA), an international organisation that promotes the implementation of renewable energy policies. IRENA aims at providing countries with tools to create policies and transition to technology necessary for renewable energy. It provides an assessment of resources, finance management, policy and legal framework and the capacity of the energy sector.

To incentivise the further rollout of renewable energy generation by the private sector, the South African Revenue Service has since 1 January 2016 amended the Income Tax Act No. 58 of 1962 to include accelerated depreciation for renewable energy assets commissioned by a tax paying entity. This tax incentive is not limited to new renewable generation systems.

In the shift towards cleaner energy, the overwhelming dominance of coal might seem impossible to transcend. Not only is coal a relatively cheap source of energy, but South Africa has abundant reserves of it. The mineral also contributes to economic growth, having surpassed gold in 2008 as the larger contributor to gross domestic product (GDP). Coal mining was responsible for 1,8% of total value added in 2016, higher than gold (1.3%), but on par with platinum group metals (1,8%).

SUCCESS STORY

One of the success stories South Africa can share with the international community is the Renewable Energy Independent Power Producers Programme (REIPPP). The National Development Plan 2030 requires 20 000 MW of renewable energy by 2030 and this is supported by the country's Integrated Resource Plan. So far, the country has procured 6 376 MW. More recently, in April 2018, the country signed up to 27 Independent Power Producers (IPPs). The 27 IPPs are expected to produce 2 300 MW of electricity with a mitigation potential of 8.1 Megaton CO_2 equivalent per annum.

Another promising story is the initiation of a process to "*decarbonize*" the transport sector and lower its emissions by introducing and providing support for initiatives ranging from the uptake of electric and hybrid cars, cleaner fuels, energy efficiency and expansion of non - motorized transportation, efficient and integrated Bus Rapid Transport System, among others. Progress has been made in enhancing the City of Tshwane's bus fleet using Compressed Natural Gas (CNG). The City of Johannesburg is using a dual system for their bus network with a combination of diesel and CNG. For phase 2, the city has identified CNG and electric busses as potential newer technologies. The City of Cape Town has selected to procure electric busses for their phase, which are currently being testing.

South Africa is making progress towards achieving universal access to electricity. While there was a slight decline in the percentage of the population with access to electricity in 2015 relative to the year 2014, the succeeding 2016/17 period saw a marginal growth in electrification. The percentage of the population with access to electricity grew between the years 2014 and 2017 from 93.1% to just above 95%.

Relatively few people utilise off-grid solar energy as their main source of energy in South Africa. The percentage of the population in South Africa utilising off-grid solar energy technologies to meet their cooking, lighting, and heating needs stood at under one percent during the period from 2014 to 2017. This shows that the off-grid concession programme component of INEP has made little impact towards the country's electrification targets.

The share of renewable energy in South Africa's total final energy consumption increased during the past few years. The share of renewable energy in total final energy consumption increased from 14.6% in 2013 to

26.2% in 2015. The growth experienced between 2013 and 2015 can be attributed to government policy commitments to expand the share of renewable energy in the country's energy mix. Large scale renewable energy projects contributed an additional 3.9GW to the country's generation capacity during the 2012 to 2018 period.

In 2018, the addition of renewable energy capacities has slowed down. This could be attributed to the delay in government signing PPAs for projects approved under the latest bid windows. However, eventually 27 PPA projects were signed in November 2018. This will add at least an additional 2.3GW of renewable energy generation capacity once they are completed.

The annual GWh of electricity produced from renewable energy sources rose from 16GWh in 2012 to just under 8800GWh in 2018. This clearly shows that South Africa is making significant progress in the clean energy sector. The country is making enormous progress in providing electricity from clean and modern sources such as solar and wind indicating that South Africa improved its energy efficiency between 2011 and 2015.

the country is also making significant strides towards the realisation of SDG 7. Notwithstanding with some challenges, the country is seeing some positives in all three target areas constituting SDG 7. Substantial progress has been witnessed mainly in the areas around the deployment of large-scale renewable energy. Other areas around improving access to electricity and improving energy efficiency, have also seen some progress, but a few challenges still need to be dealt with. A national bioenergy atlas has also been developed to support bioenergy development in South Africa.

One of the challenges facing the country is non-availability of data on affordability. Affordability remains a concern especially considering that not every poor household can access energy subsidies such as FBE and FBAE. Also, the poor uptake of off-grid solar systems is a concern, with less than one percent of the population in South Africa utilising off-grid solar energy technologies to meet their cooking, lighting, and heating needs during the period 2014-2017.

Another concern for the country, is the ratio of energy intensity which remains relatively high.

Gaps that still exist regarding policies and programmes will have to be addressed in order to meet the target of universal access to clean energy. The primary policies and programmes on universal electrification in South Africa, are currently aiming for a 97% electrification target, and not 100%

as per the international targets. The challenge for South Africa relates to the increasing informal settlements in urban areas. This increase will hamper the goal of achieving a 100% access to electricity. The challenge is further worsened by delays in the process of formalising informal settlements. Furthermore, the implementation of off-grid electrification programmes meant to complement the grid connections is characterised by several shortcomings. These include the lack of proper coordination between the stakeholders managing the installations as and limited performance of some of the key programmes.

Climate change remains a critical challenge in the country as a result of various factors, including emissions by various industries such as the energy sector. In the process of transitioning to clean energy, South Africa has strong regulatory and mitigation plans in place, as well as green programmes that are aimed at curbing emissions and promoting cleaner energy production. South Africa continues to seek additional avenues for clean and affordable energy. One key area is the financing of science and technology innovation to find ways to bring sustainability to clean energy production. Waste-to-energy research is also underway to inform policy position on waste-to-energy.

Barriers to renewable energy in the country include lack of capacity, marginalisation, corruption, poverty, and environmental degradation, the energy innovation system, and the high cost of renewable energy technologies. Investors choose to invest in large-scale non-renewable resource companies, such as Eskom, rather than Independent Power Producers (IPPs) such as BioTherm, Mulilo, and Juwi South Africa.

The Key intervention that South Africa could consider going forward, is to:
 1) Address programme and data issues around energy affordability:
    a. The Department of Cooperative Governance and Traditional Affairs (CoGTA) which oversees the implementation of the pro-poor subsidy programmes together with the DoE should:
      ✓ Capacitate the municipalities to ensure they have systems in place to register new indigent households and update old indigent registers.
      ✓ Capacitate municipalities to afford every indigent household benefit from these subsidy programmes.
      ✓ Coordinate the development of a definitive and universal implementation method of pro-poor subsidy polices to be prescribed across all municipalities.
    b. Deal with the following four priority areas:

    ✓ address policy and programme concerns around universal access to electricity,
    ✓ address the market structural issues threatening utility scale renewable energy projects,
    ✓ improve the effectiveness of small-scale renewable energy projects.
    ✓ enable certainty in the country's energy efficiency space

2) Gathering data on household usage of clean fuels.

In South Africa, there is also a need to consider utilising the off-grid component of the INEP to cater for electrification in informal settlements. This should be economically feasible especially considering that formalising informal settlements through electricity grid connections might take long or might be technically impossible. As a result, the utilisation of technologies such as Self-sustained High temperature Synthesis (SHSs) might be feasible and could also suit the profile of nomadic informal settlers. The deployment of off-grid renewable energy technologies to meet the basic energy needs of people in informal settlements should be relatively quick and easy provided the finances are in pace. I

Furthermore, there is a need to make a governance type of intervention that would require the establishment of a dedicated off-grid management authority as a solution to the current gap in the value chain (DEA & SANEDI, n.d., p. 74). According to the DEA and SANEDI, the value chain currently lacks an entity/management authority which is mandated to manage the operations and activities of decentralised renewable energy technologies. The DoE's role is believed to be quite limited as it only provides relatively little support to the off-grid concession programme that remains restricted to the use of a single technology in the form of solar PV (DEA & SANEDI, n.d., p. 74). Consequently, the establishment of a dedicated management authority outside of the DoE would fill the current value chain gap as there will be an entity with a mandate to "facilitate, contract and manage decentralised renewable energy technology programmes and initiatives within the off-grid space (DEA & SANEDI, n.d., p. 74). This entity would further assist regarding (DEA & SANEDI, n.d., p. 74): leveraging the use of different renewable energy technologies.

South Africa could consider the development of a grid network master plan that determines the deep off-grid areas and manages the inevitable interface between an expanding grid and a shrinking off-grid environment (DEA & SANEDI, n.d.). The master plan will bring some certainty to planners, donors, investors, etc. as it will indicate the geographic areas which cannot be accessed by the grid, as well as the key "spatial and

temporal details of grid versus off-grid systems (DEA & SANEDI, n.d., p. 75). This would also harmonise the implementation of the grid and off-grid electrification projects that are sometimes executed as different programmes, for example INEP, municipal, and presidential projects.

Case Study

The DST Hydrogen and Energy provides policy leadership in RDI initiatives in the energy sector that are crosscutting and have a long-term impact. It plays a key role in developing a sustainable and globally competitive South African energy knowledge base and industry, especially as this relates to the nascent global hydrogen economy, by informing and co-shaping the national energy policy in coordination with the Department of Energy and other key stakeholders. In particular, the DST plays an advisory role in the broader energy landscape, specifically in the Integrated Energy Plan and Integrated Resource Plan, with special emphasis on the technologies to be used in addressing the country's energy needs, their deployment and the incentives required to facilitate the successful deployment of these technologies.

Hydrogen Fuel Cell Technology (HFCT)

Local HFCT development holds the promise of boosting manufacturing capacity and competitiveness in South Africa.

This forms part of the technologies identified in government's Nine-Point Plan, which seeks to boost the economy and create much-needed jobs. HFCT has been identified as a clean and reliable alternative energy source to fossil fuels.
The DST is making good progress in implementing the Hydrogen SA (HySA) Strategy, demonstrating fuel cell technology as a viable source of clean energy in South Africa. In the 2017/18 financial year, the DST installed the first HySA-developed fuel cell system at Poelano Secondary School in the North West. The system is providing reliable power for lighting and computer equipment. This initiative demonstrates how renewable energy can meet the needs of communities without access to the main electricity grid.

SUCCESS STORIES

Renewable Energy Hub and Spoke Programme

During 2017/18, SolarTurtle, a spin-off company of the Renewable Energy Hub and Spoke Programme at Stellenbosch University, built on the success of the Technology for Rural Education and Development programme in Cofimvaba, in the Eastern Cape, by expanding its footprint to other rural areas in South Africa and the Southern African region.
In 2017, in partnership with Nedbank, the SolarTurtle team launched its 100% renewable energy powered "mobile bank in a shipping container" in Mncwasa village in the remote Mbhashe Local Municipality in the Eastern Cape.
This cashless, wireless-enabled branch is a pilot that seeks to investigate the feasibility of switching away from the Telkom and Eskom networks, which are vulnerable to factors such as cable theft and unscheduled downtimes.

The lessons will be used to guide a possible roll-out in remote rural areas in South Africa and the rest of the continent. The SolarTurtle initiative also received support from the European Science and Technology Union, securing a contract for the roll-out of the initiative in Lesotho to empower women entrepreneurs with access to clean forms of energy.

Manganese Precursor Programme

Energy storage, which includes batteries and other systems that store energy for later use, is rapidly becoming a major focus area globally. South Africa is endowed with an abundance of high quality manganese ore and, through research, development and innovation, has the opportunity to turn this comparative advantage into a competitive advantage. The manganese precursor pilot facility in Nelspruit was launched on 11 October 2017. This was a first step in efforts to find potential partners to fast-track the establishment of a precursor manufacturer in South Africa.

