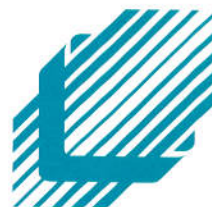


Development Bank
of Southern Africa



Training data and
indicators for
development:
A discussion document

PK Kibuuka

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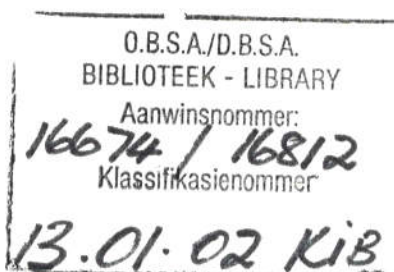
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Foreword

To facilitate socio-economic development in South Africa through a multisectoral and people-centred approach, a clear understanding is required of the education and training issues affecting the formation of human capabilities and the ultimate utilisation of these capabilities in a sustainable development process.

Taking note of the distortions and neglect of the past as far as training issues are concerned, there is now national consensus that there is a need for an education and training system that broadens access, participation and quality, while also being responsive to the needs of the socio-economic environment.

The Minister of Education has indicated that such a system must be founded on equity and non-discrimination, must honour learning and strive for excellence, owned and cared for by the communities and all stakeholders it serves, and must use all the resources available to it in the most effective manner possible.

It is therefore imperative that stakeholders should be in a position to plan and monitor the functioning and effectiveness of such an education and training system, in terms of serving the needs and interests of all South Africans.

It is hoped that this discussion document will make a contribution to policy debate and provide a framework for rigorous analysis and quantification as well as a basis for ensuring that appropriate redress and equity in terms of resources, access and opportunities are addressed.

It was unfortunately not possible to study cost indicators in depth owing to the lack of reliable information on training costs. This matter, however, warrants further research.

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1. Introduction

1.1 Background and problem statement

With the dawn of the new political order in South Africa and the concomitant launching of the Reconstruction and Development Programme (RDP), reliable information concerning training for development is regarded as an essential component of the decision-making process in training. This process will address equity issues, redress imbalances, improve access and quality as well as restructuring the system to conform to required standards.

This focus has resulted in the quest for more sophisticated ways of evaluating the training process and hence the products of training. The need for fair and valid comparisons between training systems has increased and a broad spectrum of policy makers, managers and users are seeking solutions to training problems.

Training indicators can act as a basis for maintaining a training statistics database for the analysis of current and future training needs. This database will facilitate and support training policy decisions in various professional fields with current data, trends and labour market indicators. It could also make possible forecasts concerning the relationship between supply and demand for training in the labour market while taking account of the appropriate contextual indicators.

Training indicators for development can furthermore serve to identify the changes in experienced and expected skill shortages and can be used to develop a monitoring instrument for analysing and comparing skill shortages over time and between provinces. They would thus create collective interest in devising structures and programmes which generate appropriate investment in education and training. Changes in skill shortages can be attributed to changes in the general employment situation, technology, the organisation of work or specific changes in the industrial structure.

Such indicators should provide current information on the technological potential of the labour force as an indication of the societal breeding-ground for technological development. In this regard they should provide information on factors that influence the success or failure of the policy measures to improve the training facilities, finance and labour market position of groups requiring special attention, such as the unemployed or disadvantaged.

These indicators should contribute to sound human resource development policies which are flexible enough to accommodate technological and other changes. Policy and information analysts in the public and private sector, career advisers, educational and vocational guidance advisers, training institutes, ministries, employment boards and the business world will be the prime users of these indicators.

Training indicators should also provide information for monitoring the progress of the key RDP programmes and objectives to identify specific areas for state intervention as well as information and trends on

- new entrants to the labour market
- training and retraining requirements of the existing labour force
- training and retraining of the unemployed
- trainers, instructors, educators.

Finally, such indicators should provide current information to enable the allocation of sufficient resources at various levels for human resource development, to minimise the mismatch between supply and demand and to ensure a competitive labour force with a high level of productivity.

While the main focus is now on training, once the new proposed levels within the National Qualification Framework are fully operational, it will be appropriate to focus on the levels of education and training in a more integrated way.

