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# FUNDING FRAMEWORK

FOR PUBLIC HIGHER EDUCATION  
INSTITUTIONS IN NAMIBIA

10 November 2015

Per Cabinet Decision No. 19th/26.11.13/007

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## EXECUTIVE SUMMARY

Acknowledging the positive impact of education on economic development, key national development plans such as Vision 2030 show the high expectations associated with output from the education sector in general and from public higher education, i.e. at tertiary level, in particular. The main challenge Namibia faces is addressing the inadequate provision of equitable, high-quality education. In this respect, despite the increase in financial resources allocated to public higher education institutions over the years since Independence, there are no clear criteria as regards how funds are allocated, and no agreed performance indicators to account for the effective application of funds received. Consequently, in the absence of an appropriate tool for assessing not only the needs versus the mandates of public higher education institutions, but also the level of effectiveness of public funds utilisation, it is not possible to determine whether or not State financing is sufficient. By way of this Funding Framework, therefore, the Government seeks to adopt a more systematic mechanism for financing public higher education institutions and, in so doing, encourage improvement in the performance of such institutions in respect of pursuing national development goals.

Thus, the main objectives of the Funding Framework are as follows:

- To serve as an important planning tool for the entire public higher education system
- To enhance predictability, equity, efficiency and effectiveness in the funding process as regards public higher education institutions
- To subject the budget submissions by public higher education institutions to systematic assessment, and
- To monitor the utilisation of resources by public higher education institutions.

The Funding Framework has three main components:

- A Funding Formula, which is a mechanism for determining operational funds and, when necessary and effective, performance and competitive funds
- An Investment Model, which addresses the need for additional facilities, given what exists and what enrolment in relevant programmes is expected, and
- A Tuition Fees Model, which addresses the principal issues surrounding tuition fees, namely –
  - what portion of such costs should be borne by students
  - the extent to which such costs should reflect differential programme costs, the student's year of study, and his/her residential status
  - how such costs should be increased as other related costs increase, and
  - what kinds of support should be extended to students and/or their caregivers to meet such costs, or whether they should be relieved of some or all of such costs in order to ensure all students have access to public higher education, regardless of their or their caregivers' financial means.

Coping with the current impediments to equitable access to public higher education requires a multifaceted approach involving –

- a defined institutional arrangement
- the tools for data collection
- planning and budgeting, and
- a systematic process of execution in respect of fund allocations.

Besides all public higher education institutions themselves, the institutional arrangement includes the National Council for Higher Education as the Funding Framework's implementing body; the line Ministry (currently the Ministry of Higher Education, Training and Innovation); the Ministry of Finance; Cabinet; and Parliament.

In terms of data-collection tools, the Higher Education Management Information System – a web-based software program – will manage the tasks included in the Funding Formula.

Planning and budgeting will take place once a year. These will entail the drafting and ongoing revision of three-year Medium-term Plans as well as Annual Budgets in line not only with each public higher education institution's respective Strategic Plan, but also with the Government's broader medium-term plans and budgets geared at national development.

## List of abbreviations

ETSIP	Education and Training Sector Improvement Programme
HECAI	Higher Education Cost Adjustment Index
HEMIS	Higher Education Information Management System
MTPB	Medium-term Plan and Budget
NCHE	National Council for Higher Education
NDP	National Development Plan
ROU	Research Output Unit
SADC	Southern African Development Community

## INTRODUCTION

The importance of human capital investment in the economic growth process has been stressed by economists for over a century. While human development is dependent on economic growth, which provides the necessary resources for the creation of new productive jobs and the expansion of basic services, the investment in human capital – either through education, health, or nutrition – can have remarkable effects on growth.

*Human capital* refers to the ability of the individual to work. To maintain and increase this capital, it is necessary to make investments. *Investment in human capital* can, therefore, be defined as the set of spending on education, health and nutrition to increase labour productivity. Arguments justifying the investment in education hold that such investment contributes to both economic growth and the well-being of individuals and of societies.

Acknowledging the positive impact of education in general and public higher education in particular on economic development, key Namibian policies such as Vision 2030 – its long-term development plan – and its regular five-year National Development Plans (NDPs) show how much is expected of the education sector. Vision 2030, for instance, calls for rapid economic growth accompanied by equitable social development to be pursued within a broader strategic framework of transforming Namibia's economy into a knowledge-based one. In this connection, an effective higher education and training system is regarded as being fundamental to generating the skills and knowledge critical for the country's prosperity and competitiveness in the international arena.

Namibia is faced with the challenge of addressing the inadequate provision of equitable high-quality education. Despite the increase in financial resources allocated to public higher education institutions, there have been no clear criteria on how funds are allocated, and no agreed indicators to account for the performance of the funds received. In addition, although the legislation on State-owned enterprises provides for performance agreements to be established between these enterprises and their line ministries as regards State financing, such agreements are neither comprehensive nor effectively implemented.

