

Annexure B

Refined* Outcome 5: A skilled and capable workforce to support an inclusive growth path

1. National Development Plan (NDP) 2030 Vision and Trajectory

As committed by government in the National Development Plan (NDP), by 2030, South Africa should have access to education and training of the highest quality, leading to significantly improved learning outcomes. The education, training and innovation system should cater for different needs and produce highly skilled individuals. The graduates of South Africa's universities, and Technical and Vocational Education and Training (TVET) colleges should have the skills and knowledge to meet the present and future needs of the economy and society.

Research and development should be significantly expanded to contribute towards building an inclusive society, providing equal opportunities and helping all South Africans to realize their full potential, in particular those previously disadvantaged by apartheid policies, namely black individuals, women and individuals with disabilities.

The different parts of the education system should work together allowing students to take different pathways that offer high quality learning opportunities. There should be clear linkages between schools, Community Education and Training Colleges, TVET colleges, universities and other providers of education and training. There should also be clear linkages between education and training and the world of work. Furthermore, all people from schooling onwards should have access to quality career information and receive appropriate and adequate career guidance and advice to pursue education and training opportunities leading to a career and ultimately employment.

South Africa needs engineering skills to deliver the massive infrastructure program announced in the 2012 State of the Nation address. The country also needs sufficient doctors, nurses and health professionals in different occupational classes to deliver quality healthcare. Critically, the pool of researchers needs to expand and their productivity needs to increase significantly. Innovators are going to play a critical role in creating new products and new ways of producing existing products cheaply and more efficiently, including the delivery of public services. Research institutions and the national science and innovation system must be coordinated and collaborative. The post-school education and training sector must improve equity in access and quality of outcomes.

* This document has been refined based on the approved 2014 – 2019 Medium Term Strategic Framework document. Historical targets have been omitted for ease of reference.

2. Constraints and Strategic Approach

Participation rates in post-school education and training is limited and affects amongst others, the skills need of the economy and society. Currently, post-school education and training is skewed towards university education, which has limited access and few students that can attend. Approximately three times as many students enter universities each year compared to TVET colleges, which is not sustainable if the skills need of the economy and society are to be met.

About 1 million young individuals exit the schooling system annually, many of whom exit without achieving a Grade 12 certificate. Half of those who exit the schooling system do so after Grade 11, because either they do not enrol in Grade 12 or they fail Grade 12. However, only a small number of those who leave the schooling system enrol in TVET colleges or have access to any post-school education and training. The TVET sector does not offer a solution to these students because it is characterised by limited growth in enrolments and poor throughput rates. The net effect of this is that access to post-school education and training is limited for school leavers. Few that access post-school education and training opportunities are not sufficiently prepared for the workplace due to the poor quality of education and training provided. The university sector is not an alternative for these students, and those who do make it to universities face challenges forcing them to drop out. The poor quality of the public school's system has transferred the problem to an ill-equipped university system that is failing to cope with the increased number of students and demands for academic support. The net effect is a system that is not able to produce the number and quality of graduates needed by the economy.

The TVET system has to grow substantially to be responsive to changing labour market and individual needs, and yet be flexible enough to address skills imbalances and shortages. This requires a responsive, properly planned and effective technical and vocational education and training system. A big-bang approach is not an option for this sector. The ambition to expand numbers and responsibilities of the TVET colleges must take into cognisance the fragile state of this sub-system and the limited resources available to support its stability. The priority should first be to stabilize the system, while providing clarity about its vision and role in the post-school education and training system. This should be supported by the availability of qualified lecturers, a suitable legal framework, strong partnerships with industry and social partners. Therefore, a realistic approach is to sequence the necessary reforms and set out reasonable timelines while improving the quality of its product.

3. NDP Output Priorities to achieve the Vision

By 2030, South Africa should have access to education and training of the highest quality, leading to significantly improved learning outcomes. The education, training and innovation system should cater for different needs and produce highly skilled individuals. The graduates of South Africa's universities and TVET colleges should have the skills and knowledge to meet the present and future needs of the economy and society.