DST-NRF Centre of Excellence: for Integrated Mineral and Energy Resource Analysis (CIMERA) - http://www.cimera.co.za

The Centre of Excellence for Integrated Mineral and Energy Resource Analysis (CIMERA) was launched on 24 April 2014, at the University of Johannesburg. The CoE focuses on the integration of leading academic research with strategic applications in wealth generation and human resource development in South Africa, as well as the rest of Africa. This centre generates knowledge that helps to ensure a proper alignment of activities within the South African government's strategic focus on mineral and fossil fuel resources. The centre also focuses on the origin, distribution and character of Earth mineral and fossil energy resource systems with the aim of ensuring their sustainable utilisation not only in South Africa but Africa as a whole.

The research focus of CIMERA is especially relevant to South Africa because it represents the most valuable piece of mineral real estate in the world, ranking top in resource concentrations of gold, chromium, manganese, fluorite, aluminosilicates, vanadium, zirconium and the platinum-group elements, in addition to hosting important world-class deposits of iron, uranium, diamonds and coal.

However, it is also highly relevant to Africa as a whole, because the continent is moving into a new era where the demand for utilisation of its large resources of bulk commodities like iron, manganese and bauxite are rapidly rising, but sufficient knowledge to ensure long-term economic viability of extraction is lacking.

4.8 Goal 8: Promote sustained, inclusive and sustainable economic growth, full and productive employment and decent work for all

South Africa's strategic imperative is recognised within the NDP, which is to eliminate poverty and reduce inequality through increased and inclusive economic growth (NPC, 2012).

South Africa, at the outset, managed to pursue quality of life for the poor by means of fiscal, social and taxation policies. During the MDGs period, the country achieved a third of the set indicators in this area.

According to Statistics South Africa (2015), South Africa is faced with the triple challenges of poverty, unemployment and inequality. These remain obstacles to the country moving forward building on progress over the past two and a half decades.

According to Stats SA, the South African economy grew by 2,2% quarter-on-quarter (seasonally adjusted and annualised) in the third quarter of 2018, bringing to an end the country's second recession since 1994. Higher contributions to growth in a number of industries – most notably in manufacturing, and transport, as well as finance and business services, were enough to lift economic growth back into positive territory. In the previous years, from 2015 to 2017, South Africa experienced negative growth per capita in Rand terms, -0.36%, -1.04% and -0.27% respectively. **Low economic growth** is therefore a major challenge.

The inadequate investment in infrastructure is another key constraint to South Africa's growth. This relates to electricity challenges which have slowed down investment and production in high-energy consuming sectors. A lack of economic regulators across the economic infrastructure sectors, particularly transport or poor capacity among existing ones, continue to inhibit the enabling environment for growth.

The South African economy has **deindustrialised,** with the share of manufacturing to GDP declining from about 15% in 1994 to about 12% in 2017. Future industrial development will be about value creation in production processes within a broader complex system of interdependent activities involving organisations, institutions, governments, academia, markets and digital platforms. The major challenges facing the future manufacturing sector is skills development and technological capabilities to rebuild industrial capacity in the context of the Fourth Industrial Revolution (Industry 4.0). The widening skills gap is exacerbated by the inability of the current South African educational system, which is not supplying skills relevant to the demand and requirements of the manufacturing industry.

However, manufacturing has been the main driver of positive growth in the third quarter of 2018. The industry grew by 7,5%, largely as a result of increased production of basic iron and steel, metal products and machinery; wood and paper; petroleum products; and motor vehicles. This is the largest jump in manufacturing production since the second quarter of 2016.

Labour productivity growth, from 2008 to 2017, on average increased by 4.07%.

According to the figures from the Quarterly Employment Statistics (QES) survey, released by Stats SA, the total number of jobs reported in the second quarter of 2018, showed a decrease of 69 000, bringing the total number of persons employed in the formal non-agricultural sector of South Africa to 9 748 000.

The mining industry continued to shed jobs for the fourth consecutive quarter with 2 000 jobs lost in the second quarter of 2018, while the manufacturing industry lost 13 000 jobs. There was a slight decrease in the transport industry, with 2 000 jobs shed. Moderate gains were reported in the trade and business services industry with the adding of 7 000 jobs each, followed by the construction industry with a slight increase of 1 000 jobs. The job level in the electricity industry remained unchanged in the reference quarter.

South Africa's **unemployment remains high** and has increased by 4.8 percentage points since 2008 to 27.25% in 2017. Unemployment of females and youth unemployment for ages between 15 and 24 are more prevalent. Females' unemployment has increased from 25.75% in 2008 to 29.39% in 2017, compared to males' unemployment whose figures increased from 19.69% to 25.47% during the same period. Youth unemployment of ages between 15 and 24 had a staggering increase from 45.61% in 2008 to 53.39%in 2017. Overall, total unemployment increased from 22.42%in 2008 to 27.25% in 2017, an increase of 4.83%.

South Africa ranks among the most unequal countries in the world with a gini coefficient of 0.63. The continued unequal dimensions of spatial inequality pose a significant threat to growth. The majority of black people, as a result of Apartheid spatial planning, are located on the outskirts of major cities and economic hubs. This limits black people's access to economic opportunities. Furthermore, economic development in black townships has been constrained leading to a lack of income opportunities.

One of the catalysts that is key towards economic growth is innovation. In South Africa,however, innovation expenditure has been modest.

Limited progress has been made since 2008 to establish an enabling environment for entrepreneurial activity and formation of small and medium enterprises. Entrepreneurship is fundamental for growth in South Africa (Van Vuuren & Alemayehu, 2018). In South Africa, the entrepreneurial advancement continues to be derailed by the lack of an entrepreneurial education system as well as restrictive regulations and policies (Herrington and Kew, 2018).

In the context of these challenges, the environmental sector has developed three major innovative focused socio-economic development programmes using the *"Big Fast Results"* methodology that the country calls Operation Phakisa.

These are:
✓ The Oceans Economy, which integrates ocean protection services and socio-economic development programmes in the shipping, ship building, natural gas, aquaculture, coastal and ocean tourism;
✓ The Biotechnology and Wildlife Economy to sustainably use and grow these sustainable socio-economic sectors of the economy; and
✓ The Circular Economy building our resource efficiency, recycling and reuse sectors of our waste economy.

The country has made great progress regarding an increased budget allocation for education, the establishment of fee-free schools, additional qualified educators, and improvement of educational infrastructure and learner-to-teacher ratios. However, the quality of educators remains a concern, as well as the inability to efficiently allocate and utilise available resources towards quality education (Statistics South Africa, 2015).
Regarding the establishment of sustainable natural environment in South Africa two challenges persist, namely a) South Africa still relies on environmental damaging coal-based energy production, and b) environmental monitoring systems continue to be deficient.

Going forward, the following priority focus intervention can be considered:
✓ Given the key role that small businesses play in stimulating economic activity and employment, as well advancing broad-based empowerment, an increased focus on significantly expanding the Small Business Incubation Programme can be prioritized. The Incubation Programme provides budding entrepreneurs with physical space, infrastructure and shared services, access to specialised knowledge, market linkages, training in the use of new technologies and access to finance.
✓ Investment in monitoring systems with regard to air, water and land quality. In addition, the importance of multilateral environmental agreements to further develop local strategies (United Nations Development Program (UNDP), 2019).
✓ In order to achieve inclusive growth, South Africa needs to transform large sectors of the economy to address structural barriers to the entry of new economic activities and to deconcentrate industries by stimulating competition and simultaneously accelerate the inclusion

of large numbers of disadvantaged South Africans into jobs and businesses. This results in returning to a higher potential growth rate and a rise in income per capita for all South Africans.

✓ In line with the 2018 Job Summit commitments, a focus on the export of manufactured goods and trade in services, such as business process outsourcing and the remote delivery of medical services.

✓ Alongside the focus on exports, measures to increase local demand through, among other things, increasing the proportion of local goods and services procured both by government and the private sector.

✓ Develop interventions to support spatial integration with effective measures to develop and diversify township economies by integrating "buffer" zones between townships and economic centres; upgrade and improve informal settlements; and densify and add lower-income housing in the leafy suburbs and city centres. This should also include current land acquisition programmes being coordinated between relevant municipalities, as well as provincial and national departments.

✓ Ensure that the education system produces skills needed to make the economy productive. This will require the development and implementation of a national skills master plan for South Africa, and consistently track the results of its implementation. There is also a need to ensure alignment between curricula of Technical and Vocational Education and Training (TVET) colleges and industry needs. Improving education is critical in the context of the changing nature of work and equipping young people to take advantage of the opportunities created by the Fourth Industrial Revolution (4IR).

✓ South Africa has the resources, talent and youth to embrace digital industrialisation. Government and regulatory agencies need to collaborate closely with business and civil society in order to participate in the digital economy.

✓ Expand existing programmes towards an inclusive and responsive system of innovation that is able to support those that originate outside the realms of formal institutions of innovation. Such programmes include government's Grassroots Innovation Programme, the Youth Technology Innovation Programme and also strengthening the role of intermediary organisations in the innovation system to achieve inclusion.

✓ The private sector should partner more meaningfully in the implementation process, particularly in funding development.

SUCCESS STORIES

Department of Science and Technology

The goal to achieve higher levels of local production (and increased competitiveness) through the provision of technological support to local firms (especially new and transformed firms) continues to deliver excellent outcomes on jobs retained, additional revenue created by firms, and on new products and processes created, often resulting in increased exports. Through an analysis of support provided to 37 firms, the following outputs were achieved on a DST investment of R41,739 million: Research capacity is the fuel that drives the NSI. The DST has made substantial progress in enhancing knowledge production, growing and transforming the pool of knowledge workers, and exploiting knowledge for development. The key instruments in this regard are the Centres of Excellence Programme and the South African Research Chairs Initiative (SARChI). The NDP sets a target of 100 000 PhDs by 2030 to improve research and innovation capacity. To contribute to achieving this target, the DST's effort is to train 5 000 PhDs per annum. During the 2016/17 financial year, the department continued to invest in the development of skills needed for economic growth and development through the NRF, an agency mandated to develop high-level human capital in research. The department supported a total of 5 938 male and 7 784 female postgraduate students. These figures include 3 454 PhD students, 5 185 master's students, and 5 083 honours or honours equivalent students. A total of 883 postdoctoral researchers have also been supported.

Jobs and Investment Summits Held in 2018.

South Africa hosted the Jobs Summit in October 2018, at the Gallagher Convention Centre in Johannesburg. The Presidential Jobs Summit, under the auspices of the National Economic Development and Labour Council (NEDLAC), delivered a landmark Framework Agreement consisting of high-impact actions to drive job creation, job retention and economic growth. The agreement is an enabler for the creation of an estimated 275,000 jobs annually. The Framework Agreement commits social partners to undertake concrete steps to avoid retrenchment and support companies in distress. This will be coupled with a Rapid Response Team of experts to assist struggling businesses. In addition, we have agreed that the Training Layoff Scheme will be immediately revived and improved to mitigate job losses.

Private Sector

The financial sector is prioritising decent work within internal operations. It is also focused on economic growth in evaluation of its value proposition. The focus needs to move beyond pure profitability in ventures, and toward ensuring long-term sustainability. Organisations such as the Banking Council are working on devising KPIs that can embed priority SDGs into business models and risk models, enabling monitoring and evaluation of action and delivery.

4.9 Goal 9: Build resilient infrastructure, promote inclusive and sustainable industrialisation and foster innovation

The NDP points out a number of problems experienced with the current transportation system, including outdated rail infrastructure, high ports costs, and a shift of freight from rail to road, which strains the road system[23]. It suggests that a focus on the following four policy areas will be required going forward:

✓ Create workable urban transit solutions

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[23] National Planning Commission, 2012, pp. 183-4

- ✓ Strengthen and optimise freight corridors
- ✓ Provide long-distance passenger transport options
- ✓ Rural access and mobility[24]

While SOEs dominate parts of the transport sector, the Draft Revised White Paper on National Transport Policy speaks to a need to search for alternative financing sources in the private sector[25], and a wider drive to promote private sector participation in transport. The Single Transport Economic Regulator (STER) is envisaged to play a key role in the creation of an investor-friendly environment, for example by creating the regulatory systems that enable third party infrastructure access in rail. The STER will be implemented by the Economic Regulation of Transport Bill 2018, which is currently still in the legislative process.