In the absence of clear funding criteria, therefore, the only principle applied was that of incremental budgeting. Consequently, the gap between what institutions requested and what was eventually allocated to them gradually became significant. Public higher education institutions, in particular, make the case that current financing is inadequate. Yet, in the absence of an appropriate tool for assessing not only the needs versus the mandates of these institutions, but also the level of efficiency of public funds utilisation, it is impossible to determine whether or not State financing is sufficient. This situation may lead to a decline in the quality of education (through limited provision of key inputs) or over-expenditure on an allocated budgetary ceiling. Therefore, corrective efforts should focus on changing the patterns of, and reforming the mechanisms for, allocating available resources and applying them effectively. To this end, the Government of the Republic of Namibia has adopted a more systematic mechanism for financing public higher education institutions in the form of a Funding Framework.

## 2. POLICY CONTEXT

Vision 2030 provides the long-term development framework considered fundamental for transforming Namibia's political and economic landscape in areas such as land reform, housing, environment, health, education and the building of an economy that offers equal opportunities for all. It sets out the key developmental challenges for the Government, such as human resources development, job creation, provision of infrastructure, changes in the ownership patterns in the economy, and the reduction of income inequality and poverty. Vision 2030 also foresees that the nation's education and training system, consisting of both public and private initiatives, would have been strengthened to such an extent that, by 2030, it will respond adequately to the –

... challenges of a modern technologically developed and industrial society by producing all the required managerial, technical and professional personnel.

Being Government's long-term planning framework, Vision 2030 guides all planning mechanisms, which consist of the five-yearly NDPs, Medium-term Reviews and the National Budget. NDPs serve as the main vehicles for translating the Vision's objectives into actions, and for providing mechanisms to measure progress towards realising that Vision by 2030.

At the time of writing, Namibia's Fourth National Development Plan (NDP4, 2012/13 to 2016/17) applied. The planned outcome as regards education and skills in the NDP4 is to produce –

... a high-quality and internationally recognised education system that capacitates the population to meet current and future market demands for skills and innovation.

The National Council for Higher Education (NCHE) was established by the Higher Education Act, 2003 (No. 26 of 2003), to address the need for an oversight body which could promote the creation of a coordinated higher education system, enhance students' access to higher education institutions, and ensure quality in higher education. The NCHE further advises the line Minister (currently the Minister of Higher Education, Training and Innovation) on the structure of the higher education system in general, on quality promotion and quality assurance at higher education institutions, on the allocation of public funds to such institutions, and on their governance.

The Higher Education Act, 2003 (No. 26 of 2003), defines higher education as –

... all learning programmes leading to qualifications higher than grade 12 or its equivalent, and includes tertiary education as contemplated in Article 20(4) of the Namibian Constitution, but does not include –

- (a) vocational training provided by a vocational training center [sic] registered under the National Vocational Training Act, 1994 (Act No. 18 of 1994); or

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<sup>1</sup> Republic of Namibia. 2004. *Namibia Vision 2030*. Windhoek: Republic of Namibia, p. 213.

<sup>2</sup> Republic of Namibia. 2012. *Fourth National Development Plan, 2012/13–2016/17*. Windhoek: National Planning Commission, p. 48.

- (b) open learning provided by the Namibia College of Open Learning established by the Namibian College of Open Learning Act, 1997 (Act No. 1 of 1997); ...

Accordingly, higher education institution means –

... any institution that provides higher education and which is –

- (a) established by or under any law; or
- (b) registered as a private higher education institution under this Act; ...

This Funding Framework applies only to public higher education institutions.

In 2007, the Government introduced the Education and Training Sector Improvement Programme (ETSIP). ETSIP represents –

... the education and training sector's response to the call of *Vision 2030*. *Its key purpose is to substantially enhance the sector's contribution to the attainment of strategic national development goals and to facilitate the transition to a knowledge[-]based economy.* [Italics in original]

Thus, this Funding Framework was formulated to serve as a tool by means of which to enhance performance in public higher education institutions as regards their pursuit of all the above-mentioned national development goals.

### **3. THE FUNDING FRAMEWORK FORMULATION PROCESS**

Since the introduction of ETSIP, the Government has been conducting research on the financing of public higher education institutions by way of different funding mechanisms, namely via block grants or a funding formula. In 2010, through its Decision No. 17th/23.11.10/002, Cabinet directed the line Ministry to –

- undertake a reform of public higher education funding
- develop a public higher education management information system (HEMIS)
- review the public higher education funding formula
- assess the budget submissions of public higher education institutions, and
- monitor the utilisation of resources by public higher education institutions.

Extensive public consultations were conducted in all 13 Regions of Namibia in 2012 to solicit stakeholder views on the adequacy and effectiveness of State funding for quality public higher education in the country. Such stakeholders included the staff of Regional Education Directorates, teachers, students, unions, caregivers, public higher education institutions, and the broader public.

After stakeholder feedback, a Funding Formula was devised and its applicability tested through a simulation model using the 2011 data of public higher education institutions. The model was developed further by a technical team comprising representatives from public higher education institutions, the NCHE and the line Ministry. In November 2012, after positive test results, the Funding Formula and a corresponding draft Funding Framework were endorsed by the line Ministry, the University of Namibia and the Polytechnic of Namibia.