To achieve the above, the following outputs have been identified:

1. A credible institutional mechanism for labour market and skills planning;
2. Increase access and success in programmes leading to intermediate and high level learning;
3. Increase access to and efficiency of high-level occupationally directed programmes in needed areas; and
4. Increase access to occupationally directed programmes in needed areas and thereby expand the availability of intermediate level skills with a special focus on artisan skills.

4. Management of Implementation

The Department of Higher Education and Training, as the outcome-coordinating department, will coordinate implementation forums at a technical and strategic level.

5. MTSF Sub-Outcomes and Component Actions, Responsible Ministry, Indicators and Targets

Sub-Outcome 1: *A credible institutional mechanism for labour market and skills planning:*

The identification of potential medium to long-term skills shortages in the country is crucial to ensuring that the social and economic needs of the country are met. To this end, information and analyses obtained through a multi-faceted approach to skills planning, must provide signals and serve as a pointer to appropriate education and training provisioning. Therefore, there is a need to map out the information and knowledge needs of the system, to build on what is already taking place. This will require the development and implementation of a comprehensive knowledge management system across the entire post-school education and training system. The post-school education and training system needs to be diverse and differentiated, yet coherent. We need to ensure that there is articulation and mobility between general, vocational, higher and adult education and training institutions and the workplace, with multiple entry and exit options. The post-school education and training system should comprise of an appropriate mix of institutions and programmes for a growing economy and equal society, within a globalised environment. It should provide a wide range of accessible education and training opportunities for young individuals.

Sub-Outcome 1: A credible institutional mechanism for labour market and skills planning			
Action	Indicator	Baseline	Targets
Coordinate reporting of data on statistics on the Post-School Education and Training (PSET) and undertake descriptive analysis of the data	Statistics reports on PSET published	Annual publication of data for 2010, 2011, 2012 and 2013	Publication of the 2014 statistical report on PSET data by 30 April 2016
			Publication of statistical report on PSET data of the preceding two years published by 30 April of every year

Sub-Outcome 1: A credible institutional mechanism for labour market and skills planning			
Action	Indicator	Baseline	Targets
Establish a centralised application system	Centralised application system for universities operational and achieving objectives	Enterprise architecture completed	Business requirements and functional specifications based on the enterprise architecture design by 31 March 2017
			Centralised application system for universities operational and achieving objectives by 31 March 2018
Undertake research on skills supply and demand	Annual report on skills supply and demand published	Framework for the annual report on skills supply and demand in South Africa	Report on skills supply and demand published by 31 March biennially
Implementation strategy on open learning system and distance education developed	Number of programmes available for use on the open learning system	Two programmes of the open learning system have been approved for piloting	Two programmes available for use on the open learning system by 31 March 2017, viz.: <ul style="list-style-type: none"> • National Occupational Certificate for Electrician (Year 1) • Diagnostic Test for TVET colleges
Review all current legislation and align to White Paper	Number of acts under the responsibility of the Minister of DHET will be reviewed and if necessary amended	New indicator	Five (5) pieces of legislation reviewed/and or amended by 31 March 2019
	Policy on the implementation of community service for all university graduates developed	New indicator	Policy on the implementation of community service for all university graduates developed by 31 March 2018

Sub-Outcome 2: Increase access and success in programmes leading to intermediate and high level learning:

The curriculum offered by post-school education and training institutions should promote critical thinking, be relevant and respond to the changing national and global environment, rapid changes in technology, changes in demographics and promote the ideas reflected in the Bill of Rights of the South African Constitution. The NDP calls for a united South Africa and has prioritised social cohesion and inclusion in society. The post-school education and training system should support institutions that develop academic programmes that prepare individuals for a role in a democratic, non-racial and non-sexist South Africa.