The key policy document in the rail sector is the Draft White Paper on Rail, which summarises its mission as follows:

> *To recognise and understand rail's heritage of missed opportunities, strategic missteps and structural impediments, and hence to identify and mobilise funding and resources to leverage rail's inherent competitiveness to reposition it as backbone of South Africa's land transport task[26].*

In road transport, while much of the network is funded by the state, the policy is to implement a "user pays" system where appropriate[27]. In practice, this has resulted in the implementation of toll road systems on a number of major corridors, with the tolls operated either by concessionaires or by Sanral. The most recent attempt to institute a toll road was the Gauteng Freeway Improvement programme or GFIP, which has been the subject of massive and coordinated public resistance and non-payment.

The National Development Plan supports the need for industrial policy, but strikes a fairly cautious note as regards its design, as follows:

> *"South Africa must tackle the diversification of the economy from a range of angles. It needs to build on state capacity to identify sectors that will improve export opportunities. In addition, development finance can play a crucial role in promoting industrial policy. The government, in partnership with the private sector, must identify areas to nurture and support; develop sensible instruments to support those areas; and implement them competently. Support and protection should be focused on industries, not firms. At the same time the government must encourage vigorous competition and impose it through competition laws.*

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[24] National Planning Commission, 2012, pp. 185-8

[25] Department of Transport, 2017, p. 32

[26] Department of Transport, 2017, p. 28

[27] Department of Transport, 2017, p. 35

Critically, industrial policy should allow for learning and for timely exit strategies."[28]

In South Africa, industrial policy is heavily influenced by the wider economic environment. In this regard, sustained implementation failures in areas of policy as diverse as education, infrastructure development and trade policy have the potential to undermine successes achieved in industrial policy. In addition, large industrial projects such as industrial development zones (IDZs) typically require policy coordination to implement, for example to ensure that municipal land is available, tariffs and taxes are structured favourably, electricity, transport and water systems are in place, and skills shortages can be addressed by immigration.

South Africa's highlights with regard to SDG 9 are as follows:
- ✓ South Africa's manufacturing sector has been shrinking fairly rapidly. In the ten years to 2017, manufacturing value added has fallen from about 15% of GDP to about 12% of GDP.
- ✓ Gross Expenditure on Research and Development as a percentage of GDP (GERD) has shown some increases over recent years, from a low of 0,72% in 2013 to 0,8% in 2015, but is both far from achieving the target set by national policy, and still has some way to go to recover to levels experienced as recently as 2008 (0,89 percent).
- ✓ Business Expenditure on Research and Development (BERD) has been fairly steadily falling since 2008, and is currently well below its most recent peak of 58,6% in 2008.
- ✓ The number of Full-Time Equivalent (FTE) researchers per million population has increased substantially over the 2007 to 2015 period from 398,6 to approximately 475,1. An examination of the underlying data suggests that the bulk of this 19% increase over the period has come from an increase in the number of active researchers in the higher education field. Over the period 2007/08 to 2016/17, the total number of FTE R&D personnel increased by approximately 11 179, while the same data series for just the higher education component of the sector increased by 10 556 FTE positions.
- ✓ In South Africa, the 3G networks have achieved almost universal population coverage, and LTE networks now cover slightly more than three quarters of the population. LTE network coverage growth rates are however starting to decline quite sharply. What the figure does not reflect is ongoing problems with the affordability of mobile data which tend to reduce its true accessibility, and which mean that many consumers sharply limit the amount of time they spend online. It should be noted

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[28] National Planning Commission, 2012, p. 115

that mobile telephony access is much wider in South Africa than fixed line access, and thus that much of the population is more likely to be able to access the internet via a mobile device than one with a fixed line connection. It is also noted that progress towards implementation of 5G networks depends on the successful release of appropriate spectrum in South Africa. Spectrum management has to date proved particularly challenging in South Africa.

Policy coordination issues across sectors and indicators are an issue, and the link between the quality of economic regulation of network industries and the price and quality of output is increasingly clear. In addition, it is clear that in some sectors greater care needs to be taken to set the mandates for state owned enterprises, an issue which in some areas has also contributed to the spread of corruption. Finally, the impact of the informal sector on transport systems in particular, is substantial, and worthy of further discussion.

Sustained investment in infrastructure and innovation are crucial drivers of economic growth and development. With over half the world population now living in cities, mass transport and renewable energy are becoming ever more important, as are the growth of new industries and information and communication technologies. Technological progress is also key to finding lasting solutions to both economic and environmental challenges, such as providing new jobs and promoting energy efficiency. Promoting sustainable industries, and investing in scientific research and innovation, are all important ways to facilitate sustainable development.

South Africa, through the DTI and the DST, among others, has responded to this call by investing in the development of infrastructure, job creation and technological innovation so that industrial and infrastructural development can be realized in the country.

The DST is currently supporting the ReagEnz project aimed at exploiting indigenous microbial biodiversity as a basis for competitive advantage. The initiative combines metagenomics-based bioprospecting and bio manufacturing technologies to valorise rich Cape Floral Kingdom and other indigenous African microbial diversity into market-ready reagent enzyme products. This project intends to minimise country's heavy reliance on importation of reagents products that could be readily replaced by local development of indigenous microbial diversity (IMD)-based technologies.

SUCCESS STORIES

Gautrain Concession

The Gautrain Rapid Rail Link passenger concession is an example of the integration of private sector investment into the provision of transport services in South Africa, and is the only example of its kind in the rail sector. The Gautrain runs a vertically integrated 80km network in Gauteng, which does not interconnect with any other rail network.

The project is run as a public-private partnership, using a design, build, operate and maintain (DBOM) model. The bulk of the investment required for infrastructure and rolling stock was financed directly by the state, which retains public ownership of these assets, with the concessionaire contributing just over 10% of required investment funds for the system. Management (operation and maintenance) of these assets was then transferred to the concessionaire. In addition, the concessionaire receives ongoing operational cost subsidies.

While the technical performance of the concessionaire has been good, and passenger numbers have increased, increasing attention is being paid to the high operational costs of the system, associated largely with the operational subsidies granted to the concessionaire. In the 2017/18 financial year, these subsidies approached R1.6 billion, which some commentators have suggested is disproportionately large given the relatively small number of commuters serviced[29].

Fourth Industrial Revolution - Intsimbi Future Production Technologies Initiative

The Industry 4.0 flagship project of the Department of Trade and Industry called the Intsimbi Future Production Technologies Initiative Programme (referred to as Intsimbi programme) is an example of a success story. The Intsimbi programme is a system solution for technical and vocational skills development as well as the development of enterprise competitiveness for Industry 4.0.

The launch of the Intsimbi programme by South Africa's Minister of Trade and Industry in June 2018, marked an expansion of the pilot National Tooling Initiative into a fully-fledged 4th Industrial Revolution programme, which includes training in robotics, mechatronics, industrial maintenance, specialised tooling, coded welding, digital technical skills, etc.

The Intsimbi programme is serving as one of the levers that the South African government is implementing to lessen the disruptive and challenging impacts of the 4th Industrial Revolution.

The Intsimbi model has succeeded in creating highly innovative industry driven solutions that can sustainably be expanded to position South Africa's Advanced Manufacturing sector for the 4th Industrial Revolution. The programme has created capacity to support the massive pressure on the current educational system by providing talented young people who are employable, with a career and a future in advanced manufacturing.

The strategic intent of the Intsimbi programme is to prepare the industrial skills base for participation in a highly automated production environment while addressing critical skills shortages. In the context of the Sustainable Development Goals the Intsimbi programme addresses both the triple national priority challenges identified by South Africa, namely Poverty (SDG1), Inequality (SDG10) and Unemployment (SDG8).

4.10   Goal 10: Reduce inequality within and among countries

Trends in inequality, poverty, and redistribution in post-apartheid South Africa have received intense attention especially in terms of measuring

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[29] 14 February 2019. *Gauteng taxpayers spend R100m a month to keep Gautrain running – report*. The Citizen. Accessed on 14 February 2019 at https://citizen.co.za/news/south-africa/government/2063118/gauteng-taxpayers-spend-r100m-a-month-to-keep-gautrain-running-report/

inequality and poverty levels and the proximate causes of these levels. Inequality levels have increased but the face of inequality has changed. The present-day inequality displays a lesser racial make-up than under apartheid. In contrast, poverty has decreased, but is still bears the strong racial contours of apartheid that persist in the contemporary democratic South Africa.

Over the years, South Africa has been battling with high levels of inequality following the collapse of apartheid in 1994. Since the advent of democracy, South Africa set out to close the inequality gaps within its social and corporate structures. The quest to combat inequality was further backed by the adoption of the Constitution, NDP, MDGs and later SDGs. According to the World Inequality Report published in 2018, South Africa stands out as one of the most unequal countries in the world. In 2014, the top 10% received two-third of national income, while the top 1% received 20% of national income.

As part of measures to address the high levels of inequality South Africa adopted policies and programmes such as Broad Based Black Economic Empowerment (BBBEE), Access to Education, the Employment Equity Act and Women Empowerment to mention a few. The South African government has been working with various departments and private sector actors to address the social ills. Key highlights for South Africa are:

- ✓ Inequality remains high and is increasingly suggesting that South Africa is likely to miss its SDG10 targets, unless radical interventions are implemented.
- ✓ Race, geography, education, age, and access to labour markets are the key drivers of inequality in South Africa.
- ✓ If programme implementation is not coordinated across departments, eliminating inequality will remain a higher challenge to overcome.

Key interventions towards 2030 are:
- ✓ A national task-team for an integrated framework to fight inequality.
- ✓ Investment in ECD.
- ✓ Revival and enhancing of agricultural value chains.
- ✓ Use the current grant system as a lever to upskill the beneficiaries and increase their chances of getting into the labour market.
- ✓ Operationalise inclusive development as espoused in the NDP and Agenda 2030 by effectively using trade and industrial policies aimed at creating employment for the unskilled and semi-skilled labour force.
- ✓ Ensure equitable access to quality and progression in higher education to reduce inequality in the labour market.

4.11 Goal 11: Make cities and human settlements inclusive, safe, resilient and sustainable

South Africa is in full agreement with the outcome of the fourth Session of the Africa Regional Development Forum regarding the review of SDG 11. The Forum called for African countries to take advantage of their on-going urban transition by ensuring that urbanisation is integrated into national development planning. Urbanisation is increasingly acknowledged as a mega trend requiring an urgent and cohesive response. South Africa strongly endorses the New Urban Agenda adopted in 2016, since it is seen as providing much needed guidance to the spatial dimension of sustainable development.

In line with SDG 11 and the New Urban Agenda, South Africa's national urban policy, the Integrated Urban Development Framework, guides transformation of the urban space in a manner that promotes inclusive social and economic development, while promoting urban resilience and protection of the urban environment. It is believed that in order to create productive, inclusive and liveable cities, planning and land-use management practices must actively integrate infrastructure investment, public transport and human settlements. One of South Africa's priorities is focussed on informal settlement upgrading in order to support community development, better urban management, and improves people's lives.

The NDP provides strategic guidance on national human settlement development towards the provision of adequate and safe housing and service delivery, including upgrading informal settlements. The primary objective of the NDP is to provide South Africans with access to secure housing, clean water and decent sanitation, underlining the importance of service delivery and housing supply to low income households. There is a considerable alignment between the individual targets and quantitative indicators inherent to SDG 11 and that of the NDP.