As provided for by section 33 of the Higher Education Act, the Minister of Finance was then consulted on the development of the Funding Framework, after which it was submitted to Cabinet for approval. Following deliberations by the Cabinet Committee on Treasury, the Funding Framework obtained Cabinet approval in November 2013 by way of Decision No. 19th/26.11.13/007.

## OBJECTIVES OF THE FUNDING FRAMEWORK

The main objectives of the Funding Framework are as follows:

- To serve as an important planning tool for the entire public higher education system
- To enhance predictability, equity, efficiency and effectiveness in the funding process as regards public higher education institutions
- To subject the budget submissions by public higher education institutions to systematic assessment, and
- To monitor the utilisation of resources by public higher education institutions.

As a planning tool, the Funding Framework encourages public higher education institutions to enhance their performance in respect of attaining national development goals.

As regards predictability, public higher education institutions will be made aware of the factors driving the adopted formula for funding them. They will also know, within certain parameters, the magnitude of resources to be allocated to them over a defined period.

In respect of equity, all public higher education institutions will be treated in the same way and in a transparent manner.

In order to ensure the funding of public higher education institutions is efficient and effective, the Funding Framework encourages them to enhance their performance in achieving national development goals.

The Funding Framework also includes the methodology, the tools, the process and the institutional arrangements that allow the public authorities in charge of public higher education institutions to make provision for such institutions within the National Budget.

Finally, the Framework ensures that the utilisation of funding and other resources by each public higher education institution is monitored annually through the assessment of its Medium-term Plan and Budget (MTPB).

## 5. OVERVIEW OF THE FUNDING OF PUBLIC HIGHER EDUCATION INSTITUTIONS

Funding for public higher education institutions is derived from three principal sources, namely –

- public resources
- contributions from the beneficiaries of training (i.e. students and their caregivers), and
- such institutions' own resources.

### 5.1 Public resources

Broadly speaking, there are four types of State resources offered to public higher education institutions. The first type is a State subsidy to cover operational costs. Such subsidies are generally based on the number of students registered at a public higher education institution, the number of hours of instruction offered, etc.

States may also subsidise public higher education institutions to cover investments, i.e. their development or capital costs. Thus, the second type of support is generally linked to the development perspectives of the institution concerned, e.g. for extending the stable of qualifications offered, or extending its training capacity. Development/capital costs include establishing infrastructure and procuring equipment.

The third type of support comprises State subsidies for performance. These are generally output-based, i.e. they are determined either by output indicators such as the number of graduates from an institution or its research outputs, or by national developmental targets such as equity on the intake side (this can be classified as a kind of Affirmative Action) or the responsiveness of the training to labour market needs.

State subsidies for competitive funding comprise the fourth type of support, namely funds for which institutions or faculties compete on the basis of submitting peer-reviewed project proposals. Also referred to as *innovation funding*, such State support is typically offered to supplement a public higher education institution's primary budget. In other words, competitive funding subsidies are not input- or output-based: instead, funding is awarded to public higher education institution groups that present innovative proposals in line with pre-established criteria determined by the Government.

Generally speaking, public funds may be either a permanent or an optional component of a public higher education institution's resources. *Optional* funds are those that can be activated as and when deemed necessary by the Government. They comprise a category of funds added to an estimated State subsidy for operations aimed at motivating public higher education institutions to achieve national development goals.

As regards the above four types of support from public resources, subsidies for operations and investments can be seen as permanent components of an institution's resource base, while performance and competitive funding would be optional.

## **5.2 Contributions from the beneficiaries of training**

Tuition fees are one of the most important resources for public higher education institutions in Namibia, constituting around 25% of their income. Because tuition fees have an impact on access to education, on the equity of such access, and on the burden for public finance, in most countries the level of tuition fees is regulated by public authorities in charge of the education sector.

Contributions from the beneficiaries of training may partly be covered by loans and grants awarded to individuals by private or public higher education institutions. In Namibia, for example, the State offers support to academic candidates by way of the Namibia Student Financial Assistance Fund. Since most potential students would not be able to attend public higher education programmes without financial support, such loans and grants are generally considered as indirect funding to public higher education institutions.