Sub-Outcome 2: Increase access and success in programmes leading to intermediate and high level learning			
Action	Indicator	Baseline	Targets
Plan for staffing of Community Education and Training Colleges (CETC) in line with enrolment estimates	Staffing norms for CETC staff developed	New Indicator	The final policy on staffing norms to be implemented in January 2017
Finalise CETCs service delivery and governance model and standards (evaluation framework)	Service delivery model and governance standards finalised	New indicator	Governance policies and Strategic Plans developed and approved by 31 March 2017
Review the funding framework for CETCs	New funding framework for CETCs developed	New indicator	New funding framework for CETCs developed 31 March 2017
Establish appropriate training opportunities for TVET college staff	Number of universities accredited to offer TVET lecturer qualifications	New indicator	10 Universities accredited to offer TVET lecturer qualifications by 31 December 2017
	Number of universities offering TVET lecturer qualifications	New indicator	10 Universities offering accredited TVET college lecturer qualifications by 31 March 2020

Sub-Outcome 2: Increase access and success in programmes leading to intermediate and high level learning			
Action	Indicator	Baseline	Targets
			10% improvement in qualified lecturers at TVET colleges by 31 March 2020 on the 2014 baseline as determined through a DHET survey
Develop protocols on the secondment of sector specialist to work in TVET colleges and lecturers exposed to the work place	A percentage of TVET lecturers undergoing specified hours of work in their industry for specified periods every two years	288 Lecturers undergone workplace exposure (2015 academic year)	Guideline document finalised for the workplace exposure by 31 March 2017
			30% TVET lecturers undergoing specified hours of work in their industry for specified periods every two years from 2019
Establish TVET college campuses and expand as per demand estimates and agreements	Number of TVET college campuses to be built and expanded	New indicator	3 New TVET college campuses built by 31 December 2015
			Rollout plan for the awarding of the contract and operationalisation budget plan of the remaining 9 new TVET college campuses developed and approved by 31 March 2019 (dependent on available funding and resources)
Develop an infrastructure maintenance plan for TVET colleges	Costed macro infrastructure maintenance plan for TVET colleges developed	New indicator	Costed macro infrastructure maintenance plan for TVET colleges developed by 31 March 2017

Sub-Outcome 2: Increase access and success in programmes leading to intermediate and high level learning			
Action	Indicator	Baseline	Targets
Finalise and monitor standards of good governance for TVET colleges	A percentage of TVET colleges audited by Auditor-General monitored for compliance in terms of recommended governance standards	New indicator	TVET good governance standards developed by 30 June 2017
			100% of TVET colleges audited by the Auditor-General monitored for compliance in terms of recommended governance standards by 31 December 2017
Enrol TVET students in need of support in foundation programmes and support for success	Foundation programmes for TVET students developed	0	Progress report on the development of the foundation programmes provided quarterly by 31 March 2017
			Foundation programmes fully developed and piloted by March 2018
	Report on the throughput rates for TVET colleges	To be determined by 31 March 2017 based on resolving the certification backlog	Report on the throughput rates for TVET college on student cohort finalised for the academic period 2012 – 2014 by 31 March 2017
			Report on the throughput rates for TVET college on student cohort finalised annually from 31 March 2017

Sub-Outcome 2: Increase access and success in programmes leading to intermediate and high level learning			
Action	Indicator	Baseline	Targets
Provision of support to improve success for students	Audits conducted on the number of students beds in public TVET colleges	Survey conducted in 2015 (10 120 students beds)	Audit conducted on the number of students beds in public TVET colleges by 31 March 2017
	Number of additional beds for students accommodation in public TVET colleges		1 000 additional beds for students accommodated in public TVET colleges by 31 December 2019
Strengthen TVET college examination and certification systems	Certificates issued to qualifying students within 3 months after examinations	12 months	Certificates issued to qualifying candidates within 12 months by 31 March 2017
			Certificates issued to qualifying candidates within 3 months by 31 March 2018
	Percentage of public TVET college examination centres assessed in conducting national examinations and assessments in compliance with national policy	70%	Report on the percentage of TVET college examination centres compliant with national policy by 31 March 2017
			All (100%) TVET college examination centres assessed and compliance report by 31 March 2019

Sub-Outcome 3: Increase access to high-level occupationally directed programmes in needed areas

One of the biggest challenges facing the post-school education and training sector is its inability to reproduce itself. The academic profession is aging and requires renewal if our universities are to expand and compete on the knowledge production front. Composition of staff is still racially skewed, with white male academics dominating key areas of university and academic life, especially at historically white universities. The academic profession requires renewal if the post-school education and training system is to expand, compete and drive the knowledge economy. Thus, we have to develop a new future scholar's programme, both to increase the proportion of staff with postgraduate qualifications, especially PhDs at universities, and to meet the increasing demand for professional postgraduates. We also have to ensure that as the TVET college sector expands its quality increases, it will need appropriately qualified and competent lecturing staff to respond to burgeoning student enrolments.