South Africa has a well-established strategic framework with delineated objectives that guide socio-economic development on a national, regional, and local governmental sphere. The basis of the national strategic framework consist of certain overarching policies that demarcate principles and approaches central to the unique development needs and planning paradigm of the country.

South Africa's Integrated Urban Development Framework guides spatial transformation in cities with a view to reverse the current inefficient and exclusionary spatial investment patterns, and promote social and economic development, while protecting the environment. The key intervention is for spatial planning and land-use management practices to be actively

integrated into infrastructure investments, public transport and human settlements to create productive, inclusive, and liveable cities.

South Africa is a country with a large population and the largest portion subsist on low-incomes. It is thus extremely important to have policies and programmes that will ensure the standard of living for all is raised.

While South Africa has well-established policy frameworks that create the foundation for the timely achievement of the targets inherent to SDG 11, significant strategic interventions are required to achieve objectives relating to urban sustainability and resilience by the 2030 implementation deadline. Major steps have been taken with respect to providing public transport systems in major urban areas (mostly metropolitan areas). However, the peri-urban and rural areas in which most of the population resides remain reliant on using minibus taxis and private vehicles as means of transport. Improved integration of the existing public transport systems within urban areas also remains a challenge to overcome.

Although there are a number of success stories pertaining to human settlements development, these are still relatively fragmented without comprehensive integration. This is exacerbating the existing spatial form and thus risks perpetuating the development of human settlements that are not sufficiently viable, do not have sustainable economies; and increases the need for motorised transport. The high level of economic and spatial inequality in South Africa is aggravated by insufficient trained urban planning professionals. At a municipal (local) level, this is even more true where a number of, especially, smaller municipalities lack planning capacity.

South Africa's highlights of progress on SDG 11 are as follows:

- ✓ An increase of South Africans residing in informal dwellings was evident from 2014 (11.3%) to 2015 (12.7%). However, between 2015 and 2017, the size of the urban population who reside in informal dwellings decreased (12.2%).
- ✓ As per the information provided by the Department of Human Settlements, in 2015, approximately 51 669 home loans were granted by Development Financial Institutions (DFIs). The DFIs comprise of the Rural Housing Loan Fund (RHLF), the National Urban Reconstruction and Housing Agency (NURCHA), and the National Housing Finance Corporation (NHFC).
- ✓ A very small percentage of municipal waste was recycled in 2015 (1.3%) and 2016 (1.6%), but has since increased to 7.5% in 2017.

✓ In 2013, a total of 13 DRR strategies were developed to improve disaster management in South Africa.

✓ An Innovation for Service Delivery Programme that focusses on research and development and the deployment of innovative technology solutions to achieve and maintain safe and sustainable cities and communities. A Cabinet decision has been made to prioritise the deployment of technology solutions, with a deliberate focus on safe and sustainable human settlements.

As South Africa moves towards 2030, the following interventions will be considered:

✓ Development of different models of financing for human settlements.
✓ Accelerating informal settlement upgrading.
✓ Development and implementation of the required mechanisms by which the relevant indicators can be measured in order to track South Africa's commitments with respect to Target 11.2, as well as SDG 11.
✓ Improve overall integration and linkages of transport-related policies and programmes, in order to achieve improved integration at the implementation level. There are various public transport systems in the major urban areas, especially within Gauteng. Multiple bus and BRT systems that do not function in a coordinated fashion with one another, often resulting in over serviced or underserviced routes and areas. Existing bus and BRT services are also not adequately integrated and linked to existing rail services, such as MetroRail and the Gautrain.

SUCCESS STORIES

Breaking New Ground (BNG)
The BNG is a plan developed in support of accelerating housing delivery, transforming the housing market to address all aspects, such as social, economic and environmental integration and inclusion. The National Government is expected to create an enabling environment for social housing through the development of policy and the enactment of legislation and is mainly responsible for providing the regulatory and legislative framework and funding for social housing programmes. The Provincial Government should aim to ensure fairness, equity and compliance with national and provincial norms and standards and is also responsible for consumer protection. The Provincial Government is expected to provide provincial legislation, capacitate the social housing framework, mediate conflicts and administer project capital grant funding. The Local Government should facilitate housing whilst encouraging new developments and projects, provide access to land and infrastructure, assist social housing institutions, and provide grant funding and access to bridging finance.

The Integrated Urban Development Framework (IUDF)
The IUDF is a policy framework on how the South African urban system can be reorganised, so that our cities and towns become more inclusive, resource efficient and good places to live, work, shop and play in, as per the vision outlined in the National Development Plan. The overall outcome of the IUDF is spatial transformation.

The objective is to ensure spatial integration, improve access to services and promote social and economic inclusion.

Innovation Partnership for Rural Development Programme (IPRDP)
The first phase of the European Union-funded initiative focussed on harnessing technology and innovation to contribute towards improving access to decent and appropriate basic services in rural areas. The pilot initiatives of the first phase of the IPRDP enabled access to off-grid water, sanitation and energy solutions thereby contributing towards improving the quality of life for these often marginalised communities. The IPRDP also gave due consideration to building and enhancing the capacity of municipalities to be able to embed science, technology and innovation in service delivery. This phase also contributed towards democratising science, technology and innovation through concerted efforts to communicating in indigenous languages.

4.12 Goal 12: Ensure sustainable consumption and production patterns

South Africa is party to multilateral environmental treaties, protocols and conventions. National and sectoral legislation, policies and strategies have, to different degrees, incorporated sustainability principles. Nevertheless, there is still a need for a national sustainable development strategy and vision that connects these principles across sectors to cover all production and consumption patterns.

South Africa reaffirms that the promotion of a circular approach to Waste Management contributes significantly to the achievement of the SCP Goal as outlined in SDG12 of the 2030 Agenda for Sustainable Development.

The circular economy approach in the context of SCP aims to keep resources in use for as long as possible, extract the maximum value from them while in use, then recover and regenerate products and materials at the end of each service life. South Africa joined the 10-Year Framework Programme on Sustainable Consumption and Production (10YFP) through the Department of Environmental Affairs (DEA). Since then, the DEA has been serving as the National Focal Point, in conjunction with the DTI and numerous stakeholders.

The CSIR completed its analysis of the National Household Waste Recycling Behaviour Survey for South Africa. This included survey data on packaging waste behaviour for 3 620 domestic households and on food waste for 1 720 households in Gauteng. This is only the second national survey conducted. The first was conducted in 2010. Using the two studies, the CSIR has been able to illustrate trends in waste behaviour and provide critical insights into what mechanisms are working and where greater understanding or incentive is required.

In line with the SDG 12, the DST is supporting the Bio-refinery RDI Programme aimed at the production of materials and chemicals through the sustainable exploitation of biological resources. The programme includes a

number of projects involving value addition and beneficiation using new and improved existing bio refinery value chains from lignocellulose feedstock, waste residues and other agricultural raw materials, as well as various biomass resource streams. The DST supports this area of work through the four research chairs funded at NRF 1 Centre of Excellence 1 National Research Facility: SAIAB.

The main limitation faced by South Africa in reporting progress against SDG12, is a general lack of indicator specific data at national level. National data indicating progress is available for reporting on indicators 12.2.2 and 12.4.1D. The South African government joined hands with business and civil society organisations, and have committed to investing in green industries to support a resource efficient development path for the country, that is less carbon intensive and support labour intensive practices towards eradicating unemployment (UNEP, 2012).

Highlights of progress on SDG 12 for South Africa:

✓ While the share of manufacturing value-add to total GDP declined from 15% to 13%, (which was a trend experienced by many developed and developing countries) manufacturing value-add in real terms grew from R338 billion in 2009 to R383 billion in 2016.

✓ South Africa developed a framework for the promotion of sustainable development. A key aspect is the effort made in shifting away from unsustainable patterns of consumption and production, and participation in the development of the 10YFP. Key progress made by South Africa regarding SCP include:
  ✓ the development of policy and legislation;
  ✓ initiatives to save energy;
  ✓ enabling environments for renewable energy;
  ✓ major move towards cleaner production piloted and implemented through industry;
  ✓ establishment of mechanisms for funding and sustainable procurement; and
  ✓ increased consumer protection and awareness.

✓ With regard to consumption, it peaked in 2008 just before the global economic crisis hit, and dropped significantly as a result. Consumption only started increasing again in 2011, but dropped again in 2014 with the economic down turn experienced at the time.

✓ The current estimated food waste generation (edible portion) in South Africa is about 30% of local production (Oelofse and Nahman, 2013). There is currently no accurate primary data to measure progress.

✓ In 2016/2017, waste exchanges through Industrial Symbiosis in Gauteng (25 synergies) and KwaZulu-Natal (2 synergies) reused 6 160 tonnes of

waste destined for landfill and savings of 8 800 tonnes of virgin resources (NCPC-SA, 2018).

✓ In South Africa, using procurement as a tool for environmental policy is not only about procuring green products and services, but it should also be about preferring contractors who employ environmentally sound practices (Bolton, 2008). It is currently not required to measure green procurement.

✓ The amount of support for research and development in 2014/15 was R189 million in support of seven initiatives (DPME, 2016).

Green technologies in energy are central to decoupling economic growth from negative environmental impacts and excessive resource use. The South African economy is still heavily dependent on coal, and transformation in the energy sector will take time (ASSAF, 2014). There is currently no established methodology for Indicator 12.2.1 (UNSD, 2018), despite well documented and established methodologies for life cycle assessments (LCAs) of specific materials. Increasing recycling rates in South Africa requires interventions on both the supply and demand sides of the recycling value chain to secure an economically viable supply of recyclable materials and ensuring demand for recycled materials (the dti, 2014). Since South Africa is a co-lead for the sustainable food systems programme under the 10YFP, Target 12.3 is undoubtedly a priority for South Africa.

Case Study - Waste Phakisa

Waste management is a concurrent function among all spheres of government and the Department of Environmental Affairs as the custodian for environmental management is mandated to ensure a safe and healthy environment that is not harmful to the well-being of the citizens of the country. In recognition of this Constitutional obligation, the department promulgated the national Environmental Management Waste Act 59 0f 2008 (Waste Act) and in 2010 developed the National Waste Management Strategy (NWMS). The Waste Act proactively assists government to adhere to the Constitutional assignment of legislative and executive powers between the three spheres of government and the NWMS assists to achieve the goals and objectives of the Waste Act. South Africa convened Operation Phakisa Lab on the Chemical and Waste Economy in 2017, with the aim of supporting the South African economy and creating jobs, while reducing its environmental footprint. The overall goal of the Operation Phakisa Lab is to investigate how the contribution of chemicals and the waste economy can be increased to reach the Mid-Term Strategic Framework (MTSF) and the National Development Plan (NDP) targets, as well as job creation, while reducing the negative environmental and health impacts of chemicals and waste.

In addition to the Waste Phakisa programme for (Big, Fast Results), through the National Department of Environmental Affairs (DEA) the country has introduced "*Working for Waste*" programme which is one of the initiatives under the auspices of the Expanded Public Works Programme (EPWP). The initiative is a proactive preventative measure that recognises that inadequate waste services may lead to litter which is not only visual

pollution but may lead to health hazards and environmental degradation. Ineffective waste management practices can affect the well-being of the affected communities and this can be further exacerbated by the increased use of illegal dumping and littering. The programme seeks to ensure that both social and ecological sustainability is achieved through the implementation of sustainable waste management practices.

However, there remains a challenge as the current South African waste management sector is not sufficiently developed, leading to both missed economic opportunities and unnecessary negative environmental impacts.

4.13   Goal 13: Take urgent action to combat climate change and its impacts

Climate change poses the single biggest threat to development, with its widespread and unprecedented impacts that burden the poorest and most vulnerable. The Paris Agreement, adopted in 2015 under the United Nations Framework Convention on Climate Change (UNFCCC), represents a landmark achievement towards strengthening the collective multilateral approach to climate change.