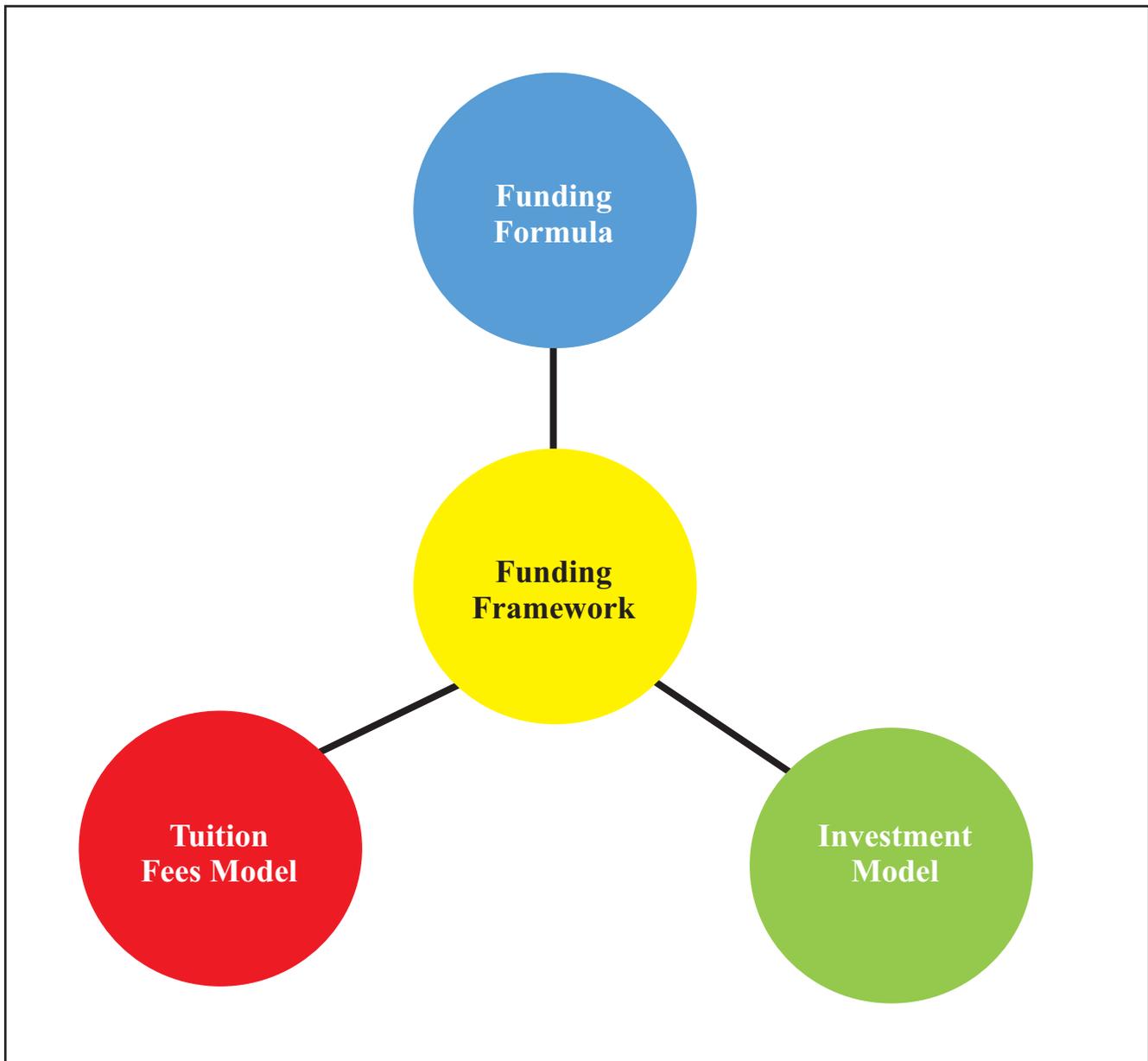
## **5.3 Own resources**

*Own resources* are those which a public higher education institution has apart from State support and beneficiaries' contributions. Own resources fall into two basic categories. The first can be generated by the institution through its faculty and installations as consulting activities, applied research, training contracts with industry, and so forth, while the second category contains resources received by way of donations or international cooperation.

## 6. COMPONENTS OF THE FUNDING FRAMEWORK

The Funding Framework concerns the direct State funding of public higher education institutions. There are three main components to the Framework:

- The Funding Formula
- The Investment Model, and
- The Tuition Fees Model.



*Figure 1: Structure of the Funding Framework*

## 6.1 The Funding Formula

A *Funding Formula* is a mechanism used to determine operational funds and, when deemed necessary and effective, performance and competitive funds. Thus, Funding Formulas are not used to determine capital/investment funds.

### 6.1.1 Calculating operational funds

A Funding Formula uses a driver, or reference, to estimate and calculate operational funds. Most Funding Formulas use the student as a driver, meaning that the costs of providing tuition are directly related to the number of students enrolled in a public higher education institution.

In Namibia, the driver used is the volume of courses taught by the public higher education institution. Thus, the workload for each student is measured by the number of subjects – and the number of associated credit units – for which the student is registered. Hence, Namibia's basic unit for calculating operational funds, i.e. funds for courses taught, is the *credit unit*.

Using the credit unit as a driver means that each public higher education institution is awarded a specific amount of funding for each credit unit. Thus, the cost needs to be estimated for each credit unit. However, the academic burden is different for each subject, depending on –

- the *field of learning*, i.e. the field of knowledge concerned, and
- the *type of offering*, i.e. the student–lecturer engagement by way of face-to-face/contact tuition, distance teaching and learning, or research and supervision.

For this reason, the basic cost per credit unit is different, and this basic cost should be weighted differently according to the field of learning and the type of offering involved.