Sub-Outcome 3: Increase access to high-level occupationally directed programmes in needed areas			
Action	Indicator	Baseline	Targets
Produce and retain a new generation of university academics, transforming the historical and social composition of the academic work force	Number of new Generation of Academics Programme (nGAP) appointments	102 nGAP appointments in 2015/16	100 additional young (black and/or women) entrants to workforce per annum by 31 March 2020
	Number of entry level academic staff provided with teaching and research development opportunities from the Teaching and Research Development Grant	50 Academics supported	200 academics supported through the Teaching and Research Development Grant over the 2014/15 to 2016/17 cycle
			100 academics per annum supported through the Development Grant over the 2017/18 to 2019/20 cycle
Develop plan for financial collection mechanism from students who were funded through NSFAS	Improved system of collecting funds from those funded through NSFAS developed	Integrated plan developed for improving collection	R285 million which is 25% on growth on 2015/16 actual performance

Sub-Outcome 3: Increase access to high-level occupationally directed programmes in needed areas			
Action	Indicator	Baseline	Targets
Develop a revised funding framework for the university sector	A revised university funding framework	New indicator	A revised funding framework developed for public consultation and comment by 31 July 2017
			Revised funding framework for universities developed by 31 December 2017 and implemented for the 2019 academic year
Improve articulation across education systems	Articulation policy based on Ministerial Task Team and SAQA report approved by the Minister for publication	New indicator	Articulation policy based on Ministerial Task Team and SAQA report approved by the Minister for publication by 31 March 2017
			Policy directives in the policy are implemented by 31 March 2018
			Monitoring and Evaluation report on Articulation implementation approved by 31 March 2019
Increase the number of doctoral graduates from universities	Number of doctoral graduates from universities	2 258 (2014 academic year)	2 200 (2015 academic year verified by 31 October 2016)
			12 000 cumulative from 2014 to 2018 academic year (reported annually and verified by 31 October 2019)

Sub-Outcome 3: Increase access to high-level occupationally directed programmes in needed areas			
Action	Indicator	Baseline	Targets
Increase higher education throughput	Report on Higher Education Undergraduate throughput	1 Report	Throughput report on 2010 student cohort for academic period 2010 – 2018 (Reported and verified by 31 October 2019)
Develop a macro infrastructure plan for the university sector	Macro infrastructure plan for the university sector developed	New indicator	Macro infrastructure plan used to guide the allocation of funds for infrastructure from 1 April 2016
Quality Enhancement Project (QEP) as proposed by CHE	Phases of QEP completed (Institutional reports delivered)	New system of quality enhancement	First phase of QEP completed by 30 June 2016
			Second phase of QEP completed by 30 June 2018
Finalise and monitor standards of good governance for universities	Proportion of institutions meeting standards of good governance	New indicator	Governance indicators approved by 31 March 2017
			70% of institutions compliant by 31 March 2018 and up to 95% by 31 March 2020

Sub-Outcome 3: Increase access to high-level occupationally directed programmes in needed areas			
Action	Indicator	Baseline	Targets
Expand access to communication technology	Average amount of bandwidth per SANReN site per annum	3 500 Mbps in 2015/16	8 000 Mbps average bandwidth capacity available per SANReN site by 31 March 2019
Support postgraduate students through the awarding of bursaries	Number of pipeline postgraduate students awarded bursaries through NRF and DST-managed programmes	7 711 Pipeline Honours and Masters students in 2014/15	Not less than 52 069 pipeline postgraduate students awarded bursaries through NRF and DST-managed programmes as reflected in the NRF and DST project report by 31 March 2019
	Number of PHD students awarded bursaries through NRF and DST-managed programmes	3 181 PhD students in 2015/16	Not less than 15 209 PhD students awarded bursaries through NRF and DST-managed programmes as reflected in the NRF and DST project report by 31 March 2019
Awarding of research infrastructure grants to higher education institutions, science councils and national facilities	Number of research infrastructure grants awarded	69 Research infrastructure grants awarded in 2015/16	330 Research infrastructure grants awarded to higher education institutions, science councils, national facilities of the NRF, museums by 31 March 2019