1.2 Methodology

In view of the lack of work specifically done to identify training indicators on either a national or international scale, a vast number of indicators presented in this document have been arrived at by consulting literature in publications from national and international organisations involved in training. Through a series of brainstorming sessions involving members of the DBSA's education and training programme, only those main indicators that can be calculated accurately and are indicative of the South African situation were included. Thereafter, an attempt was also made to identify the key indicators under the various categories.

However, during a one-day workshop held with key national experts in the field of training it became apparent that different users and analysts will have different questions and objectives which will determine or result in their use of different key indicators to arrive at relevant trends. The areas to be monitored or measured will also determine which indicators are to be used. It was therefore decided not to identify specific key indicators as such. (Those marked with an asterisk are those currently used overseas and which would therefore facilitate international comparisons.)

This pioneering exercise was also informed by similar work done by DBSA on education indicators where the economics of education methodology was applied.

1.3 Characteristics of the various training indicators

The purpose of the lists of training indicators presented in this paper is to present a realistic perspective on the functioning and effectiveness of the training system in South Africa and also to offer relevant information for policy purposes. The 188 training indicators are categorised as follows:

Indicator category	Total number of indicators
Demographic indicators	21
Economic indicators	30
Input indicators	71
Internal efficiency indicators	6
Output indicators	11
Outcome/external efficiency indicators	12
Equity indicators	40

These training indicators aim to provide at least one of the following sets of information:

- The more important aspects of economic performance and demographic trends that form the background against which training can be meaningfully analysed and evaluated. (These have been referred to as *contextual indicators*.)
- The attributes of students or trainees who gained access to the training system; trainers, lecturers, instructors; training facilities and equipment as well as financial resources and expenditure (*input indicators*).
- The transition and progression of persons who gained access to the training system (*internal efficiency indicators*).
- The training system's output in the form of cognitive achievement and improved skills of the number of persons qualified or different certificates issued (*output indicators*).
- The probability that persons who underwent the training will find employment, earnings and status commensurate with their qualifications. This information is best obtained through tracer studies of the trained persons to confirm whether they are engaged in what they were trained to do (*outcome indicators*).
- The distribution of access and participation in training and training facilities, the transition and progression during training, the cognitive achievement and improved skills acquired through training as well as employment, earnings and status obtained commensurate with qualifications among the different genders, population groups and provinces (*equity indicators*).

Indicators which are not readily quantifiable as well as qualitative indicators may be added to the list but the ones provided in this document are those that are covered or supported by readily available data. Non-quantifiable qualitative trends should be ideally captured by specific research, assignments and surveys and are therefore not included. The absence of sufficient and reliable data on training costs did not permit a thorough analysis of cost indicators.

In the South African situation, the need to provide indicators on a provincial level is also very important but the support of data is not yet geared to serve this purpose. Therefore, most of the indicators will paint a national picture and only in limited cases will one be able to study trends at the provincial level.

2. Proposed training indicators for development

It is important to note that the contextual, input, efficiency, output, outcome and equity training indicators for development presented in this document cross-link, cross-reference as well as overlap. Consequently, some indicators may belong to more than one of the

categories.

2.1 Contextual indicators

Contextual indicators highlight the more important aspects of economic performance and demographic trends that form the background against which training can be analysed and evaluated. They equally apply to education, and consist of demographic and economic indicators.

(a) Demographic indicators

Indicator	Calculation/definition
1. Total population*	Total number of people in the country on the census date or mid-year population estimates
2. Percentage population growth rate per annum	$(\text{Annual population growth} / \text{Total population}) \times 100$
3. Population age/gender distribution	Population by age and gender
4. Literacy level*	Percentage of the population of persons 13 years and older with at least a Std 5 qualification
5. Illiteracy rate per economic sector	Percentage illiterate per economic sector
6. Economically active persons (EAP) by population group and age group*	EAP by population group and age groups
7. EAP by population group and education level	EAP by population group and education level
8. EAP by population group and occupation	EAP by population group and occupation
9. EAP by economic sector	EAP by economic sector
10. EAP by population group and gender	EAP by population group and gender
11. Percentage EAP growth rate per annum*	$(\text{Annual growth in EAP} / \text{Total EAP}) \times 100$
12. Urban population ratio	Percentage of the population in urban areas
13. Age dependency rate*	$\text{Total dependent (youth/non-active/aged)} / \text{Total population} \times 100$

