

# CHET 2004a: POLICY TARGETS AND HIGHER EDUCATION PERFORMANCE

## CHANGES TO THE CHET 2003 MODEL

The comments and objections raised at the January 2004 seminar cast major doubts on the methodology on which the CHET 2003 model was based. The CHET research team decided as a consequence that the “well-functioning institution” model would have to be dropped and replaced by a very different one. Major changes which the research team decided to make included the following:

- ▶ The new CHET 2004a model would continue to use indicators as ways of referring to policy-driven higher education goals. A distinction, however, would be drawn between (a) systemic goals, and (b) institutional goals. As a consequence, two separate sets of indicators would be constructed.
- ▶ These systemic and institutional indicators would not be linked to benchmarks, since these have been understood to be linked to the evaluation or grading of a higher education system and of higher education institutions.
- ▶ Radar graphs which relate institutional data averages to benchmark norms would not be constructed.
- ▶ The sets of systemic and institutional indicators would be linked instead to quantitative targets, which would be derived, directly or indirectly, from national policy documents of the South African government.
- ▶ Whenever possible, time series data rather than snapshot or average data would be employed. These data would be presented in a series of bar graphs, each one of which will reflect the quantitative targets which the South African higher education system and its constituent institutions are expected to achieve.

The amended CHET 2004a model, with its sets of indicators and targets, is set out in the two subsections which follow. This model was later subject to detailed discussion at the two-day seminar which CHET held in Cape Town in March 2004.

## CHET 2004a: INDICATORS AND TARGETS FOR THE SOUTH AFRICAN HIGHER EDUCATION SYSTEM

CHET 2004a's proposed set of ten systemic indicators and targets are presented in Table 8 which follows. Most of these goals are versions of those which appeared in the CHET 2000 model discussed in an earlier section of this paper.

The size and shape goals in Table 8 are modified versions of Goals 1, 4 and 5 of CHET 2000 (see Table 1 in subsection 3.1). The indicators employed are the same as those of CHET 2000, but this earlier model did not employ either targets or benchmarks. The figures included in the third column of the table are therefore new, as are the references to the sources of the targets. The first two targets related to size and shape can be derived from current policy documents (the 2001 National Plan for Higher Education and the 2003 Ministerial Statement on Higher Education Funding).

**TABLE 8:** CHET 2004a adapted goals, indicators and targets for the South African higher education system

ADAPTED 1997 WHITE PAPER GOALS	INDICATORS	TARGETS	SOURCE OF TARGET
<b>SIZE AND SHAPE OF THE SYSTEM</b>			
Goal 1: Total student enrolments must increase	Head count enrolments by instruction mode	460 000 contact & 270 000 distance heads by 2005	MS on funding: December 2003
Goal 2: Enrolments in science/technology (SET) and business/management (BUS) must grow	FTE enrolments by broad field of study	40% SET and 20% BUS	Adapted from National Plan for HE: 2001
Goal 3: Masters and doctoral enrolments must grow	Head count enrolments by qualification type	10% of head counts to be masters & doctoral students	None: based on current enrolments/patterns
<b>STUDENT EQUITY</b>			
Goal 4: The participation of disadvantaged students in higher education must increase	Head count totals of African students in contact programmes	60% of contact students to be African	Adapted from National Plan for HE: 2001

ADAPTED 1997 WHITE PAPER GOALS	INDICATORS	TARGETS	SOURCE OF TARGET
Goal 5: The participation of female students in higher education must increase	Head count totals of female students	50% of contact + distance students to be females	None: but based on gender equity = equality
Goal 6: The fairness of educational processes must improve	Success rates by race in contact programmes	Success rates to be equalised	Equity planning directives of DoE
<b>STAFF EQUITY</b>			
Goal 7: The participation of disadvantaged staff groups in the professional staff complement of the system must improve	Proportions of permanent academic and professional administrative staff by race	40% of permanent professional staff to be African	Adapted from equity planning directives of DoE
Goal 8: The participation of females in the professional staff complement of the system must improve	Proportions of permanent academic and professional administrative staff by gender	40% of permanent professional staff to be female	Adapted from equity planning directives of DoE
<b>GRADUATE AND RESEARCH OUTPUTS</b>			
Goal 9: The output of graduates must improve	Head count totals of graduates divided by head count enrolments	Annual total of graduates to = 20% of head count enrolments	Adapted from National Plan for HE: 2001
Goal 10: Research outputs must improve	Output of research masters and doctoral graduates plus research publication units relative to total of permanent academic staff	Weighted publication total to equal average total of permanent academics for past 3 years	Adapted from MS on funding: December 2003