Climate change in South Africa is marked by increased temperatures recorded during the past eight decades now estimated at 1.5 times the observed global average of 0.65C°. According to South Africa's Third National Communication (TNC), these temperatures are predicted to increase using various climate models. A multilateral process represents the best hope in address this global challenge. South Africa therefore continues to actively and constructively engage in efforts to fully operationalise the Paris Agreement and to raise ambition, both at the international and national level.

Although not as high profile at the 2015 climate change talks where the Paris Agreement was adopted, the 23rd United Nations Framework Convention on Climate Change (UNFCCC) Conference of Parties (CoP23) in Germany in November 2017 adopted decisions that advanced the implementation guidelines for the post-2020 period. South Africa, during COP23, in collaboration with the National Business Initiative (NBI), hosted a successful dialogue series in which the work being done by the country to adapt to, and mitigate, climate change was showcased. This included the launch of the African Alliance on the Circular Economy by South Africa, Rwanda and Nigeria.

In this regard, the Paris Agreement makes provision for the communication every five years of contributions and intended efforts of state parties with regard to mitigation, adaptation and provision of support. South Africa submitted what is now its Nationally Determined Contribution (NDC) to the international community, containing three distinct components: (i) mitigation, (ii) adaptation and (iii) the means of implementation. It builds on South Africa`s 2009 emission reduction pledge, and presents an emission reduction trajectory range for 2025 and 2030. This was built on sound science and consultation across the entire country.

In addition to operationalise global efforts at the country level, South Africa convened the Talanoa Dialogue in August 2018 as the first multilateral dialogue ahead of the full operationalization of the Paris Agreement from 2020. As such, it is an important opportunity for South Africa and other Parties to demonstrate their unwavering commitment to the Paris Agreement.

The South African NDC sets a number of national adaptation goals, within the national adaptation strategy and plan to strengthen institutional capacity for addressing adaptation at all levels, and developing a national early warning system amongst others. These goals were built from a scientific exercise completed in 2015, called the Long-Term Adaptation Scenarios.

South Africa has implemented a comprehensive set of strategies, policies and plans within key sectors of the economy in order to reduce the rise in GHG emissions and to achieve meaningful reductions. These include, among others, an Integrated Resource Plan (IRP), the Energy Efficiency Strategy, the Industrial Policy Action Plan (IPAP), the Green Transport Strategy (GTS), the Climate Change Adaptation and Mitigation Plan (CCAMP) for the South African agricultural and forestry sectors and the National Waste Management Strategy.

In parallel to capacity expansion from within the national utility, a number of Independent Power Producers (IPPs) have entered the electricity market predominately for the generation of renewable energy. The main contributor to the growth in the contribution of renewables is the Renewable Energy Independent Power Producer Procurement Programme (REIPPPP). Due to South Africa's location, geography and size, multiple renewable energy resources are available. South Africa's long coastline provides favourable conditions for wind power, while the semi-arid climate and flat terrain in some regions, receive high irradiation, making it ideal for solar power.

Case Study

The Department of Environmental Affairs has worked very well with subnational players, local government, and cities and to this end has undertaken vulnerability assessments across the nine provinces to determine climate risk with the view to develop appropriate

responses. Furthermore, the provincial response plans for all the provinces have been developed to outline adaptation options, which are tailored to the provincial needs. We have supported 44 district municipalities in developing risk and vulnerability assessments and response plans through our Local Government Support Programme.

Ten Research Chairs were funded by the National Research Foundation (NRF): South African Environmental Observation Network (SAEON). Ocean and terrestrial measurements continued in 2016/17, with concrete plans to improve the integration of ocean and terrestrial measurements, with the development of empirical algorithms for seamless carbon accounting products for decision-makers starting in 2017/18. To this end, a comprehensive five-year research plan integrating terrestrial and ocean carbon measurements into the Integrated Carbon Observatory Network has been instituted.

The ocean component completed the eighth year of ship-based carbon dioxide measurement, with the glider platform completing its fifth year. The CSIR contributed its second batch of globally quality controlled datasets through SOCAT, the Surface Ocean CO2 Atlas, which positions the organisation among the leading research institutions in the world on carbon biogeochemistry. Significant progress was made during 2016/17 regarding the development of the first African-based Earth System Model, the Variable-resolution Earth System Model (VRESM) at the CSIR, and its application to study climate change over Africa and the Southern Ocean.

On the terrestrial side, extensive simulations exploring the parameters that are most important to describe the physiology of plant functional types occurring in the African savannahs were successfully performed, and the key parameters identified. The first global simulations with the Community Atmosphere Biosphere Land Exchange (CABLE) system coupled to the CASA-CNP model, which simulates the carbon-nitrogen phosphorous cycle, has also been performed. This is a key step towards preparing the VRESM for its application in the Intergovernmental Panel on Climate Change.

The Department of Science and Technology (DST) in partnership with the CSIR and a number of higher education institutions, is supporting the nation-wide National Biocatalysis Network initiative. This initiative is a technology platform that involves the use of biological catalysts, such as whole microorganisms and enzymes, to accomplish a specific synthesis of chemical compounds towards the manufacture of both commodity and value-added products, particularly in the synthesis of pharmaceuticals, renewable chemicals and liquid fuels.

Renewable Energy Independent Power Producer Procurement Programme (REIPPPP)

The REIPPPP is a competitive tender process that is designed to incentivise renewable energy projects development. By the end of December 2018, the REIPPPP had made the following significant energy supply capacity impact:

- 6 422MW of electricity had been procured from 112 RE IPPs in seven bid rounds;

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- 3 876 MW of electricity generation capacity from 63 IPP projects had been connected to the national grid;
- 32 700 GWh of energy had been generated by renewable energy sources procured under the REIPPPP since the first project became operational. Renewable energy IPPs have proved to be very reliable. Of the 63 projects that have reached commercial operation to date, 62 projects have been operational for longer than a year.

Despite these success stories, South Africa is experiencing slow and fragile economic growth, as the economy is constrained by structural problems. As such, the country has been looking into the possibility of scaling-up its current efforts, but this is proving difficult and requires international and regional cooperation.

4.14 Goal 14: Conserve and sustainably use the oceans, seas and marine resources for sustainable development

In South Africa, at the highest overarching levels of the national legal framework, marine and coastal management encompasses broader environmental rights. These rights are enshrined in Section 24 of the Constitution of South Africa. Section 24 of the Constitution guarantees a healthy environment to all South Africans and mandates the State to ensure that this right is upheld, through legislative or other means. This constitutional mandate is directly linked to SDG 14 on (i) preventing pollution and ecological degradation, (ii) promoting conservation; and (iii) securing ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

The Ecosystem protection (including marine and coastal ecosystems) is one of the guiding principles of the NDP. The plan acknowledges that the ocean environment is strongly interlinked with the process of climate change and broader issues of ecological degradation. It makes specific mention of ocean acidification and depleting fish stocks, demonstrating alignment to the SDG framework through target 14.3 (minimise and address the impacts of ocean acidification).

Other elements of South Africa's national planning environment have provided strategic and operational capabilities to the country's sustainable development thinking are the *National Framework for Sustainable Development (NFSD)*, the 2012-2014 National Strategy for Sustainable Development and Action Plan (NSSD 1). The strategic priority put forward by NSSD 1 around enhancing monitoring and reporting systems for improved environmental performance, shows that the South African government has recognised the importance of indicator evaluation (Montmasson-Clair and Plooy, 2012: 4).

NSSD 1 also emphasises elements of SDG 14 in terms of the plan's priority to value, protect and enhance environmental assets and natural resources (including coastal and marine environments). However, a key challenge

faced by the NSSD was assigning value to natural resources and ecosystems. The country will generate financial resources to support biodiversity conservation over the medium term (Republic of South Africa, 2014: 35)

The oceans play a vital role in sustaining life on land. Oceans provide key natural resources, including food, medicines, biofuels and other products. They help with the breakdown and removal of waste and pollution, and coastal ecosystems act as buffers to reduce damage from storms. Maintaining healthy oceans supports climate change mitigation and adaptation efforts. The seaside also serves as a major attraction for tourism and recreation.

Despite the data challenges that limit South Africa's ability to report formally on the majority of the SDG 14 targets, there is ongoing activity in the target thematic area that creates an enabling environment to support progress against this goal. The oceans and coasts are overseen by a comprehensive and progressive policy and legal framework, and there is momentum in several enabling programmes.

The South African government has set out policy measure to preserve life under water, such as fishing regulations and also introduced the concept of the Blue/Marine economy with a view to boost economic growth, job creation and foster infrastructural development. Operation Phakisa launched by the government also aids the full implementation of SDG 14.

To allow departments to respond more quickly and more proactively to harmful algae threats, the harmful algal blooms decision-support system was developed and released to public sector users and some users in the aquaculture industry. The system detects Harmful Algal Blooms through marine remote sensing, making use of the detection of fluorescence and deriving chlorophyll in ocean water.

SANSA contracted the French South African Institute of Technology at the Cape Peninsula University of Technology to develop, fabricate, test and launch a nano-satellite, ZACUBE-2, which is a precursor mission for a constellation of nine 3U cubesats that will be used to monitor illegal fishing in South African oceans. The main payload of the mission is an automatic identification system/VHF data exchange system sensor. The ZACUBE-2 Mission is part of a grant award received from the DST. The ZACUBE-2 Mission will also have an imager that will be used for remote sensing purposes.

The DAFF receives a daily report from the vessel tracking decision-support tool on all fishing vessels detected in South African waters, including the identification of ships and their most recent positional information. The system was used to provide evidence for a specific event in which three vessels (which were moving illegally through South Africa's Exclusive Economic Zone) were stopped and found to have 600 tonnes of squid on board (worth approximately R70 million). The DAFF fisheries compliance department has an Oceans and Coasts Information System Vessel Tracking Decision Support Tool installed in their control centre since 2017 to assist operators with monitoring compliance regarding fishing regulations, including the detection of potential illegal fishing in South African waters.

SUCCESS STORY

Operation Phakisa on Oceans Economy

South Africa identified the **Oceans Economy** as one of the sectors for initial implementation, focussing on unlocking the economic potential of South Africa's Oceans. Operation Phakisa has prioritised the following four new growth areas for the maritime sector based on their contribution to GDP and job creation: Marine transport and manufacturing; offshore oil and gas exploration; aquaculture; and marine protection services and ocean governance.

Subsequent to the national launch, the Eastern Cape also launched the Operation Phakisa Oceans Economy initiative and established a provincial Operation Phakisa Task Team. In addition to the four labs of the Operation Phakisa Ocean Economy, the Eastern Cape has identified marine tourism and recreation, skills development and research and innovation as additional clusters for the Ocean Economy in the province.

Some responses to Marine threats:

· Working for Ecosystems (EPWP)

· Biodiversity Advisor Web portal and Biodiversity GIS

· Biodiversity Management Plans

4.15 Goal 15: Protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss

Various legislative developments and national policies in South Africa have prioritized sustainable development as a guiding development principle for South Africa, in a way that is appropriate to its unique post-1994 context. This constitutional mandate is directly linked to SDG 15 in (i) preventing pollution and ecological degradation, (ii) promoting conservation; and (iii)

securing ecologically sustainable development and use of natural resources while promoting justifiable economic and social development.

As part of its vision, the NDP acknowledges that human wellbeing is dependent on the health of the environment and that South Africa will need clear long-term development strategies to sustainably manage natural endowments (RSA, 2011). South Africa through the National Department of Environmental Affairs is championing Lands programmes that aim to restore and rehabilitate degraded land leading to better performing ecosystems.
Improvements in ecosystems generally will lead to carbon sequestration, better water yields and quality. This will reduce environmental risks and improve the sustainability of livelihoods, while increasing productive potential of land and promote economic empowerment in rural areas. Restoration of land will improve natural species diversity and catchment stability and Agricultural productivity.