14. Nett gain in high, middle and low-level economically active immigrants per annum	Nett annual number of people in the high, middle and low-level manpower categories entering the country
15. Life expectancy at birth or at a given age	Number of years a newly born baby can expect to live, or number of years a person can expect to live at a given age
16. Teenage birth rate*	Percentage of live births during a specific year that are born to women younger than 20 years
17. Total fertility rate	Average number of children born per woman during her reproductive period
18. Crude birth rate	Total annual births/mid-year population \times 1000
19. Crude death rate	Total annual deaths/mid-year population \times 1000
20. Population density	Number of inhabitants per square km
21. Infant mortality rate by population group	Number of live born who die under the age of one year, per 1000 live births per population group

* Key indicator used for international comparative purposes

(b) Economic indicators

Indicator	Calculation/definition
1. Real Gross National Product (GNP)/ Gross Domestic Product (GDP) growth rates or economic growth*	Annual real GNP/GDP growth/Total real GNP/GDP \times 100
2. Labour dependency ratio*	Ratio of the actual economically dependent part of the population (regardless of whether the latter falls inside or outside the age category 15 to 64) to the actual number productive

3. Growth of gross domestic investment per economic sector	Growth in the annual total amount spent by producers in the public and private sectors on capital goods per economic sector
4. Percentage share of government expenditure or consumption in GDP/GNP	Government expenditure or consumption/ GDP or GNP $\times 100$
5. Personal per capita income*	Annual personal income/Mid-year total population
6. Number of people employed as a percentage of EAP	Number of people employed/EAP $\times 100$
7. Production elasticity of employment by economic sector	Percentage change in production/ Employment by economic sector
8. Labour productivity by economic sector*	Real GDP per worker by economic sector
9. Nett number of formal job opportunities created per annum	Nett number of job opportunities created in the formal sector per annum
10. Labour absorption capacity*	Number of formal job opportunities created per annum/Number of people entering the labour market per annum $\times 100$
11. Capital/labour ratio in the private sector by economic sector	Amount of capital per employed worker by economic sector
12. Relative percentage contribution of each economic sector or industry to the GDP	Contribution of an economic sector or industry to GDP/Total GDP $\times 100$
13. Employment intensity	Average number of people employed per R million of GDP
14. Capital intensity	Average capital stock employed per employee
15. Relative employment intensities of economic sectors	Average number of people employed per R million of GDP in each sector
16. Percentage expenditure of GDP on research and development*	Annual growth in research and development expenditure as a percentage of GDP

17. Percentage of the EAP employed in the informal sector	$\text{EAP employed in the informal sector} / \text{Total EAP} \times 100$
18. Number of unemployed people as a percentage of the EAP	$\text{Number unemployed} / \text{Number economically active} \times 100$
19. Labour/output ratio	Number of units of labour per unit of GDP
20. Labour absorption rate per sector	$\text{Number of job opportunities created in the formal economy per sector} / \text{Number of people entering the labour market per annum} \times 100$
21. Consumer price index	Index of the prices of a representative basket of consumer goods and services
22. Producer price index	Index of the prices of a representative basket of goods, including capital and intermediate goods. The prices are measured at the level of the first significant commercial transaction.
23. Rate of inflation*	Sustained increase in the general price level or the change in the consumer price index
24. Agricultural production index	Index of agricultural production
25. Industrial production index	Index of industrial production
26. Foreign trade	Annual volume, value and direction of imported and exported goods and services
27. Capital/output ratio	Number of units of capital per unit of GDP
28. GDP per capita	$\text{Annual GDP} / \text{Mid-year total population}$
29. Skill levels per population group per economic sector	Number/percentage population per skill level per population per sector
30. Skill requirement per economic sector	Number of persons required per skill per economic sector

* Key indicator used for international comparative purposes

2.2 Input indicators

Input indicators serve as a measure of the attributes of students or trainees who gained access to the training system, of trainers, lecturers and instructors, training facilities and equipment as well as financial resources and expenditure.