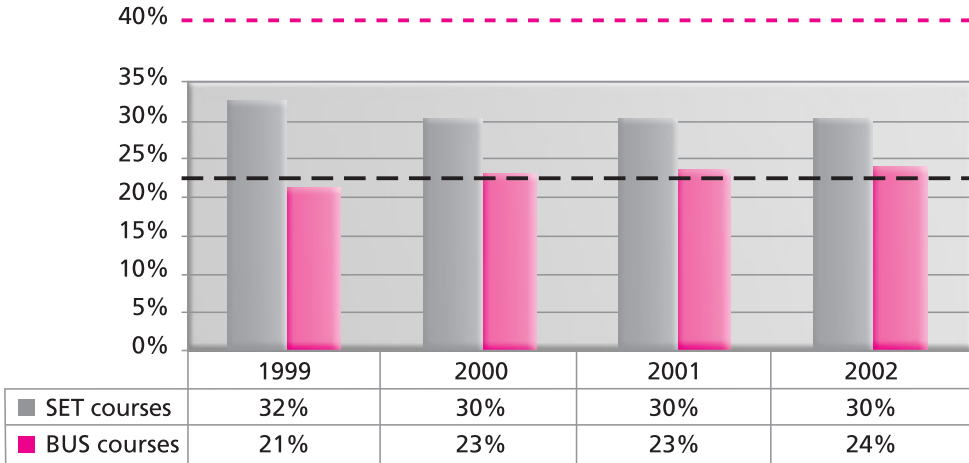
Notes: (1) MS on funding = Ministerial Statement on Higher Education Funding, released in December 2003

(2) DoE = Department of Education

(3) The weightings employed in the target for Goal 10 are: masters graduate = 1, publication unit = 1, doctoral graduate = 3

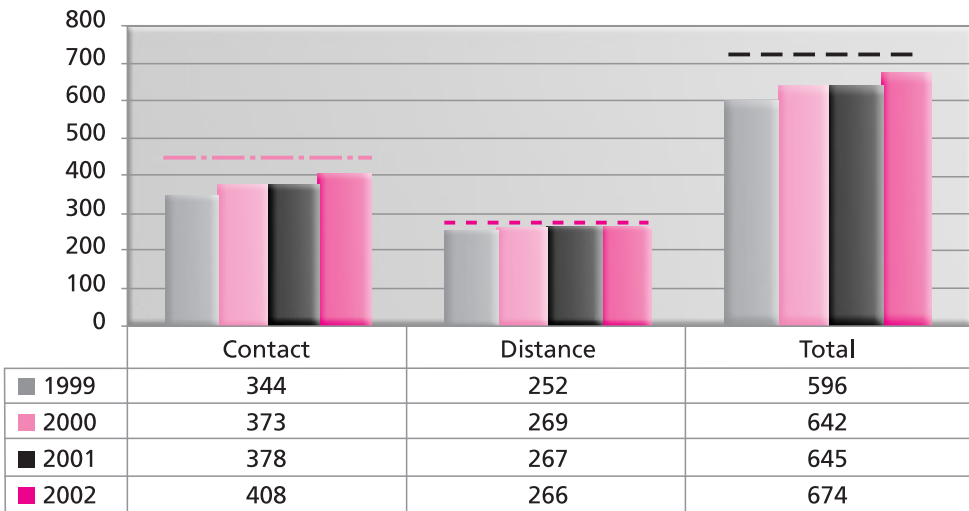
The bar graphs which follow offer a limited number of examples of how the CHET 2004A indicators and targets could be employed to measure the performance of the South African higher education system. The first two graphs deal with two of the three size and shape goals in Table 8.

**GRAPH 32:** Proportions for system of FTE enrolments in SET and business courses (1999–2002)



Notes: (1) - - - - - represents target of 40% of FTE enrolments in science and technology  
 (2) - - - - - represents target of 20% of FTE enrolments in business/management