Sub-Outcome 3: Increase access to high-level occupationally directed programmes in needed areas			
Action	Indicator	Baseline	Targets
Increasing the number of research outputs by NRF-funded researchers	Number of Institute for Scientific Information (ISI) accredited research articles published by NRF-funded researchers as reflected in the NRF projects reports	7 158 ISI-accredited research articles published by NRF-funded researchers (2015)	33 700 ISI accredited research articles published by NRF-funded researchers by 31 March 2019
Increasing a number of research grants awarded to researchers	Total number of researchers awarded research grants through NRF-managed programmes as reflected in the NRF project reports	4 315 researchers awarded research grants through NRF-managed programmes in 2015/16	22 032 researchers awarded research grants through NRF-managed programmes as reflected by the NRF project reports by 31 March 2019

Sub-Outcome 4: Increase access to occupationally directed programmes in needed areas and thereby expand the availability of intermediate level skills with a special focus on artisan skills

The South African post-school education and training system suffers from negative reputation problems, which are compounded by limited post-labour market prospects for graduates from both public TVET colleges as well as universities. This is partly due to a weak 'systemic' relationship between the state, the education and training provider system and the main economic actors, the employers. Technical and vocational education and training in particular, which has a strong workplace-learning component, requires partnership arrangements between government (various government departments), education institutions, employer bodies, trade unions, industry and Sector Education and Training Authorities (SETA). This partnership needs to be properly regulated to serve the national skills needs rather than the needs of a few employers. Business already contributes a significant amount of money through the skills development levy, which provides a basis for a policy discussion on an agreed upon partnership to strengthen workplace-based training and experiential opportunities.

Sub-Outcome 4: Increase access to occupationally-directed programmes in needed areas and thereby expand the availability of intermediate level skills with a special focus on artisan skills			
Action	Indicator	Baseline	Targets
Increase the number of qualified artisans	New artisans qualified	16 114 artisans qualified in 2015/16	24 000 artisans qualified per annum by 31 March 2019
	Proportion of SETAs meeting good Governance Standard Charter	New indicator	60% of SETAs meeting good Governance Standard Charter by 31 March 2017
			100% of SETAs meeting good Governance Standard Charter by 31 March 2019

Sub-Outcome 4: Increase access to occupationally-directed programmes in needed areas and thereby expand the availability of intermediate level skills with a special focus on artisan skills			
Action	Indicator	Baseline	Targets
Increase opportunities for workplace-based learning and experience	Number of workplace -based learning opportunities	51 718 Workplace -based learning opportunities in 2015/16	140 000 Workplace-based learning opportunities annually by 31 March 2019

Impact Indicators

No	Impact Indicator	Baseline	2016/17 Targets	2019 Target
1	Number of headcount enrolments in TVET colleges	710 535 (2015 academic year)	710 535 Headcount enrolments in TVET Colleges by 31 December 2016 (dependent on available funding)	1 238 000 Headcount enrolments in TVET colleges for the 2018 academic year (Dependent on available funding and infrastructure)
2	Certification rates in TVET qualifications	NC(V) L4: 23% (2015 academic year)	NC(V) L4: 40%	NC(V) L4: 65%
		N3: 51% (2015 academic year)	N3: 65%	N3: 65%
		N6: 34% (2015 academic year)	N6: 45%	N6: 65%
3	Number of qualifying NC(V) and Report191 TVET students obtaining financial assistance annually	235 988 (2015 academic year)	200 000 per annum NCV and Report191 students awarded bursaries in the 2014 academic year	200 000 per annum qualifying NC(V) and Report191 TVET students awarded bursaries by 31 March 2019 (dependent on available funding)
4	Percentage of NC(V) L4 NSFAS beneficiaries per annum obtaining the qualification within the stipulated time	New indicator	Baseline to be determined from throughput rates for TVET college on student cohort for the academic period 2012 – 2014 by 31 March 2017	65% of NC(V) L4 NSFAS beneficiaries per annum obtaining the qualification within stipulated time by 31 March 2019
5	Number of TVET students in foundation programmes		New indicator	5 000 TVET students enrolled in foundation programmes by 31 March 2019