Indicator	Calculation/definition
ENROLMENT/STUDENTS/TRAINEES	
1. Percentage of secondary school-leavers with General Education Certificate (GEC)	Number of school-leavers with GEC/Total number of secondary school-leavers $\times 100$
2. Percentage of secondary school-leavers without GEC (with Std 6)	Number of school-leavers without GEC (with Std 6)/Total number of secondary school-leavers $\times 100$
3. Percentage of senior secondary school-leavers with Further Education Certificate (FEC)	Number of senior secondary school-leavers with FEC/Total number of senior secondary school-leavers $\times 100$
4. Percentage of senior secondary school-leavers without FEC (with Std 9)	Number of senior secondary school-leavers without FEC (with Std 9)/Total number of senior secondary school-leavers $\times 100$
5. Percentage of senior secondary school-leavers with university, technikon or college entrance qualification	Number of senior secondary school-leavers with university, technikon or college entrance qualification/Total number of senior secondary school-leavers $\times 100$
6. Percentage enrolment at higher education by institution	Number enrolled at higher education institution/Total enrolment at higher education institutions
7. Percentage enrolment at higher education institution by degree, diploma and certificate	Number enrolled at higher education institution by degree, diploma and certificate/ Total enrolment at higher education institution
8. Number of students per thousand by population group by institution	Number of students per population group per institution/Total number of students in the institution $\times 1000$

9. Percentage enrolment per institution per population group per gender	Number enrolled per institution per population group per gender/Total enrolment at all institutions
10. Number of new students annually enrolling per institution per course per gender per population group	A breakdown of first-year students per institution per course per gender per population group
11. Edutrain dependency ratio*	Ratio of the number of children and youths who should be educated and trained (aged 5 to 19 yrs) to the number available to do the teaching and training and produce the wealth to pay for it (20 to 65 yrs)
12. Trainee to trainer ratio*	Ratio of the number of trainees and students to the number of trainers or lecturers
13. University to technikon student ratio*	Total number of university students to technikon students
14. Persons trained by industry training boards per annum	Number of persons trained by industry training boards per annum
15. Persons trained per industry training board per level of training (per trade)	Number of persons trained by each industry training board per level or trade
16. Persons trained – various programmes	Number of persons trained in the various programmes/training schemes annually: private, unemployed persons, apprentices, regional training centre and trainees in training
17. Percentage change in the number of apprenticeship contracts registered per annum per trade or institution	Change in the number of apprenticeship contracts registered per annum per trade/ Total number registered the previous year per trade or institution $\times 100$
18. Percentage change in the number of apprenticeship contracts in operation per annum per trade or institution	Change in the number of apprenticeship contracts in operation per annum per trade/ Total number in operation the previous year per trade or institution $\times 100$

19. New apprenticeships registered by population group	A breakdown of new apprenticeships registered by population group
20. Training of trainees by centre per annum	Number of trainees trained by centre per annum
21. Training of trainees by trade per annum	Number of trainees trained by trade per annum
22. Training by multipurpose training centres/Employees trained per annum	Number of employees trained per multipurpose training centre per trade per annum
23. Training by multipurpose training centres – duration in weeks	Duration of training in weeks by multipurpose training centres per trade per annum
24. Training for the unemployed numbers trained	Percentage of the unemployed trained who belong to the formal, informal and other sectors
25. Training of the unemployed number of persons trained per population group	Percentage of unemployed persons trained per population group
26. Courses undertaken by the majority of unemployed persons – formal and informal sectors	Courses undertaken by the majority of unemployed people by number of trainees per sector
27. Training of the unemployed by gender	A breakdown of the training of the unemployed by gender
28. Top five training courses by gender	A breakdown of the top five training courses for males and females
29. Training of the unemployed – enrolment per education qualification	A breakdown of the enrolled numbers of unemployed in terms of those with no qualification, primary certificate, junior certificate, senior certificate and after school
30. Training of the unemployed per annum – initial employment record	Number or percentage of the unemployed who received training that were previously formally employed or self-employed