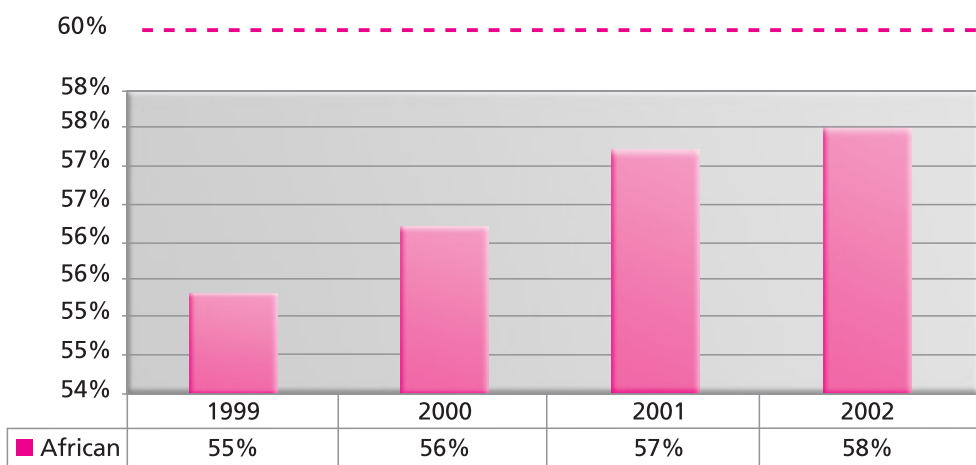
**GRAPH 33:** Head count enrolments for higher education system (1999–2002) (thousands)



Notes: (1) - - - - - represents target for 2005 of 460 000 contact heads  
 (2) - - - - - represents target for 2005 of 270 000 distance heads  
 (3) - - - - - represents target for 2005 of 730 000 total heads

Graph 32 shows that the higher education system, up to 2002, had met only the distance education head count target. Graph 33 shows that the proportion of FTE students in the system in business and management courses increased steadily between 1999 and 2002, and by 2002, had exceeded the target. The system's proportion of SET students remained below the target proportion of 40% throughout the period.

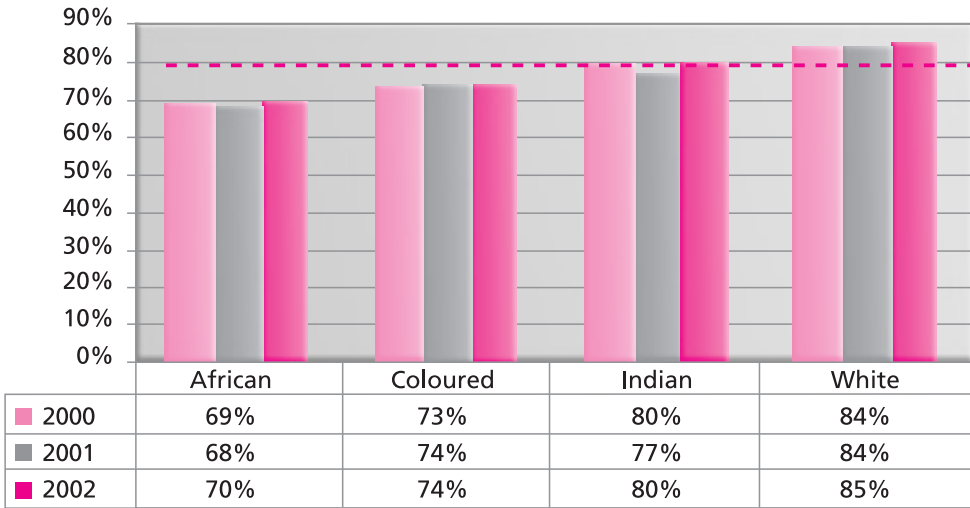
**GRAPH 34:** Proportion of African students in the system's head count total of contact students (1999–2002)



Note: - - - - represents target of African students having 60% of head count enrolments in contact programmes

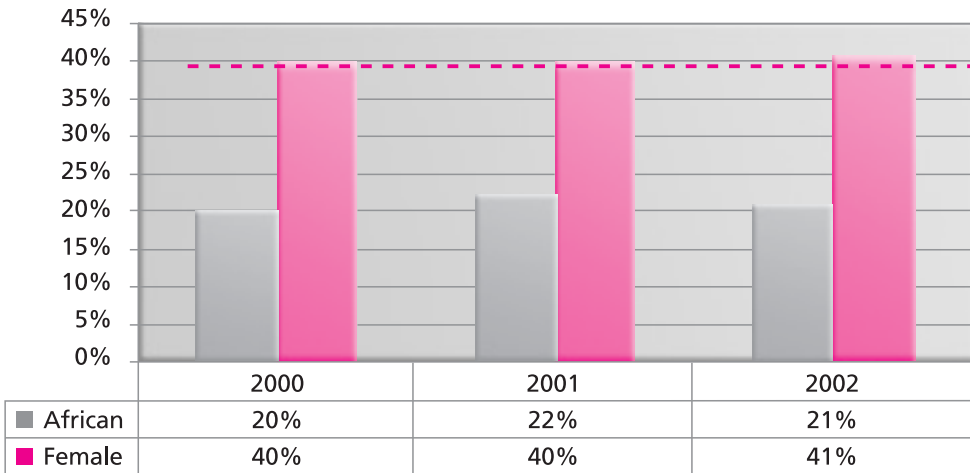
Graphs 34 and 35 deal with two of the three student equity goals. Goals 4, 5 and 6 in Table 8 relate directly to CHET 2000 Goals 2, 3 and 8 (see Table 1). Graph 34 shows that the proportion of African students in the higher education system's contact student total increased steadily over the period 1999–2002, and was at 58% in 2002 – only two points below the target of 60%. Graph 35 deals with issues of process equity, by comparing by race group the average undergraduate success rates in contact courses. The target set for Goal 6 of Table 8 is an equalisation of these undergraduate success rates. Graph 34 shows that the system has not achieved this target. The success rates of white and Indian students in contact programmes, throughout the period 2000–2002, were considerably higher than those of African and coloured students.