#### (a) *Weighting by field of learning*

Table 1 below presents the weightings for the 12 fields of learning specified in the National Qualifications Framework for Namibia. A specific methodology has been used to estimate these weightings. Table 1 shows, for example, that the field of learning categorised as *Business, Commerce and Management Studies* has the lowest unit cost per credit unit and is assigned the basic weighting of 1. The field of learning entitled *Manufacturing, Engineering and Technology* has a weighting of 2. This means that, for a given type of offering, one credit unit has a cost of 100% higher in this field compared with a credit unit in the reference field, i.e. *Business, Commerce and Management Studies*. These weightings are to be updated yearly by the Funding Framework and HEMIS Committee at the NCHE, according to any relevant consideration.

**Table 1: Weighting by field of learning**

FIELD OF LEARNING	WEIGHTING
1. Agriculture and Nature Conservation	2
2. Business, Commerce and Management Studies	1
3. Communication Studies and Language	1
4. Culture and the Arts	1
5. Education, Training and Development	1
6. Manufacturing, Engineering and Technology	2
7. Human and Social Studies	1
8. Law, Military Science and Security	1
9. Health Sciences and Social Services	1.5
10. Physical, Mathematical and Computer Sciences	2
11. Physical Planning and Construction	2
12. Services and Life Sciences	1.5

*(b) Weighting by type of offering*

The academic burden of a particular field of learning also differs according to its type of offering, i.e. the type of engagement with students that is required from the institution, namely whether by face-to-face contact (*Contact*), distance teaching and learning (*Distance*), or research and supervision (*Research*). All of these types of offering carry different cost implications.

Both undergraduate and postgraduate courses fall into one of these three types of offering. Thus, each credit unit will be weighted according to the costs associated with its type of offering. However, it should be borne in mind that only some postgraduate courses are categorised as a type of offering that entails the undertaking of research, since certain non-research-based courses at postgraduate level fall in the *Contact* category.

It is assumed that the workload for part-time programmes is the same as that for full-time programmes. If part-time students are registered for a given number of courses only, this will be taken into account because the formula is based only on the courses for which a student is registered. For distance students, it is proposed that distance tuition receives at least a weighting equal to 0.7. However, granting lower levels of funding for distance tuition at this stage of public higher education development in Namibia may be counterproductive. Thus, this approach can be revised at any moment by the NCHE, if deemed necessary, based on a specific cost analysis.

Table 2 shows that the *Contact* type of offering, whether undertaken full-time or part-time, is assigned the reference weighting of 1, while the weighting of the *Distance* type of offering is weighted as 0.7. Thus, for a given field of learning, the cost of a credit unit for the *Distance* type of offering is 30% lower than its *Contact* offering counterpart.

The *Research* type of offering is also weighted, since hosting students preparing for their Honours, Master's or PhD degrees has cost implications for the public higher education institution concerned. Thus, the weighting for a credit unit in the *Research: Honours and Master's* category is 1.5, while for *Research: PhD* it is 2. In other words, the cost of a credit unit is 100% higher for doctoral research than it is for a reference unit in the *Contact* offering type.

**Table 2: Weighting by type of offering**

TYPE OF OFFERING		WEIGHTING
1	Contact	1.0
2	Distance	0.7
3	<b>Research: Honours and Master's</b>	1.5
4	Research: PhD	2.0

(c) *Additional funding: Economy of scale*

The Funding Formula also needs to take economy of scale into account. *Economy of scale* can be defined as a reduction in cost per unit resulting from increased production, realised through operational efficiencies. The existence of such economy in the current context means the cost per student (or per course) is higher in a public higher education institution or a remote campus of relatively smaller size. In order to compensate for this, additional funding is provided for remote campuses with fewer than 1,000 students.

Thus, economy-of-scale costs are added to calculated operational costs on account of the following:

- A minimum number of personnel and infrastructural provision is needed before any student is able to enrol at a public higher education institution. Additional funding towards these economy-of-scale costs covers such unavoidable but necessary fixed expenses.
- The cost of offering public higher education to students is usually much lower at a large campus, but also at a small campus that is close to a large one because they can share teachers (e.g. a small campus located in the capital city). The case is different for more remote campuses or for smaller institutions, however. Thus, in order to offer some diversity in academic programmes with a well-balanced choice of academic subjects in each programme

year, smaller institutions are usually forced to form many small class groups. These low student-to-lecturer ratios lead to high unit costs. For students at remote campuses, for instance, the cost of a comparative credit unit increases by 40%. Additional funding per student helps to alleviate this problem.