31. Percentage of retrenched workers retrained per annum	Total number of retrenched workers retrained in working skills to help them secure employment in the labour market per annum/Total number of retrenched workers per annum $\times 100$
32. Total number of employees trained by private training centres by course per annum	Number of employees trained by private training centres by course per annum
TRAINER/INSTRUCTOR/LECTURER	
33. Training personnel employed as a percentage of the total labour force*	Total number of full-time training personnel/Total labour force $\times 100$
34. Ratio of trainers to other training personnel	Total number of trainers per institution/Total number of other training personnel
35. Trainer/lecturer qualifications, gender, population group and age distribution by institution per province	A breakdown by province of the trainer or lecturer by institution, gender, age, population group and qualifications
TRAINING FACILITIES/EQUIPMENT	
36. Number of education or training institutions, industry boards, centres by type per province	A breakdown of the number of education and training institutions, accredited industry training boards, centres by type per province
37. Capacity utilisation per type of education or training institution and facility per province	Training capacity used at institutions and centres or courses/Total capacity available $\times 100$ or utilisation of the total number of facilities (regional training centres and satellites) by province
38. Breadth of training effort per industry or company*	Measured by the number of training places created per employee per industry or company
39. Depth of training per industry or company	Measured by the number of training hours per employee per industry or company

41. Degree of in-house training activities per industry or company	Measured by the number of training places created per worker for secondary school graduates compared to training places created for the less skilled worker Measured in terms of the training done using company facilities as opposed to external facilities
42. Total number of accredited industry training boards by type of industry and percentage representation	A list of accredited industry training boards by type of industry and percentage representation
43. Total number of training centres established and accredited for training per industry training board	A list of training centres established and accredited for training per industry training board
44. Train-the-trainer schemes per company	Number of train-the-trainer schemes available per company
45. Total number of private sector training centres registered or utilised per annum for in-service training	Total number of private training centres registered or utilised by private sector in the training of employees per annum
46. Percentage of students and trainees provided with a study space per institution in the library or resource centre	Total number of study spaces available in the library or resource centre/Total number of students or trainees in the institution \times 100
47. Percentage of total students and trainees residing in institutional residences	Total number of students or trainees residing in institutional residences/Total number of students or trainees in the institution \times 100
48. Percentage of training institutions offering training courses with the following learning aids: manuals, texts, videos, kits, tapes, specialised computer software packages, lectures, and so on	Number of institutions offering a given training course with the following learning aids: manuals, texts, videos, kits, tapes, specialised computer software packages, lectures, and so on
FINANCIAL RESOURCES/EXPENDITURE	
49. Total government expenditure on higher education and training (levels 5-8) per annum as a percentage of GDP	Annual government expenditure on education and training (levels 5-8) in universities, technikons and technical colleges/Total GDP \times 100

50. Percentage sources of training funds	<p>Annual percentage sources of training funds for institutions: government appropriations, private business, international donations, individual course fees, investments, communities and other</p> <p>A breakdown into government source, private sector and other</p>
51. Total government expenditure on further education and training (levels 2-4) per annum as a percentage of GDP	Annual government expenditure on further education and training (levels 2-4): train work-seekers, trainee scheme, training centres, and so on/Total GDP $\times 100$
52. Cost of training persons by the various programmes	Trend of the numbers trained by various programmes/training schemes versus funds spent: private, unemployed persons, apprentices, regional training centres and trainees in training
53. Percentage government share in total expenditure on training	Government expenditure on training/Total expenditure on training $\times 100$
54. Per capita expenditure on training*	Per capita expenditure on training by the state, non-governmental organisations (NGOs) and industry
55. State expenditure on training by type of institution	State expenditure on training at universities, teacher training colleges, technikons, technical colleges, and so on
56. Funds allocated for the special training programmes per annum for the training of the unemployed	Trends in the funds allocated per annum and the number of unemployed who are trained
57. Ratio of government expenditure on formal education versus private sector expenditure on training	Government expenditure on formal education and private sector expenditure on training
58. Growth of public expenditure on training per province*	Annual growth rate of public expenditure on training per province
59. Percentage of total employment costs spent on training by the private sector	Expenditure on training/Total payroll $\times 100$