**GRAPH 35:** Success rates in undergraduate contact courses by race group (2000–2002)



Note: - - - - represents target of 80% required to equalise success rates

**GRAPH 36:** Proportions of African and of female staff in the system's total of academic and professional administrative staff (2000–2002)

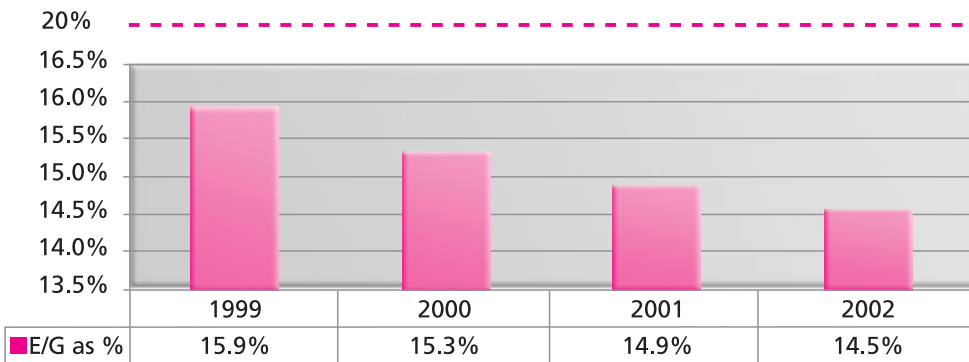


Note: - - - - represents target of 40% of professional staff to be African and 40% female

Graph 36 deals with staff equity goals and targets. It shows the shares African and female staff had of the total of academic and professional staff in the South African higher education system during the period 2000–2002. The proportion of female staff

was on or above the target of 40% in each year of this period. The proportion of African staff was about half of the target in each year.

**GRAPH 37:** Graduates as a proportion of head count enrolments in the higher education system (1999–2002)



Note: - - - - - represents target of 20% for total graduates to total head count enrolments

Graph 37 deals with the goal of student output efficiency. It shows, for each year in the period 1999 to 2002, what proportion graduates had of the total head count enrolment of the system. The target proportion of 20% is based on an expectation that about 67% of any cohort of students entering the higher education system will eventually complete their qualifications. The graph shows that the South African higher education system is not meeting this target.

## CHET 2004a: INDICATORS AND TARGETS FOR SOUTH AFRICAN HIGHER EDUCATION INSTITUTIONS

CHET 2004a's proposed set of institutional indicators and targets are presented in Table 9.

The student equity goals, indicators and targets in Table 9 are modified versions of those used in CHET 2004a for the higher education system (see Goals 4 to 6 of Table 8). The student efficiency goals, indicators and targets have been drawn directly from CHET 2003, with the main change being that the term "benchmark" has been replaced by the term "target" (see Goals 6 to 8 of Table 6). The staff equity goals, indicators and targets have also been drawn directly from CHET 2003, again with the main change being the use of the term "target" rather than that of "benchmark" (see Goals 9 and 10