No	Impact Indicator	Baseline	2016/17 Targets	2019 Target
6	Percentage success rate in foundation programmes		New indicator	50% success rate in foundation programmes by 31 December 2018
7	Number of students enrolled in public higher education studies at universities	969 154 (2014 academic year)	984 000 HEMIS audited students enrolments in higher education studies at universities for 2015 academic year, verified by 31 October 2016	1 070 000 students enrolled in higher education studies at universities (2018 academic year, reported and verified by 31 October 2019)
8	Number of eligible university students obtaining financial aid	178 961 (2015 academic year)	205 000 eligible students obtaining financial assistance in 2016 academic year	205 000 eligible students obtaining financial assistance annually from 2016 academic year
9	Number of graduates in Engineering Sciences from universities	12 058 (2014 academic year)	10 600 Graduates in Engineering Sciences from universities for 2015 academic year, verified through HEMIS audits by 31 October 2016	57 000 Graduates in Engineering Sciences from universities (cumulative from the 2014 to 2018 academic year, reported and verified by 31 October 2019)
10	Number of graduates in Human Health and Animal Health from universities	8 982 (2014 academic year)	9 700 Graduates in Human Health and Animal Health from universities for 2015 academic year, verified through HEMIS audits by 31 October 2016	45 000 Graduates in Human Health and Animal Health from universities (cumulative from the 2014 to 2018 academic year, reported and verified by 31 October 2019)
11	Number of graduates in Natural and Physical Sciences from universities	7 259 (2014 academic year)	6 900 Graduates in Natural and Physical Sciences from universities for 2015 academic year, verified through HEMIS audits by 31 October 2016	36 000 Graduates in Natural and Physical Sciences from universities (cumulative from the 2014 to 2018 academic year, reported and verified by 31 October 2019)

No	Impact Indicator	Baseline	2016/17 Targets	2019 Target
12	Number of graduates in initial Teacher Education from universities	19 124 (2014 academic year)	18 300 Graduates in initial Teacher Education from universities for 2015 academic year, verified through HEMIS audits by 31 October 2016	99 000 Graduates in initial Teacher Education from universities (cumulative from the 2014 to 2018 academic year, reported and verified by 31 October 2019)
13	Number of Research Masters graduates	7 229 (2014 academic year)	6 500 Research Masters graduates from universities for 2015 academic year, verified through HEMIS audits by 31 October 2016	34 000 Research Masters graduates from universities (cumulative from the 2014 to 2018 academic year, reported and verified by 31 October 2019)
14	Success rate at universities	77% (2014 academic year)	77% HEMIS audited success rates of students enrolled at universities for the 2015 academic year verified by 31 October 2016	78% (2018 academic year, reported and verified by 31 October 2019)
15	Higher education undergraduate success rates (contact)	82% (2014 academic year)	80% (2015 academic year verified by 31 October 2016)	81% (2018 academic year, reported and verified by 31 October 2019)
16	Higher education undergraduate success rates (distance)	68% (2014 academic year)	68% (2015 academic year verified by 31 October 2016)	71% (2018 academic year, reported and verified by 31 October 2019)
17	Percentage of university academic staff with PHD's	43% (2014 academic year)	43% (2015 academic year verified by 31 October 2016)	46% (2018 academic year, verified by 31 October 2019)
18	Number of 1 st year students in foundation programmes	19 212 (2014 academic year)	30 400 (2015 academic year verified by 31 October 2016)	36 000 students in foundation programmes (2018 academic year, reported and verified by 31 October 2019)

No	Impact Indicator	Baseline	2016/17 Targets	2019 Target
19	Artisan learners trade test pass percentage at INDLELA	54% in 2015/16	52% Artisan learners passing their trade test at INDLELA	65% Artisan learners passing their trade test at INDLELA
20	Percentages of national artisan learners employed or self-employed	65% (2005 HSRC research Report)	Survey to ascertain the current baseline of national artisan learners employed or self-employed	Survey to determine the percentage of national artisan learners employed or self-employed