60. Percentage amount of funds for training obtained from donor organisations	Funds utilised for training per annum from donor organisations/Total funds available for training per annum
61. Amount of state funds spent on training in vocations where there is a shortage of manpower	Total/percentage state funds spent on training in scarce vocations
62. Public expenditure on labour market programmes as a percentage of GDP	Public expenditure on labour market programmes/GDP $\times 100$
63. State expenditure on training as a percentage of total state expenditure	State expenditure on training/Total state expenditure $\times 100$
64. Current state expenditure as a percentage of state expenditure on training	Current expenditure on training/Total state current expenditure $\times 100$
65. State expenditure on new fixed assets as a percentage of state expenditure on training	State expenditure on new fixed assets/Total expenditure on training $\times 100$
66. Remuneration of training personnel as a percentage of current expenditure	Remuneration of training personnel/Total current expenditure $\times 100$
67. Remuneration of other training personnel as a percentage of current expenditure	Remuneration of other training personnel/Total current expenditure
68. Remuneration of other service workers as a percentage of current expenditure*	Remuneration of other service workers/Total current expenditure
69. Per capita expenditure on higher education and training (levels 5-8) versus GNP per inhabitant of the country	Per capita expenditure on higher education and training (levels 5-8)/GNP per capita of a country
70. Per capita expenditure on further education and training (levels 2-4) versus GNP per inhabitant of the country*	Per capita expenditure on further education and training (levels 2-4)/GNP per capita of a country
71. Percentage of expenditure on preservice training by public or private sector	Expenditure on preservice training by public or private sector/Total expenditure on training by public or private sector

Multipurpose training centres: These centres include regional training centres as well as other major training centres.

* Key indicator used for international comparative purposes

2.3 Internal efficiency indicators

These indicators ensure the transition or repetition and progression or drop out of persons who gained access to the training system. It also refers to the effectiveness of the training system, which will be captured under *Outcome indicators*.

Indicator	Calculation/definition
1. Progression or pass rate per course, centre or level*	Number of people who passed the course, centre or level progression examination/ Total number who wrote $\times 100$
2. Repeater percentage per course, level or centre	Number of people repeating per course, level or centre/Total number who wrote $\times 100$
3. Failure rate per course, level or centre*	Number of people failing per course, level or centre/Total number who wrote $\times 100$
4. Percentage of drop-outs, early or premature leavers per level or centre	Number of drop-outs, early or premature leavers/Total original enrolment per course, level or centre $\times 100$
5. Direction of training courses	List or number of vocations and occupations where there is a shortage of manpower
6. Total student years to produce a certificate	Actual number of student years plus repeater years

* Key indicator used for international comparative purposes

2.4 Output indicators

Output indicators measure the training system's output in the form of cognitive achievement and improved skills of the number of persons qualified or different certificates issued.

Indicator	Calculation/definition
1. Graduation rates at universities, technikons and training colleges*	Total number of students fulfilling the requirements for a degree, diploma or certificate in the different disciplines in universities, technikons and training colleges/ Total number that wrote the examinations in the disciplines $\times 100$
2. Degrees and diplomas obtained in South Africa per annum by gender by group	Number of degrees and diplomas per discipline obtained by gender by group per annum
3. Percentage growth in degrees and diplomas obtained per annum	Change in degrees and diplomas obtained per discipline per annum/Degrees and diplomas obtained per discipline the previous year $\times 100$
4. Pure science and engineering degrees and diplomas*	Number of pure science and engineering degrees and diplomas as a percentage of the total number of degrees and diplomas
5. Contribution of the different population groups and gender to middle and high-level labour*	Percentage contribution of the different population groups and gender to middle and high-level labour
6. Contracts of apprenticeship completed per annum	Number of apprenticeship contracts completed per annum
7. Trends of artisan training	Comparison of contracts of apprenticeship registered per annum with those completed
8. Trade test pass rate	Number of trainees who qualify by passing trade tests/Total number of trainees who write trade tests $\times 100$
9. Percentage of trainees who completed training	Number of trainees who completed training/ Total number who enrolled $\times 100$
10. Percentage of unemployed trained	Number of unemployed trained/Total number unemployed $\times 100$
11. Influence of previous qualifications on the pass rate of trained unemployed	Training of the unemployed percentage pass rate per educational qualification previously attained prior to training