**TABLE 9:** CHET 2004a: adapted goals, indicators and targets for South African higher education institutions

ADAPTED 1997 WHITE PAPER GOALS	INDICATORS	TARGETS	SOURCE OF TARGET
<b>STUDENT EQUITY</b>			
Goal 1: The participation of disadvantaged students in on-campus programmes must increase	Head count enrolments by instruction mode and by race group	40% of students in contact programmes to be African	MS on funding: December 2003
Goal 2: The participation of female students in all programmes must increase	Head count enrolments by gender	50% of contact + distance students to be females	None: but based on gender equity = equality
Goal 3: Educational processes must be fair	FTE degree credits as % of FTE enrolments in contact programmes by race group	Difference between African and white ratios to be no more than 5 percentage points	None: but based on National Plan for HE: 2001
<b>STUDENT EFFICIENCY</b>			
Goal 4: Undergraduate success rates must be high	Undergraduate FTE degree credits as % of FTE enrolments in contact programmes	Average of 80%	None: but based on National Plan for HE: 2001
Goal 5: High proportions of undergraduate enrolments must graduate each year	Undergraduate qualifiers as % of undergraduate enrolments	Average of 20%	Adapted from National Plan for HE: 2001
Goal 6: High proportions of masters & doctoral enrolments must graduate each year	Masters plus doctoral graduates as % M + D enrolments	Average of 25%	Adapted from National Plan for HE: 2001
<b>STAFF EQUITY</b>			
Goal 7: The participation of disadvantaged staff groups in the professional staff complement of the system must improve	Proportions of permanent academic and professional administrative staff by race	40% of permanent professional staff to be African	Adapted from equity planning directives of DoE
Goal 8: The participation of females in the professional staff complement of the system must improve	Proportions of permanent academic and professional administrative staff by gender	40% of permanent professional staff to be female	Adapted from equity planning directives of DoE

ADAPTED 1997 WHITE PAPER GOALS	INDICATORS	TARGETS	SOURCE OF TARGET
<b>STAFF QUALIFICATIONS AND OUTPUTS</b>			
Goal 9: Academic staff must be well qualified	% of permanent academic staff members with doctorates	Average for universities to be of 40% with doctorates.	Adapted from NWG: 2001
Goal 10: Academic staff must be active in research	Output of research masters and doctoral graduates plus research publication units relative to total of permanent academic staff	Ratio for universities to be 1.25 weighted units per permanent academic staff member	Adapted from MS on funding: December 2003

Notes: (1) MS on funding = Ministerial Statement on Higher Education Funding, released in December 2003

(2) DoE = national Department of Education

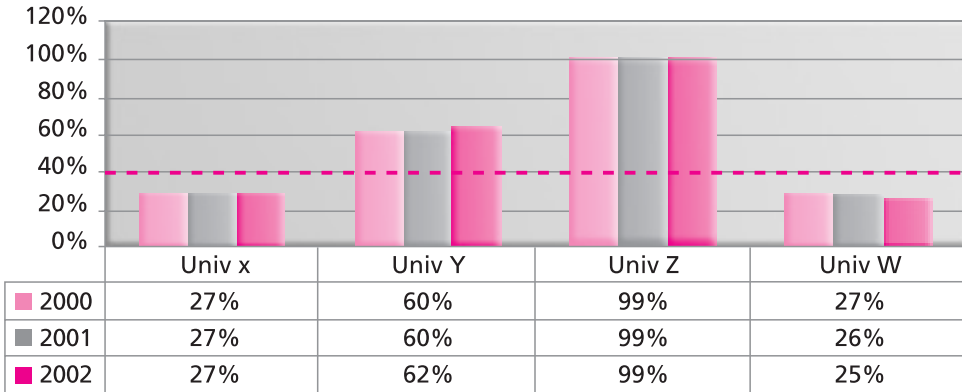
(3) The weightings employed in the target for Goal 10 are: masters graduate = 1, publication unit = 1, doctoral graduate = 3

of Table 6). The staff qualification and output goals, indicators and targets have been drawn directly from CHET 2003, in the ways described for staff equity (see Goals 11 and 12 in Table 6).

Some examples of the kinds of graphs which are generated by the indicators and targets in Table 9 appear below. The four universities reflected in the graphs are the same as those used as examples in earlier sections. The universities, once again, have not been identified.

Graph 38 shows how these four universities are performing relative to a target that African students should have at least a 40% share of head count student enrolments in contact or on-campus programmes. The data in the graph show that up to 2002, two of the universities did, and two did not, reach this target.

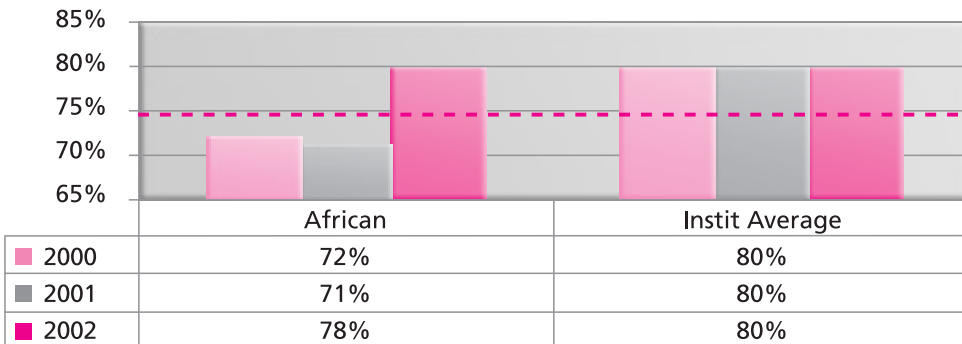
**GRAPH 38:** Proportions of African students in contact student enrolments (2000–2002)