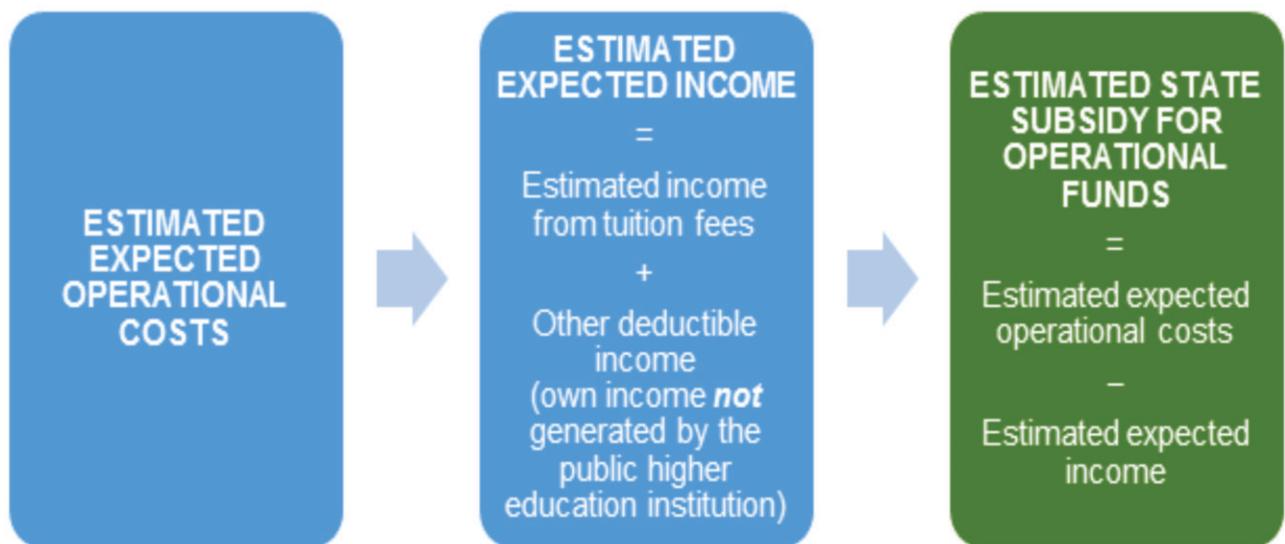
The ratio of students to staff is one of the main sources of economy of scale in this context. By comparing this ratio on large campuses with its counterpart on remote campuses that have fewer than 1,000 students, one can calculate the percentage of additional cost per credit unit on remote campuses, i.e. 40%, as indicated above. Any other justifiable method may be used to estimate this percentage from time to time.

*(d) Calculating the State subsidy for operational funds*

A State subsidy is intended to complement a public higher education institution's own resources. Such subsidies are determined by calculating the difference between an institution's own resources and its operational costs.

However, in order not to discourage public higher education institutions from developing their own resources (apart from tuition fees), the State subsidy calculation ignores all other own income to be deducted from the estimated operational costs, provided such income is indeed generated by the institution, e.g. derived from consulting services provided to Industry.

Figure 2 and Table 3 illustrate the process of calculating the State subsidy.



**Figure 2: Computing of a State subsidy proposal for operational funds**

**Table 3: Sample revenue proposal for Year “T”**

<b>FUNDS CATEGORY</b>	<b>AMOUNT* (N\$)</b>
<b>Operational funds (including economy-of-scale component)</b>	307,000
<b>Expected income</b>	
<b>- Tuition fees</b>	(120,000)
<b>- Other deductible income</b>	(0)
<b>State subsidy for operations</b>	187,000
<b>Additional optional performance funds</b>	x% of the State subsidy
<b>Augmented State subsidy for operations</b>	187,000 + x% of 187,000

\* Negative values are given in brackets.

### **6.1.2 Calculating performance funds**

In order to motivate public higher education institutions to achieve national development goals, a set of five optional funds can be considered in addition to the estimated State subsidy. As elaborated below, these are additional funds provided on the grounds of equity, adequacy, internal efficiency, external efficiency, and research outcomes.

#### *(a) Additional funding – Equity*

The equity of a public higher education institution is enhanced if it factors in students from a specified target group. Such target groups are defined by the Government and linked to its priorities, which change over time. Target groups currently entail students from historically disadvantaged backgrounds, students from minority groups, and female students. An institution that improves its equity by increasing the percentage of new students belonging to these target groups will qualify for additional funding.

Only students who are Namibian citizens are included in the calculation of additional funding on the grounds of equity. Such additional allocations, which are linked to improved enrolment from the target group, constitute a maximum of 3% of the estimated State subsidy.

#### *(b) Additional funding – Adequacy*

*Adequacy* in this context means the satisfactoriness of training provided by the public higher education institution in keeping with the Government's objectives. Here, the target group is defined as being students registered in certain priority fields determined by Government. An institution that improves its adequacy by increasing the percentage of new students belonging to

the target group, i.e. enrolled in priority fields, will qualify for additional funding. Such additional allocations, which are linked to improved enrolment from the target group, constitute a maximum of 3% of the estimated State subsidy.

(c) *Additional funding – Internal efficiency*

Additional funding allocations on the grounds of internal efficiency attempts to conciliate two goals. The first is to encourage institutions not only to improve pass rates, but also to reduce repetition and dropout rates, which entail extra costs for the community. The second goal is to achieve these improvements without compromising on the quality of education. In this respect, the level of retention of first-time first-year students, irrespective of the programme for which they enrol, is of paramount importance: it clearly indicates an institution's intention to provide a cooperative academic environment aimed at enhancing students' success.