South Africa reiterates the call to enhance cooperation and collaboration among countries in the field of biodiversity conservation, sustainable use, equitable access and benefit sharing of biological resources, as well as cooperation in biodiversity-related international conventions and fora including on endangered species. The focus of the biodiversity and conservation programme is on the regulation and management of all biodiversity, heritage and conservation matters in a manner that ensures equitable and sustainable use, conservation, management and, where necessary, the restoration of this resource base as well as to mitigate threats to them as a basis for sustainable and inclusive socio-economic development.

SDG 15 and its targets provide critical inter-linkages to address issues of food security and hunger; poverty, resilience to drought and water stress; reduce carbon emissions; opportunities to invest for people living in degraded lands and biodiversity loss among others. There is a need to promote cross-sectoral integration for harnessing synergy in achieving other SDGs through SDG 15. This is also due to other SDGs being directly linked to this SDG.

In many ways South Africa's approach is, well developed when it comes to protection of ecosystems and integration of biodiversity in planning and capacity building. Building on this will require not only dedicated resources for implementation, but also for data management to assist with South Africa's progress towards SDG 15.

Highlights of the progress made are as follows:

✓ South Africa reports on 15.1.1 as a global SDG indicator with extra disaggregation (Stats SA, 2019). Beyond the 2014 interval, South Africa has not reported on 15.1.1 and is therefore unable to report on whether the 2020 target will be met. However, results for the available intervals represents a general trend of declining forest extent in South Africa. The target in relation to 15.1.1 is therefore unlikely to be realized by 2020.

✓ the indigenous (natural) forest biome constitutes less than 1% of the country's land area, as the country is too arid to support natural forest ecosystems (DAFF, 2009: 6).

✓ As of 2019, South Africa cannot report on biodiversity areas designated as KBAs. However, South Africa is undertaking efforts towards creating a KBA spatial dataset together with SANBI and BirdLife South Africa (Khatieb, 2019).

✓ South Africa's progress, using the domesticated measure of the percentage forest ecosystem extent, shows that as of 2018, the country had 36% of its natural forest biome, 13% of its savanna biome and 2 percent of its Albany thicket biome under formal protection. Natural savannah has enjoyed a 4% increase in protection and there has been a slight increase of 1% for Albany thicket under protection since 2010.

✓ South Africa has been relatively successful in protecting its natural or indigenous forests compared to the other two forest biomes. This reflects the focus on natural forests in conservation legislation and management.

✓ South Africa's 2018 report to the UNCCD shows that 10.71% of the country's land is degraded.

✓ As of 2018, 42% of South Africa's mountain ecosystems are well protected, a 1% increase since 2010. The remaining 58% of the mountain ecosystem types have varying degrees of protection. The overall progress towards protecting mountain ecosystems is positive.

✓ The National Biodiversity Economy Strategy aims to promote a new generation of partnerships between protected areas, the private sector and communities to assist with the transformation agenda. The 3rd BEI ended with pledges by stakeholders in the wildlife, bio prospecting / biotrade and eco-tourism sectors to ensure greater inclusivity and transformation.

Climate change presents a key challenge in terms of the biodiversity that supports forests. Climate projections indicate it is likely that many forest areas will experience increasing pressures due to changing moisture patterns and the effect of fire risks in the future. Because these events are difficult to predict in terms of the exact climate distributions (DEA, 2013: 24), South Africa will need to think dynamically about future reporting and planning.

Another challenge for South Africa relates to poaching and trafficking of protected species. Although South Africa's rhino are the focus on international anti-poaching efforts, this species constitutes the highest share of the proportion of the country's illegal wildlife trade (DEA, 2016). Research by Gonçalves reflects on the Kruger National Park, where improved surveillance and response capabilities in conjunction with ranger efforts led to a decline in poaching in 2016, but the number of attempted incursions detected increased dramatically (2017: 14).

Furthermore, in 2018, SANBI reported on South Africa's status regarding alien species control. The report highlights the evaluation of alien species control strategies as a critical area lacking in South Africa. It found that a robust assessment of the effectiveness of control measures is also not possible due to the absence of monitoring of the outcomes of control measures (Van Wilgen and Wilson, 2018: xi).

South Africa's policy, legislative and strategic environment has helped facilitate its transition to reporting on SDG 15. This has also assisted the alignment of national policies and strategies with key global agendas that are linked the SDGs.

Ongoing efforts between the South African government, Stats SA and SANBI are critical towards improving the country's reporting capability and data gaps on this goal. More needs to be done to ensure both effective implementation of government interventions and the collection of relevant, integrated data for tracking progress.

The identified interventions going forward are as follows:
- ✓ National reporting has historically omitted ecosystems and biodiversity. The new medium term strategic framework for 2019-24 should address this gap.
- ✓ South Africa's data management systems are historically devolved, resulting in a legacy of "silo" reporting.
- ✓ One of the key objectives globally identified to address the complex linkages between SDGs is stimulating science-policy dialogue on the importance of goal interactions and prioritisation for policy-making and implementation.
- ✓ South Africa faces a cross-cutting issue around data, knowledge management and benchmarking. The country's national statistical systems are devolved to the various government departments, which each with their own data collection systems. Stats SA, as the

country's data coordinator, has the mandate to collate data from government.

✓ One of the fundamental challenges South Africa faces is redressing legacies of inequitable ownership and land distribution, spatial mismatches in land management and unsustainable land practices (DEA, 2006: 88). These challenges undermine South Africa's ability to sustainably manage and conserve land resources and ecosystems in a way that promotes fair and equitable sharing of the benefits. Ensuring that the targets of SDG 15 are aligned with the needs of communities, particularly those most at risk from land degradation, such as in rural and climate-vulnerable areas, is a priority across South Africa.

✓ Managing uncertainty, risk and climate change through dynamic planning.

SUCCESS STORY

▪ The joint GIZ (German Technological Cooperation) and DEA Carbon Sink Atlas project has been completed. Locally calibrated and validated EO products (including leaf area index, tree cover and biomass) were generated by the EO group and added to the Carbon Sink Atlas as demonstrators for future improvement (lower errors, higher details) of national carbon stocks and fluxes assessment. Phase 2 of the shale gas strategic environmental assessment has been completed, about four Research Chairs funded at NRF four Centres of Excellence National Research Foundation: SAEON.

▪ The Industrial Bio-economy Directorate within the DST is currently supporting the Forest Molecular Genetics Programme based at the University of Pretoria in support of the SDG15. The aim of the Forest Molecular Genetics Programme (FMGP) is to develop a Centre for Tree Genomics and Biotechnology Research in South Africa with a focus on the genetic control of woody biomass traits for fibre, bioenergy and biomaterials production.

Sceletium Case Study

▪ HG&H Pharmaceuticals (Pty) Ltd is a local innovative pharmaceutical and natural ingredients company that focuses on the discovery, research and development of evidence-based natural medicines and dietary ingredients for common mental health and wellness conditions.

▪ A bioprospecting permit was awarded to HG&H Pharmaceuticals (Pty) Ltd by the Department of Environmental Affairs to commercialise the medicinal properties of the Sceletium tortuosium also known as Kanna.

▪ The company acknowledges the fundamental role indigenous knowledge plays as a departure point for new product discovery and innovation. It is an acknowledgement that was formalised through a landmark benefit-sharing agreement with the San Raad van Suid Afrika (San Council of South Africa) jointly with the Paulshoek and the Nourivier communities. This agreement marked South Africa's first prior informed consent benefit-sharing agreement with an indigenous community for the commercialisation of an indigenous medicinal plant since the entry into force of the BABS Regulations which gave effects to chapter 6 of NEMBA.

▪ The company conducted research and development on the Kanna and developed a quality-based extract called Zembrin®, which has mood-enhancing, anxiety-reducing and cognitive function enhancing activities, all of which can be of benefit

- to healthy people suffering from stress. Zembrin® is currently been marketed across the world including South Africa, USA, Canada, Brazil, Malaysia and Japan. In Canada, Zembrin® has been approved for sale to "support cognitive function in adults".
- The benefit-sharing agreement concluded with South African San Communities is based on unconditional monetary benefits. Since 2010, HG&H Pharmaceuticals (Pty) Ltd has shared more than 5 million rand in financial benefits with the community. In terms of the agreement, the Pharmaceutical company shares six percent of all income from Zembrin® with the South African San Communities, which, in turn, allocates 50% of their share with the villagers of Paulshoek and Nourivier in the Namaqualand region of the Northern Cape Province. It is in these communities that the ethnobotanical research was conducted. As a result, Zembrin® is the only Sceletium product to carry the logo of its indigenous beneficiaries, the San Raad van Suid Afrika.

- Further, HG&H Pharmaceuticals (Pty) Ltd, through its partnership, has established massive cultivation and processing plants in the Mpumalanga and Limpopo provinces. This project has created employment opportunities across the value chain. During the annual cultivation and handling of this crop, approximately 30 people are employed in the process, the majority of which are women.

4.16 Goal 16: Promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels

In South Africa, commitments to human rights, the rule of law, access to justice, fair representation in government, access to information and independent institutions, find expression in the country's Constitution. Despite its socio-economic challenges, South Africa continues to harness the fruits of democracy, sustainable peace and strong judicial systems as enshrined in the Chapter 9 constitutional institutions of the country. Not only is South Africa making progress in achieving SDG 16 within its borders, it also plays a critical role in peacekeeping, conflict resolution and aiding other African countries to restore democracy and respect for human rights. In January 2019, South Africa resumed its non-permanent membership of the United Nations Security Council (UNSC). With its membership, South Africa aims to advance the African agenda. Furthermore, in 2020, South Africa will be the chair of the AU.

The cluster system introduced as a result of the Intergovernmental Relations Framework Act, 13 of 2005, play a key role in facilitating interdepartmental policies and programmes to meet the goals of the NDP. These are:
- ✓ Economic Sectors, Employment and Infrastructure Development (ESEID)
- ✓ Social Protection, Community and Human Development (SPCHD)
- ✓ Governance and Administration (G&D)
- ✓ International Cooperation, Trade and Security (ICTS)

✓ Justice, Crime Prevention and Security (JCPS)

South Africa's highlights on progress and regress with regard to SDG 16 are as follows:

✓ Action to stabilize and restore the credibility of institutions like the National Prosecuting Authority (NPA), the South African Revenue Service (SARS), the State Security Agency (SSA) and the South African Police Service (SAPS). This action includes the appointment of a new National Director of Public Prosecutions (NDPP) to lead the revival of the NPA and to strengthen the fight against crime and corruption.

✓ The adoption of the National Action Plan to Combat Racism, Racial Discrimination, Xenophobia and Related Intolerance in March 2019.

✓ South Africa has a world class legal aid system, able to provide legal aid services in criminal and civil matters as well as legal advice services. This is a model studied and implemented by many other countries. Legal aid enables access to justice to ensure that no person will go unrepresented through the criminal justice system because they are unable to afford legal representation.

✓ Legal aid has also made great progress in providing civil legal assistance and legal advice focusing on protecting and defending the rights enshrined in the Constitution of the Republic of South Africa (RSA).

✓ SDG 16 Indicator 16.a.1 refers to the 'existence of independent national human rights institutions in compliance with the Paris Principles'. South Africa fulfils this obligation in that the SAHRC has been evaluated as compliant with the Paris Principles and has accordingly been accredited with "A" status as a National Human Rights Institution (NHRI) in terms of the Paris Principles.

✓ Reporting of crimes per number of victims has increased from 30.1 per 100 000 since 2011/12 to 35.8 per 100 000 in 2017/18 due to efforts to encourage people to report crimes and the confidence in our legal system. The observed challenge with the indicator is a lack of disaggregation by gender and age.

✓ In 2018, it is estimated that only 2% of police stations recorded 20% of all murders in South Africa, and that 13% recorded 50% of murders (Faull, 2018).