Note: - - - - represents target of 40% of students in contact programmes being African

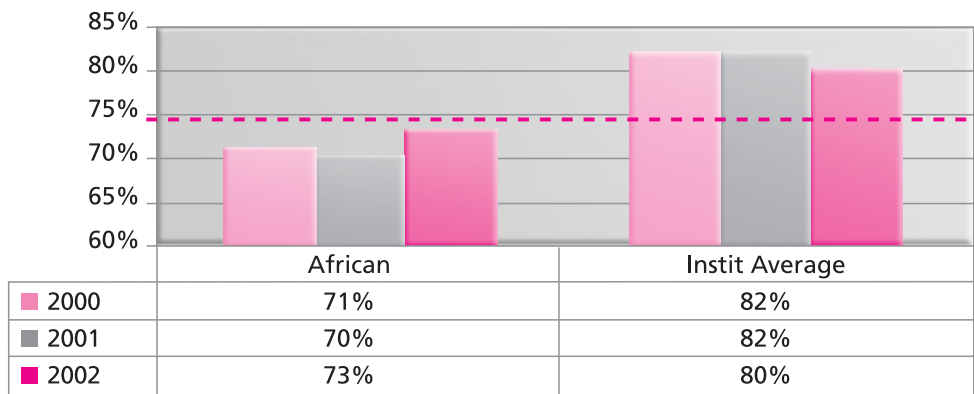
Graphs 39 and 40 deal with issues of educational process equity at two of the four universities used as examples. The graphs express as ratios the total of contact degree credits (or FTE passes in courses) for the university to its total contact FTE student enrolments. These calculations include undergraduate plus all postgraduate contact courses. The issue of equity is that the ratios for African students (considered to be proxies for disadvantaged students) should not be less than five percentage points below the average for the institution.

**GRAPH 39:** University X contact programmes: comparison of average ratios of FTE degree credits to FTE enrolments for African students and for all students in the institution (2000–2002)



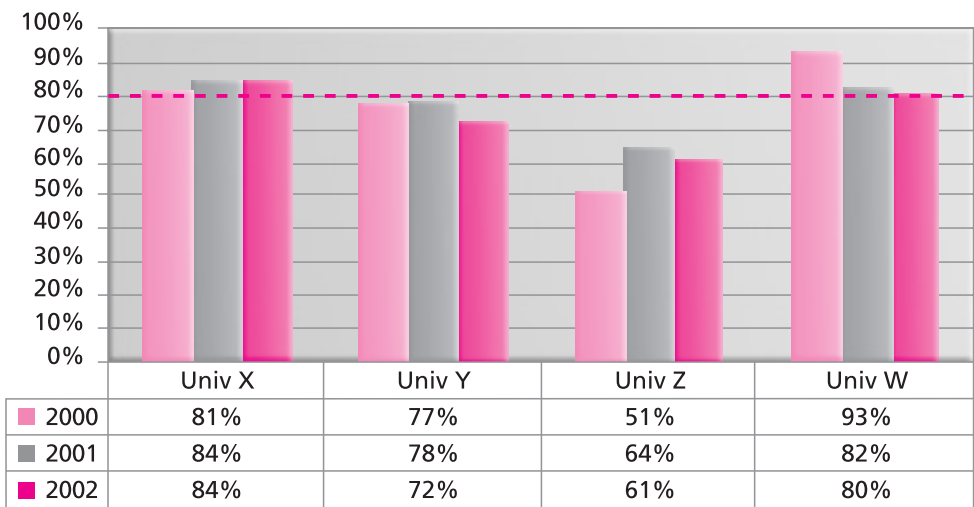
Note: - - - - represents the target of the African student ratio being no more than 5 percentage points below average for institution

**GRAPH 40:** University W contact programmes: comparison of average ratios of FTE degree credits to FTE enrolments for African students all students in the institution (2000–2002)



Note: - - - - represents the target of the African student ratio being no more than five percentage points below average for institution