Calculating potential additional funding for performance on the grounds of internal efficiency is not based on the value of the retention rate per se at each single public higher education institution, but on improving the rate. Thus, rather than penalising institutions with low retention rates, the process rewards efforts aimed at improving such rates.

The internal efficiency adjustment factor, based on the improvement of the retention rate, is defined as follows:

The headcount number of students from the previous academic year (Year T-1) cohort of first-time first-year students returning to the institution in a given year (Year T) *divided by* the headcount number of students from the Year T-1 cohort of first-time first-year students.

Additional funding allocated to a public higher education institution on the grounds of internal efficiency is linked to the improvement of its retention rate, and constitutes a maximum of 3% of the estimated State subsidy.

(d) *Additional funding – External efficiency*

A public higher education institution may also become eligible for additional funding on the grounds of its performance in respect of its external efficiency, i.e. its ability to improve the employability of its graduates. Clearly, such institutions are not entirely responsible for their graduates' employability in the context of high unemployment rates, which may be a consequence of many external factors, including the economic situation and the social environment.

In partnership between the NCHE and the Namibia Statistics Agency, public higher education institutions should set up a reliable system for tracing their graduates' eventual employment and, in this way, determine their employability.

Optional additional funding for each individual public higher education institution on the grounds of external efficiency, using an external efficiency adjustment factor, is based not on its graduates' employment rate, but on the improvement in this rate. Notably, as with the *Internal efficiency* category, institutions with low retention rates are not penalised for low rates of employability: rather they are rewarded for efforts aimed at improving such rates.

Thus, additional funding allocated to a public higher education institution on the grounds of external efficiency is linked to an improvement in the rate of its graduates' employability, and constitutes a maximum of 3% of the estimated State subsidy.

(e) *Additional funding – Research outcomes*

Additional funding based on research outcomes aims to encourage public higher education institutions to develop scientific production by rewarding recognised research output. Research outcomes are determined by way of the research output units (ROUs) at each public higher education institution. The various types of ROUs that exist include the following:

- Approved research publications
- Doctorates awarded
- Patents registered, and
- Contracts for applied research.

A public higher education institution's performance in respect of research outcomes is measured by the number of ROUs in the year of reference, regardless of the source of funding.

If advanced research is being encouraged at Master's level already, then research for Master's degrees needs to be included in the calculation of ROUs. Among the ROUs that could be considered are –

- articles in accredited research journals
- scholarly books, e.g. monographs and research overviews (but not student textbooks)
- selections among research contributions for conference proceedings
- technical reports, and
- descriptions of registered patents involving quality research.

The flagship of research output is a published article in an accredited research journal. Since the standards and status of research journals vary, it is important to have a clear policy as to which journals are accredited as vehicles for research publications to be counted as part of a public higher education institution's ROUs. In respect of journals, the most important criterion for accreditation is its editorial policy in respect of selecting articles. In the South African context, for example, the policy reference for measuring the research output of public higher education institutions accredits journals listed in the following:

- International Bibliography of the Social Sciences

- Institute for Scientific Information lists
- Science Citation Index
- Social Science Citation Index, and
- Arts and Humanities Citation Index.

The NCHE therefore needs to implement a similar mechanism for approving research publications.

### **6.1.3 Calculating competitive/innovation funds**

As mentioned previously, competitive – or innovation – funds are optional funds granted by the State in addition to the basic subsidy. Unlike with other categories of optional additional funding, institutions or faculties compete for this type of funding by way of submitting peer-reviewed project proposals in line with predetermined criteria. Thus, competitive/innovative funds are not allocated according to historical measurements.

Competitive/innovation funds constitute a pool of discretionary funds earmarked for specific uses. Such funds are designed to support the development of a wide variety of innovations in all aspects of public higher education. Thus, such funds can be accessed by groups within the public higher education institution to carry out new initiatives and innovative approaches to existing problems in teaching, learning, research and management.

In public higher education, competitive/innovation funds have been used to improve the quality of teaching, research and community service activities, as well as to strengthen linkages among public higher education institutions and regional and national development efforts. This type of additional funding has also been used to enhance management capacities, stimulate research, encourage cross-disciplinary or inter-institutional collaboration, and focus institutional attention on important new or emerging policy issues.

The definition of *competitive/innovation funds* is purposely broad in order to encompass the ways that such funds have been used as policy tools in different countries with varying public higher education systems to achieve three important functions:

- To improve the quality of academic staff and management
- To provide greater academic relevance, and
- To increase institutional cost-effectiveness.

Applicants' proposals are reviewed and rated either by the funding authority's staff or by an independent awards committee made up of experts in the areas for which funds have been allocated. Teams whose projects are approved can then implement their proposals and evaluate the results.

The main reference points for the design of competitive/innovation funds are national policy

objectives and/or institutional strategic plans. These objectives and plans provide the content for setting goals, defining decision criteria, and establishing performance indicators for assessing cumulative project impact. The involvement of diverse end-users or stakeholders in project design is one way to ensure that these strategic frameworks receive adequate attention.