✓ With regard to physical violence experienced by households, South Africa's progress since 2013/14 has been improving in relation to home robbery, assault and robbery outside the home. In 2013/14 the percentages of physical violence were as follows: Home robbery (approximately 1.59%), Assault (approximately 0.88%) and robbery

outside home (approximately 0.81%). In 2017/18, the results were as follows: Home robbery (approximately 0,80%), Assault (approximately 0.67%) and robbery outside the home (approximately 0.63 percent)[30].

✓ The confidence of household heads to walk alone at night has slightly improved from 2015/16 (29.4 per 100 000) to 2017/18 (31.8 per 100 000). Proportion of household heads who feel safe walking alone in their area when it is dark 30.7% and 31.8% for 2015/16 and 2017/18 respectively.[31]

The South African legislation (PAIA) is comprehensive, including a right to access privately held information. However, there is a disconnect between what the legislation says and how it is implemented in South Africa. The majority of the legislation that involves the key implementation agency in access to information, the Information Regulator, is not yet in effect. The Protection of Personal Information Act, and the order powers of the Regulator relating to the Promotion of Access to Information Act are not yet in operation.

Discrimination in South Africa is still a major problem, even though several organisations and government are doing a lot to counter racial and gender based discrimination. However, since 2017, racial discrimination has increased. The Prevention and Combating of Hate Crimes and Hate Speech Bill 2018 is one of the legislative strides that the Department of Justice is making in terms of counteracting discrimination (DOJ,2019).

Another challenge in South Africa relates to some government departments being overly legalistic and bureaucratic, demanding forms (as described in the regulations) to be filled in providing information and services to the citizens even though it may not be appropriate. This process limits access to information. Forms are available in English and Afrikaans only.
Other challenges include:
✓ Lack of adequate resources to support and fund efforts by civil society organizations and community-based organisations to improve access to justice for vulnerable and marginalized groups.
✓ The need for formal recognition of the activities of paralegals.
✓ Removing barriers to access to justice for vulnerable and marginalised groups in informal settlements or rural areas.

✓ Gap in meeting the demand for civil legal aid services and reaching all people who require civil legal aid. This includes the resolution of

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[30] Stats SA, Victims of Crime Survey, 2017/18
[31] Statistics South Africa, SDG Report, 2019.

legal disputes by means of alternative dispute resolution mechanisms.

✓ Reducing the length of incarceration of awaiting trial detainees before the matter is withdrawn or finalised.

In the 2015/16 financial year, Stats SA embarked on the mapping and scanning of the governance statistics sub-system in South Africa as part of a process of identifying and bridging data gaps related to governance statistics. This was accompanied by extensive local and international stakeholder consultation and took place at the same time as the ratification and refinement of the UN Sustainable Development Agenda and the AU Agenda 2063. The timing of the process enabled the team to benefit from best practices identified by the international community for the purposes of SDG indicators and reporting, especially in relation to SDG 16.

Within the context of limited resources and the need to bridge the data gap, a decision was made to convert the Victims of Crime Survey (VOCS) into the Governance Public Safety and Justice Survey (GPSJS). Given the broad range of issues that had to be covered by the survey, a decision was made to cover particular content in a three-year rotational cycle. Data collection for year 1 (2018/19) ended in March 2019 and the first report that will cover issues around discrimination, access to justice, constitutional values and democratic expression is due in July 2019. Given the importance of crime statistics in South Africa, the experience of victimisation, as well as reporting to the South African Police, will be included in all three iterations. A short publication comparing victimisation and reporting rates in the survey with crime rates reported to the police will still be published during the two years that the questionnaire focuses on the coverage of aspects of governance not related to criminal justice. A more comprehensive report reminiscent of the current VOCS statistical release will be produced every three years.

Proposed intervention going forward towards 2030:
✓ Determine how to reach more people who require assistance with resolving civil disputes including the use of technology and stakeholder partnerships with community advice offices, to ensure accessibility.
✓ Role players in the justice cluster to continue to work together to improve the efficiency of the justice system and build confidence in the rule of law and order.
✓ Deal with the complete breakdown between police and community. The police are failing to manage high levels of violence in society. In this regard, a Community Policing Policy has been developed which seeks to reinforce the community policing approach in line with Sec 206 (3) (c) of the Constitution, which entitles provinces to promote good relations

between the police and the community. Community policing is an approach to policing which recognises the shared responsibility of police and the community in ensuring a safe and secure environment for all citizens.

✓ The public see no need to report crimes to formal justice mechanisms because they see no follow-up or arrests.

✓ Strengthen coordination between government departments. Government departments must work together, in structures like the Public Dialogue Mechanism for the Open Government Partnership.

✓ There is a need to establish proper institutional arrangements so that processes are not left to individual ministers or personalities.

✓ Ensure policies developed by one government department are consistently adopted by other government departments.

✓ Ensure enough budget support for policy implementation.

✓ Strengthen coordination among stakeholders, such as government, the private sector and civil society. For example, civil society can be a partner, not a threat to government. There is a need to work on developing relationships of trust and for civil society to be assisted in educating the greater society (public) on their rights.

✓ With regard to access to information, the following interventions should be considered towards 2030:
   o The Information Regulator is the information commission for South Africa, dealing with access to information and personal data. The institution needs to work with the South African Human Rights Commission (SAHRC) to close the gaps in the handover of implementation of the law to the Regulator from the SAHRC.
   o Information needs to be proactively released and not released through one record at a time.
   o More information should be released – government should endeavour to publish the information that they have proactively, and attend to records management.
   o There is a lack of awareness of the law among the public. More public education is needed.
   o Some government departments see access to information as a threat, not as the exercise of a right.
   o There is a lack of awareness at all levels of government about the right to information.
   o There is a need for education in key sectors, such as, South African Police Service (SAPS) and the Department of Justice, which are crucial to accessing rights.
   o South Africa has a solid national legal framework, but this is not filtering down to other levels of government, especially at local level, thus requiring urgent attention.

- Compliance with PAIA legislation does not necessarily indicate accountability in information:
  - Long delays are being experienced annually on requests for documentation that should be readily available for release.
  - When documents are eventually released, they are clearly thrown together for compliance purposes.
  - Some documents must, for accountability, be properly completed and made public without recourse to access to information requests. The Equal Education Law Centre (EELC) made this argument in respect of school infrastructure plans and reports, and in July 2018, the Bhisho High Court ordered the Department of Basic Education to amend the infrastructure regulations to provide for plans to be made public. Although the Constitutional Court endorsed this judgment in October 2018, the Minister has not informed the public of any efforts to comply with the order and amend the regulations.
- Stats SA is the national statistical service of South Africa, with the goal of producing timely, accurate, and official statistics in order to advance economic growth, development, and democracy. They should continue to publish information in an accessible form, including continuously updated machine-readable data sets.
- The SAHRC needs to continue having access to information as part of its mandate, and cannot relinquish that responsibility to the Information Regulator.
- PAIA should be part of the curriculum of the National School of Governance.
- There is a need for Government to commit to drive the proactive release of information – South Africa cannot have a default of only giving information when asked.
- Information should not be just for the rich: PAIA litigation does work but is out of the reach of most citizens. The cost of seeking justice, should be reduced, especially for vulnerable and marginalized groups.
- There is a need to develop feedback loops where Government reports on progress.

✓ Government should:
- Look at access to justice in a holistic way, and not focus only on the formal justice system.
- Recognise, regulate and have a sustainability policy for community based - paralegals and other indigenous/home-grown community justice service providers, systems and structures.
- Ensure that the independence of paralegals as well as indigenous/ home grown justice systems is guaranteed through governance and

accountability mechanisms. These shall, where appropriate, include self-regulation.

o Provide adequate funding for community-based paralegals and indigenous/home-grown justice systems in their justice budgets.

o Ensure that in the Department of Justice and Constitutional Development, there is a unit that is focusing on supporting community advice offices.

o Formalise the collaboration between the formal justice system and other institutions and initiatives using complementary mechanisms for conflict resolution. These can be community advice offices or other indigenous initiatives.

o Implement training and professional development on violence prevention, mental health, and psychosocial support services; and trauma informed care in health, educational and related sectors and facilitate key professionals adopting an advocacy role for violence prevention.

SUCCESS STORIES

Legal Aid South Africa: Access to Justice

Legal Aid South Africa makes access to justice a reality, positively impacting on the lives of vulnerable persons. This is done through providing quality criminal and civil legal aid services as well as legal advice services, in compliance with its constitutional and legislative mandates. In the past 5 years (2014/15 to 2018/19), the organisation has taken on a total of 1 902 251 new criminal matters, 274 782 new civil matters and provided legal advice services to 1 565 890 clients. Therefore, access to justice has been provided to a total of 3 742 923 persons.

The organisation is also involved in strategic litigation which includes class action matters or matters which contribute to jurisprudence that helps interpret the Constitution, contributes to changes to laws and impacts systemic changes in the interest of poor and vulnerable persons.

Operating within a good governance framework and strengthening the means of implementation (SDG17) by building strong institutions of the state, makes it possible for Legal Aid South Africa to reach many more persons to increase access to justice (SDG16). Sound financial management resulted in Legal Aid South Africa receiving consecutive unqualified audit for the past 17 years.

Contemporary human resources practices have resulted in the organisation being accredited as a Top Employer for the past ten years as well as being a leader of the public sector category for the past four years.

Legal Aid South Africa is thus an example of a high performance public sector entity serving poor and vulnerable persons to increase access to justice, and contributing to meeting the implementation of SDG 16.

Regulation and recognition of community-based paralegals

Centre for the Advancement of Community Advice Offices of South Africa (CAOSA) has approached the government of South Africa for the recognition and regulation of

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the Community Advice Office (CAO) sector. These efforts have yielded some fruits; government has showed positive signs accepting to be part of consultations towards the regulation of the CAO sector. Government has also showed signs towards developing a policy for the sustainability of the CAO sector. CSOs have been pushing for the collaboration with government since the 1990's.

Collaboration between the Formal Justice System and Community Justice Institutions

In the peripheries of Pretoria North, a successful partnership has been established between the Ga-rankuwa magistrate court and a Community Advice Office, located in Mabopane; the *Ntsu Advice Office*. The partnership has seen cases being referred from the magistrate court to the Ntsu Advice Office and being resolved at a 90% rate. Because of this partnership, other cases are directly referred from the Ntsu Advice Office to the magistrate court. From both sides, there is recognition of the merits, and limits of each of the system and the collaboration allows to fill the gaps.

5. MEANS OF IMPLEMENTATION

5.1 Goal 17: Strengthen the means of implementation and revitalize the global partnership for sustainable development

Finance

South Africa has ensured that it incentivises investment in climate-resilient and sustainable development projects, how to unlock the transformative potential of people and the private sector, and how to support governments in fighting poverty. This Encourages SDG implementation, including through private financing and enhancing international cooperation for domestic resource mobilisation, as well as tax revenues through exploring new approaches, strategies and partnerships.

One of the main challenges for implementation of the SDGs, is the lack of provisioning and mobilising of new and additional, adequate and predictable financial resources. This has not been catered for within the UN system and must be a priority as part of the commitments made in the context of the global partnership for development.

An area of importance for the continent and country is to effectively address illicit financial flows and the subsequent negative consequences. Multinational corporations and other entities should make their rightful contributions in the countries where their revenues are generated.

South Africa supports the notion that a foundational regulatory basis for enabling financial flows for the implementation of SDGs must be underpinned by an expanded and strengthened global partnership for development, as a

main component for the implementation of the 2030 Agenda for Sustainable Development. Hence, this regulatory basis was reinforced by a strong outcome for the July 2015, 3rd International Conference on Financing for Development (FfD3). It provided not only a framework for the financing needs of developing countries, but was fundamentally connected to the integrity of its means of implementation (MOI). This encompasses not only financial resources and technology transfer for implementing sustainable and equitable development, but also the appropriate structural reform of the international financial and trade systems, as upheld by the structure and content of the Monterrey Consensus.