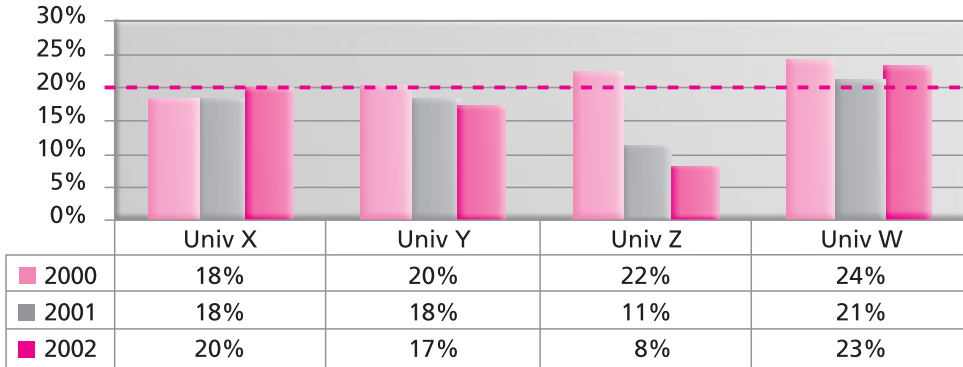
**GRAPH 41:** Average undergraduate success rates in contact courses (2000–2002)



Note: - - - - represents the target of 80% for undergraduate success rates

Graphs 41 and 42 deal with issues of student efficiency. Graph 41 displays average undergraduate success rates in contact programmes, for which a target of 80% has been set. Graph 42 shows what proportions of a given year’s undergraduate head count enrolments completed their qualifications. The target set for undergraduates is that at least 20% of the annual enrolments should graduate in that year.



**GRAPH 42:** Ratio of undergraduate qualifiers in a given year to total head count enrolments in that year (2000–2002)

Note: - - - - represents the target ratio of 20% for undergraduate qualifiers to undergraduate head count enrolments

## RESPONSES TO CHET 2004a AT MARCH 2004 SEMINAR

CHET held a two-day seminar in Cape Town in March 2004 to discuss the CHET 2004a proposals contained in this section of the report. The discussion at this March seminar raised a series of general points about the CHET 2004a model, and then more specific points about the proposed systemic and proposed institutional indicators and targets. These are summarised separately in this subsection.

### GENERAL ISSUES

A number of general issues were raised at the March 2004 seminar.

#### ▶ PURPOSE OF PERFORMANCE INDICATORS

The purpose behind the introduction of sets of performance indicators in South Africa must be made clear. It is important to dispel the assumption that these are being introduced because the government thinks that it needs to control “corruption and cheating” in the higher education system. It is important to stress that performance measurements are designed to improve the quality of the higher education system. It is also important to ensure that any indicator set proposed is acceptable to the system itself to avoid suspicions about political or ideological control being exercised by government through the measurement of performance.

**▶ DROPPING THE NOTION OF BENCHMARKS**

The use of “target” instead of “benchmark” could be problematic. The term “target” is not as neutral as may have been supposed in CHET 2004a. Because institutions will still need to measure their performances relative to others, any targets set nationally will inevitably achieve the status of benchmarks. Benchmarks serve the key purpose of allowing institutions to compare their data with those of other institutions, both nationally and internationally. Another aspect of this issue is that benchmarks can be linked to institutional missions more readily than targets.

**▶ INSTITUTIONAL GROUPS IN SOUTH AFRICA**

In the South African context, the first step in the setting up of a system of performance indicators should be that of placing institutions into appropriate groups, the criteria for which would have to be negotiated and decided. Indicators and targets relevant to these groups should then be developed.

**▶ STANDARD AND DIFFERENTIAL TARGETS AND/OR BENCHMARKS**

The process of setting benchmarks and/or targets is designed to assist higher education institutions to improve their performance in key areas. Given that diversity is a transformation goal of the South African higher education system, consideration should be given to the setting of different targets (and/or benchmarks) for different groups of institution. The use of standard national targets is probably not consistent with this transformation goal.

**▶ TARGETS, TIME FRAMES AND LIMITS**

Targets should not be set in a “time-neutral” way. Specific time frames and/or time limits should be applied to each target.

**▶ QUANTITATIVE AND QUALITATIVE INDICATORS**

Quantitative indicators are too simple and hide complexities in a higher education system. These indicators tend to follow the adage “only what can be counted counts”. Qualitative indicators have to be included in a set of performance indicators, and these must deal with institutional performance in such areas as teaching, creating good citizens and improving democratic processes.