* Key indicator used for international comparative purposes

2.5 Outcome indicators

Outcome indicators measure the probability that persons who underwent training will find employment, earnings and status commensurate with their qualifications. These indicators are best determined through tracer studies of the trained persons to confirm whether they are engaged in what they were trained to do. Economic indicators overlap with outcome indicators and also give an idea of outcome.

Indicator	Calculation/definition
1. Percentage of persons holding science and engineering degrees, diplomas and certificates who are employed in the science and engineering field	Number of persons holding science and engineering degrees, diplomas and certificates who are employed in their fields of training/Total science and engineering graduates $\times 100$
2. Percentage of trained professionals earning wages commensurate with their training	Number of professionals earning wages commensurate with their training/Total number of trained professionals
3. Labour force participation rates according to training undergone and professional qualifications acquired	Trends in male and female labour force participation rates according to training undergone and qualifications acquired: actual EAP/Total population of working age $\times 100$
4. Trained professionals who are appropriately employed	Percentage of trained professionals who have been appropriately employed
5. Vacancy rates of major occupational groups	Vacancies/Employment + vacancies $\times 100$
6. Percentage distribution of population groups in the different occupational groups	Percentage composition of the population groups in the different occupations
7. Percentage appropriate placement of trained unemployed	Number of trained unemployed appropriately placed/Total unemployed trained $\times 100$
8. Percentage of lecturers or trainers in South Africa who are appropriately qualified, underqualified or unqualified	Number of lecturers who are properly qualified, underqualified or unqualified for their job/Total number of lecturers or

respectively	trainers \times 100
9. Wages per hour per certificate obtained at an institution	Total wages per certificate/Total number of hours worked
10. Percentage of trained unemployed who have turned entrepreneur	Number of trained unemployed who have entered the informal sector as independent entrepreneurs/Total unemployed trained \times 100
11. University, technikon and college graduates unemployed*	Percentage of total number of unemployed who are university, technikon or college graduates
12. Percentage of unemployed graduates of a particular university, technikon or college	Number of unemployed graduates of a particular university, technikon or college/Total number of graduates of that particular university, technikon or college \times 100

* Key indicator used for international comparative purposes

2.6 Equity indicators

Equity indicators measure the distribution of access to training and training facilities, the transition and progression during training, the cognitive achievement and improved skills acquired through training as well as employment, earnings and status obtained commensurate with the qualifications among the different genders, population groups and provinces. (Data on provincial inequality is not readily available at this point in time.)

Indicator	Calculation/definition
1. Literacy level per gender per population group*	Percentage of the population of persons 13 years and older with at least a Std 5 qualification per gender per population group
2. Illiteracy rate per economic sector per gender per population group*	Percentage illiterate per economic sector per gender per population group
3. EAP by population group and education level*	EAP by population group and education level

4. EAP by gender and education level	EAP by gender and education level
5. EAP by population group and occupation	EAP by population group and occupation
6. EAP by gender and occupation	EAP by gender and occupation
7. EAP by population group and gender	EAP by population group and gender
8. EAP by population group and economic sector	EAP by population group and economic sector
9. EAP by gender and economic sector	EAP by gender and economic sector
10. Life expectancy at birth or at a given age per gender per population group	Number of years a newly born baby can expect to live/Number of years a person can expect to live at a given age per gender per population group
11. Total fertility rate per population group	Average number of children born per woman during her reproductive period per population group
12. Infant mortality rate per population group*	Number of live born children who die under the age of one year per 1000 births per population group
13. Gini coefficient of income inequality	For countries with highly unequal income distributions the Gini coefficient typically lies between 0,5 and 0,7, while for countries with relatively equitable distributions it is of the order of 0,2 to 0,35.
14. Skill levels per population group per gender per economic sector	Number or percentage population per skill level per population per gender per economic sector
15. Percentage of secondary school-leavers with GEC per population group per gender	Number of school-leavers with GEC/Total number of secondary school-leavers \times 100 per population group per gender