Domestic resource mobilisation is fundamental, which comprises the generation of savings domestically, including savings and revenues from domestic firms, government and households, including remittances. It has increasingly been the focus of attention in various international fora that have considered issues related to financing for development.

Development partners need to not only meet their current commitments, but also to upscale Official Development Assistance (ODA), with binding timetables, including the reaffirmation that ODA remains the main source of development assistance for many developing countries, especially for the least developed countries.

This should, however not replace internationally agreed commitments made by developed countries to assist developing countries to attain their sustainable development objectives. Public-private partnerships have an important role to play in mobilising the necessary financial resources for sustainable development and to address issues of poverty eradication.

Policy options, regulations, institutions, programmes and instruments should be in place, from which governments can choose in accordance to their national needs and circumstances, with primary focus on low-carbon and climate-resilient infrastructure. International public finance, including ODA and climate change financing, will be central in financing sustainable development, especially for developing countries.

The DST facilitated international investment of R689 million in the NSI in 2017. The DST also secured four tactical leadership positions for South Africa in global science decision and policy-making structures, and influenced four multilateral outcomes, which had the objective of positioning the DST and its key priorities strategically for international support. The DST received ODA from Argentina, the European Community and the United States Agency for International Development (USAID). The investments were towards ICT innovation programmes to support development and government delivery,

regional integration, and the protection of the environment and natural resources

Technology

South Africa has called for the early implementation of the global commitments towards the Technology Facilitation Mechanism (TFM) and the Addis Ababa Action Agenda (AAAA) on Financing for Development. The TFM is key towards enhancing scientific cooperation and reducing the technology gap between developed and developing countries, as well as building local capacity in science, technology and innovation (STI).

STI have been recognised as one of the main drivers behind productivity increases and a key long-term lever for economic growth and prosperity, as well as vital for environmental sustainability. There is a need to step up international cooperation and collaboration in science, research, technology and innovation, including through public-private and multi-stakeholder partnerships, and on the basis of common interest and mutual benefit, focusing on the needs of developing countries and the achievement of the SDGs.

The 2018, WIPO Global Innovation Index listed South Africa within the group of Innovation Achievers. Our strengths in STI include support to the range of SDGs, such as water management approaches and technologies, alternative energy, social infrastructure, and digital approaches including data analytics.

Some noteworthy strengths of South Africa are strengthening the science-policy interface, including novel and value-adding approaches such as the development of decision support tools, for example the Risk and Vulnerability Atlas. The country also an acknowledged world leader in supporting and enabling the development and use of indigenous knowledge and building dynamic indigenous knowledge systems.

South Africa seeks to promote social innovation to support social well-being and sustainable livelihoods; knowledge-sharing and the promotion of cooperation and partnerships between stakeholders, including between governments, business, academia and civil society, in sectors contributing to the achievement of the SDGs.

South Africa participates in the multi-stakeholder forums for STI on SDGs held every year in New York as part of the TFM to discuss the role of STI in the implementation of the SDGs. Paragraph 123 of the Addis Ababa Action Agenda and Paragraph 70 of the Agenda 2030 outcome document called for the establishment of a TFM. The TFM was launched in 2015 during the UN Summit that adopted Agenda 2030.

STI for SDGs Africa Multi-stakeholder

South Africa proposed hosting the STI Multi-Stakeholder Forum at a continental level which would be an opportunity for Africa to discuss the STI for SDGs implementation. It would also assist Africa to coordinate itself for representation in the UN STI Multi-Stakeholder Forum that takes place on an annual basis as well as in the United Nations Multi-Stakeholder Forum. The proposal was approved by INECA and such a forum will take place an annual basis.

The African partnership portfolio has been especially active, with 54 research and innovation projects jointly supported by the DST and African partner governments during 2016/17. The DST, also supported 15 AU and SADC STI initiatives, allowing these initiatives to progress. The DST enabled an investment of R388 million by several of its internal partners in other African countries' STI capacity. A diverse portfolio of bilateral and multilateral programmes coordinated by the DST during 2016/17 provided South African researchers with opportunities to collaborate in joint knowledge-generation activities, with 668 international partner organisations. This collaboration saw an investment of more than R1,2 billion by the DST's international partners in support of collaboration with South Africa. These relationships and investments were invaluable in expanding and enriching South Africa's knowledge-generation outputs.

Case Study: Establishment of the Presidential Commission on the 4th Industrial Revolution (4IR)

The Commission will coordinate the development of South Africa's national response through a comprehensive action plan to deal with the Fourth Industrial Revolution. As part of this effort the Commission will identify and recommend policies, strategies and plans that are needed to position South Africa as one of the leading countries in the evolution and development of the Fourth Industrial Revolution.

More specifically, the Commission will:
✓ Develop an integrated national strategy and plan to respond to the 4IR. This will include detailed interventions to be carried out in achieving competitiveness of the key economic sectors, including agriculture, finance, mining, manufacturing, ICT and electronics, and business with science, technology and innovation as a cross-cutting enabler;

- ✓ Advise on strategies to enhance South Africa's global competitiveness;
- ✓ Advise on a research program to advance 4IR;
- ✓ Advise on the skills development and future of work;
- ✓ Make recommendations on enabling relevant infrastructure for South Africa to participate in the digital economy;
- ✓ Make recommendations on an institutional framework and mechanism to coordinate 4IR programs;
- ✓ Make recommendations on approaches to address inclusivity and digital divide;
- ✓ Make recommendations on interventions to enable entrepreneurship and SMMEs to take advantage of the 4IR;
- ✓ Mobilise resources to support the fourth industrial revolution interventions; and

- ✓ Make recommendations on mechanisms to measure the impact of Interventions on 4IR.

The Commission is made up various stakeholder representatives including: public sector, business; academia and research institutions, experts, labour, SMMEs, youth, women and non -governmental organizations.

Capacity Building

Capacity building in the area of reporting in developing countries; supporting and improving data collection and quality; ensuring that reporting obligations do not overburden administrations; better aligning and communicating at all levels; adopting an inclusive approach when formulating national strategies and ensuring that those strategies are based on sustainable development principles and objectives are important. Support is needed support to disaggregate indicators and analyse data with the requisite level of detail in their national follow-up and review, to ensure no-one is left behind.

The South African Research Chairs Initiative (SARChI) was established in 2006 by the DST and the NRF. It is designed to attract and retain excellence in research and innovation at South African public universities through the establishment of research chairs at the country's public universities with a long-term investment trajectory of up to 15 years.

The main goal of the research chairs initiative is to strengthen and improve research and innovation capacity of public universities for producing high quality postgraduate students and research and innovation outputs. The key objectives of SARChI are to:

- ✓ Expand the scientific research and innovation capacity of South Africa;

- ✓ Improve South Africa's international research and innovation competitiveness while responding to the country's social and economic challenges;
- ✓ Attract and retain excellent researchers and scientists;
- ✓ Increase the production of masters and doctoral graduates; and
- ✓ Create research career pathways for young and mid-career researchers, with a strong research, innovation and human capital development output trajectory.

R26 327 000 was transferred for the Implementation of the South African ICT RDI Roadmap. In 2016, a total of 338 master's and doctoral students were fully funded or co-funded in designated niche areas (advanced manufacturing, aerospace, chemicals, mining, advanced metals and ICTs). By 31 March 2017, 334 master's and doctoral students were fully funded or co-funded in designated niche areas (advanced manufacturing, aerospace, chemicals, mining, advanced metals, ICTs and sector innovation funds).

Trade

There is unequal distribution of wealth within countries and between countries and strongly interlinked with the global system of commerce and trade. An international rules-based system of trade that promotes equitable access to economic spin-offs of the global economy to both developed and developing countries.

Trade constitutes an essential component of the means of implementation. The achievement of the SDGs is contingent on the country living up to the expectations of the Doha Development Agenda. South Africa reaffirms the central role of the World Trade Organisation (WTO) in today's global economy. The WTO provides the multilateral framework of rules governing international trade relations, an essential mechanism for preventing and resolving trade disputes, and a forum for addressing trade related issues that affect all WTO members.

South Africa remains firmly committed to a rules-based, transparent, non-discriminatory, open and inclusive multilateral trading system as embodied in the WTO. The country reaffirms its commitment to ensure full implementation and enforcement of existing WTO rules and is determined to work together to further strengthen the WTO.

Multi-stakeholder Partnerships

Strengthened and revitalized global partnership anchored on common, but differentiated responsibilities between developed and developing countries,

with developed countries taking the lead in the facilitation of finance, technical expertise and other practical mechanisms to assist in the implementation of the SDGs.

Managing partnerships means building mutual understanding, fostering respect, focusing on solving a common challenge, and driving a productive relationship. In order for a partnership to have a lasting impact, they require long-term stakeholder commitments, sustained funding, ongoing resourcing and consistency of personnel to help ensure their success.

South Africa recognises that achieving the objectives of the global sustainable development agenda is underpinned by the multi-perspectives from all stakeholders, including government, business and non-governmental organisations. The multiplicity of voices provides practical tools and solution to addressing most of the key development challenges, enabling the mutual exchange of ideas from all stakeholders.

Partnerships thus present a huge opportunity, especially if capacity can be strengthened to engage in and lead such efforts - delivering at both global and country levels. Global partnerships should be established on the realisation that all countries are not on the same levels of development and will, for some time, continue to witness development trajectories, impacted upon by factors such as instability in global markets and in certain regions of the world.

While the implementation of sustainable development programmes is meant to take place largely at national level, developing countries still lack the means to realise their development goals. Hence, future global partnerships should shift away from a donor-recipient mind-set towards true partnerships that fairly benefit all partners. It must be emphasized that meeting the national challenges of global proportion cannot be left to individual governments. Partnerships must therefore be expanded and strengthened to serve as a catalyst for global solidarity for sustainable development.

Key interventions towards 2030:
- ✓ Put necessary legislative and administrative measures in place to reduce illicit financial flows.

6.   NEXT STEPS

Going forward, South Africa intends to operationalise the approved national coordination mechanism framework. The national coordination mechanism provides an opportunity for the country to develop a proper implementation

strategy, a communication strategy, and a roadmap to be followed going forward on the implementation of SDGs. More enhancement of monitoring and evaluation in relation to SDGs, especially, in areas where gaps exist, such as, availability of data for females in local government level.

Moreover, there is a need for South Africa to create a greater awareness of the SDGs, especially, at the local government level.

The national coordination mechanism will help the country in its efforts to coordinate the implementation of SDGs by all stakeholders within the country. The institution will also act as a central point where information can be shared by all stakeholders on implementation of SDGs.

7.   CONCLUSION

This Voluntary National Review presents a high level progress overview of South Africa's position regarding the implementation of the SDGs. The information provided indicates that progress is being made in the country in domesticating the SDGs.

However, while the review shows that South Africa is progressing well in some areas, it is still lacking in other areas. It is an unfortunate reality that the country is currently trapped in a low growth path; it is one of the countries that experiences high levels of inequality; and it has a high rate of unemployment, especially among the youth. The country acknowledges these challenges and is taking steps to deal with them, including, recent investment and job summits, youth employment initiatives, skills development programmes and incentives.

This is South Africa's first VNR and the country is confident that the next report will be considerably better. The country believes that it will show significant improvement in some of the developmental challenges the country faces. The country acknowledges that stakeholder consultation is one area where lessons have been learnt and that more inclusive efforts are required from the beginning of the process.

8.   ANNEXURES.

Attached to this VNR is the progress on implementation of SDGs based on agreed indicators. For more information on progress regarding the indicators, please see attached data report. Please note that a full country report on SDGs for South Africa will be presented in September 2019 during the United Nations General Assembly.

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