#### ▶ INPUT INDICATORS AND TARGETS

If a balanced picture is to be offered of a system or an institution, more account needs to be taken of inputs in the setting of targets and in the choice of indicators. The most appropriate inputs to consider may be those related to the provision of higher education funding by government.

#### ▶ AVAILABLE DATA AND LENGTH OF THE LIST OF PERFORMANCE INDICATORS

The list of indicators must not be shortened to such an extent that important targets are missed. But in setting up an extended list of indicators, care should be taken that only measurements for which appropriate data are available are included.

#### ▶ SYSTEMIC AND INSTITUTIONAL TARGETS

Indicators should be divided into those applicable to the system and those applicable to institutions. Care must be taken, however, to ensure that systemic targets are not just about performance and delivery at an institutional level.

#### ▶ WEIGHTING OF TARGETS

Targets, both systemic and institutional, should be given weightings to indicate policy priorities. Consideration should be given to the possibility of weighting targets differently for different groups of institutions.

#### ▶ DEGREE CREDITS AS TEACHING AND RESEARCH OUTPUTS

Degree credits, which record courses actually passed by students, should be used as measures of both teaching and research output.

#### ▶ GRADUATES AND THE LABOUR MARKET

Data relating to the employment of graduates should be included in both the goals, indicators and targets set for the higher education system, as well as for individual institutions.

### SYSTEMIC TARGETS AND INDICATORS FOR HIGHER EDUCATION IN SOUTH AFRICA

Specific comments were noted about the systemic goals, indicators and targets summarised in Table 8. These were:

► **SIZE AND SHAPE OF SYSTEM: GOALS 2 AND 3**

Account needs to be taken of contact and distance students in the formulating of targets relating to growth in postgraduate students and in SET and business/management majors.

► **STUDENT EQUITY: GOALS 4 AND 5**

The indicators proposed for these two goals are probably too broad. A better indicator for Goal 4, which deals with the participation of disadvantaged students, would be to compare first-time entering undergraduates by race with the proportions of passes by race group in the final year of schooling. The indicators for Goal 5, which deals with the participation of female students, should take account of fields (e.g. engineering) in which female students are under-represented.

► **GRADUATE AND RESEARCH OUTPUTS: GOALS 9 AND 10**

The use of the ratio between graduates and enrolments as an indicator of the output of graduates continues to be problematic. It should be made clear that this indicator will be amended when the national higher education data base permits longitudinal studies to be made of the progress of selected cohorts of students. The indicator for Goal 10 on the improvement of research outputs should be broadened to include all, and not just permanent, academic staff members.

## TARGETS AND INDICATORS FOR HIGHER EDUCATION INSTITUTIONS IN SOUTH AFRICA

A number of specific comments were noted about the institutional goals, indicators and targets summarised in Table 9.

► **EXPANDING THE NOTION OF A TARGET**

Table 9 sets out only one institutional target per goal. Consideration should be given to the dividing of the target column in Table 9 into three sub-columns: one which gives the national average for all institutions, a second which gives the specific target which has been negotiated between the institution and the Department of Education, and a third which gives the “benchmark” target which is made up of the averages of institutions which the institution itself has selected for comparison.



► **STUDENT EQUITY: GOALS 2 AND 3**

The indicators proposed for these two goals are too broad. The indicator for Goal 2, which deals with the participation of female students, should take account of fields in which female students are under-represented. The indicator for Goal 3 on the fairness of educational processes would be more meaningful if success rates were reported by the grouping of fields of study, and not just as an institutional average.

► **STUDENT EFFICIENCY: GOALS 4 TO 6**

The target for Goal 4 is too broad and hides too much. The success rate target should not be set simply as an institutional average of 80%, but should be broken down into subject or course groupings. The use of graduates divided by enrolments as graduation rate indicators should be continued only until longitudinal studies can be made of the performance of cohorts of students within each institution.

► **STAFF EQUITY: GOALS 7 AND 8**

A second indicator should be added to these two goals. To measure change in the institution, targets should be set, by race group and gender, for new appointments across a time period.

► **STAFF QUALIFICATIONS AND OUTPUTS: GOALS 9 AND 10**

The indicator linked to Goal 9 should be reconsidered. The proportion of academic staff with doctorates may not be the most appropriate way to indicate whether or not an institution has a well-qualified academic staff complement. The indicators linked to Goal 10 about staff activity in research may also need to be expanded. Further indicators of staff research output could be: (a) the ratio of full-time (rather than just permanent) academic staff per research output unit, (b) the ratios of full-time academic staff per publication unit and per research masters and doctoral graduate, (c) the ratios of publication units per FTE enrolled student, and (d) the proportion of academic staff active in research.