16. Percentage of secondary school-leavers without GEC (with Std 6) per population group per gender	Number of school-leavers without GEC (with Std 6)/Total number of secondary school-leavers \times 100 per population group per gender
17. Percentage of senior secondary school-leavers with FEC per gender per group	Number of senior secondary school-leavers with FEC/Total number of senior secondary school-leavers \times 100 per gender per group
18. Percentage of senior secondary school-leavers without FEC (with Std 9) per population group per gender	Number of senior secondary school-leavers without FEC (with Std 9)/Total number of senior secondary school-leavers \times 100 per population group per gender
19. Percentage of senior secondary school-leavers with university, technikon or college entrance qualification per population group per gender	Number of senior secondary school-leavers with university, technikon or college entrance qualification/Total number of senior secondary school leavers with certificates \times 100 per population group per gender
20. Number of students per thousand by population group by institution	Number of students per population group per institution/Total number of students in the institution \times 1000
21. Percentage enrolment per institution per population group per gender	Number enrolled per institution per population group per gender/Total enrolment at all institutions
22. Number of new students annually enrolling per institution per course per gender per population group	A breakdown of first-year students per institution per course per gender per population group
23. Training of the unemployed number of persons trained per population group	Percentage of unemployed persons trained per population group
24. Training of the unemployed by gender	Percentage of the unemployed trained by gender
25. Trainer or lecturer qualifications, gender, population group and age distribution by institution per province	A breakdown by province of the trainers or lecturers by institution, gender, age group and qualification

26. Number of education and training institutions, industry boards and centres by type per province*	A breakdown of the number of education and training institutions, accredited industry training boards and centres by type per province
27. Per capita expenditure on training per province*	Per capita expenditure on training by the state at various levels, NGOs and industry per province
28. Progression or pass rate per course, centre or level per population group per gender	Number of people who passed the course, centre or level progression examination/Total number who wrote $\times 100$ per population group per gender
29. Repeater percentage per course, level or centre per population group per gender*	Number of people repeating per course, level or centre/Total number who wrote $\times 100$ per population group per gender
30. Failure rate per course, level or centre per population group per gender	Number of people failing per course, level or centre/Total number who wrote $\times 100$ per population group per gender
31. Percentage of drop-outs, early or premature leavers by level or centre per population group per gender	Number of drop-outs, early or premature leavers/Total original enrolment per course, level or centre $\times 100$ per population group per gender
32. Total student years to produce a certificate per population group per gender*	Actual number of student years plus repeater years per population group per gender
33. Graduation rates at universities, technikons and training colleges per population group per gender	Total number of students fulfilling the requirements for a degree, diploma or certificate in the different disciplines in universities, technikons and training colleges/ Total number that wrote the examinations in the disciplines $\times 100$ per gender per population group
34. Degrees and diplomas obtained in South Africa per annum by gender and by population group	Number of degrees and diplomas obtained per discipline by gender by population group per annum
35. Contribution to low, middle and high-level manpower by gender by population group	Percentage contribution to low, middle and high-level manpower by gender by population group

36. Apprenticeship contracts completed per annum per gender per population group	Number of apprenticeship contracts completed per annum per gender per population group
37. Trade test pass rate per gender per population group	Number of trainees who qualify by passing trade tests/Total number of trainees who write trade tests $\times 100$ per gender per population group
38. Percentage of trainees who completed training per gender per population group	Number of trainees who completed training/Total number who enrolled $\times 100$ per gender per population group
39. Labour force participation rates according to training undergone and professional qualifications acquired per gender per population group	Actual EAP according to training undergone and professional qualifications acquired/Total population of working age $\times 100$ per gender per population group
40. Percentage distribution of population groups and gender in the different occupations	Percentage composition of the population groups and gender in the different occupations

* Key indicator used for international comparative purposes

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