As a way of directing funding allocations towards national policy objectives, the funds are usually subdivided into awards earmarked for certain purposes. These are called *funding windows*. Most commonly, such windows target qualitative improvements in undergraduate programmes, graduate programmes and management. In general, fewer windows are preferable to more: not only do fewer windows simplify the management of the funds in general, they also reduce the risk that funds allocated to more narrow windows may remain unspent due to a lack of demand. Nonetheless, if new priorities emerge during the lifespan of a particular competitive/innovation fund award, its windows can be redefined in response to these shifting needs. For example, if the strengthening of graduate programmes has reached an acceptable level, then this window could be redirected to support research capacity-building within such upgraded programmes.

## 6.2 The Investment Model

As mentioned previously, the second component of the Funding Framework in respect of allocating direct State funding for public higher education institutions is the Investment Model. The input of the Investment Model for the projected investment – i.e. the new facility or the extension of an existing facility – is the *educational programme*. An educational programme is presented in tabular form to outline the expected enrolment in each type of offering, each field of learning, and each type of qualification per campus. Since a prospective educational programme will trigger facility requirements, a second input for the Investment Model is to specify the types of facility that already exist. The need for a new facility on a particular campus, for example, is determined by the difference between what exists and what is still required.

The Investment Model is used to determine investment needs, subject to the assigned square metres per student. Figure 3 shows the inputs to the Model as well as its output, namely details of the State's investment in a public higher education institution in respect of physical infrastructure and financing.

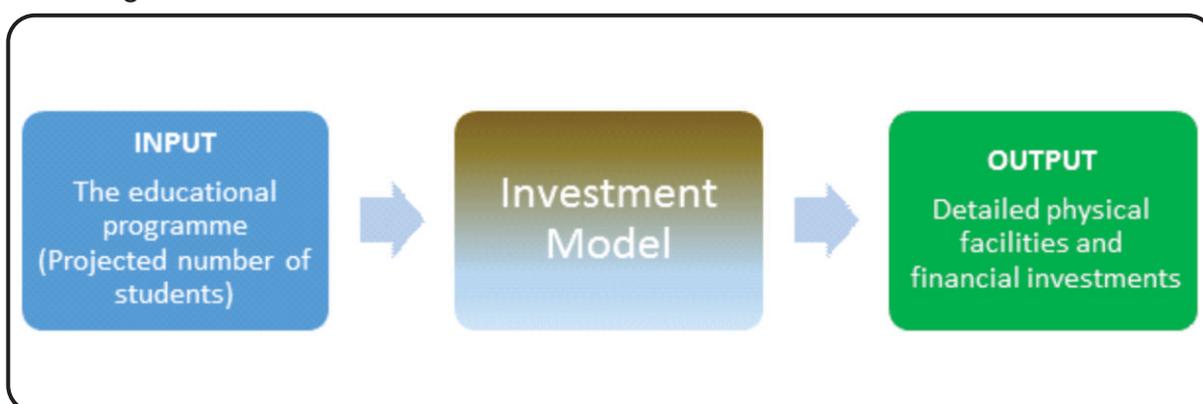


Figure 3: The Investment Model

The total cost of an investment is calculated using the following parameters:

- The average bare-building cost per square metre, and
- The total cost coefficient.

Cost coefficients are established according to international standards, and can be modified within the HEMIS. Such coefficients translate the difference in costs between different types of facilities.

Table 4 presents an example of the total assigned square metres, the cost coefficient, and the resultant total cost by category of space use, which is the main output of the Investment Model, assuming an average bare-building cost of N\$6,000 per square metre.

Table 4: Total assigned square metres and total cost by category of space use\*

<b>CATEGORY OF SPACE USE</b>	<b>TOTAL ASSIGNED SQUARE METRES</b>	<b>COST COEFFICIENT</b>	<b>TOTAL COST (N\$)</b>
<b>Classroom facilities</b>	6,036	1.50	54,323,290
<b>Classroom/open laboratory facilities</b>	7,466	1.63	73,160,886
<b>Research/non-classroom laboratory facilities</b>	2,923	1.70	29,810,010
<b>Office facilities</b>	7,896	1.20	56,849,278
<b>Study facilities</b>	6,239	1.10	41,177,070
<b>Special use, general use and supporting facilities</b>	17,149	0.94	97,084,479
<b>Healthcare facilities</b>	57	1.50	511,344
<b>Residential facilities</b>	18,642	1.20	134,220,240
<b>TOTAL</b>	<b>66,407</b>	<b>=</b>	<b>487,136,596</b>

\* Fictive example

For example, the total cost for classroom facilities is calculated as follows:

$$6,036 \text{ m}^2 * \text{N\$}6,000 \text{ per m}^2 * 1.5 = \text{N\$}54,323,290$$

Notably, the Investment Model can also be used to check for the adequacy of the existing facilities in respect of the existing number of students.

### 6.3 The Tuition Fees Model

As stated earlier, tuition fees are one of the most important resources for public higher education institutions, and generally constitute 25% of such resources. The Tuition Fees Model refers to the way

public higher education institutions determine the level of these tuition fees and their periodic adjustment. Because of the way tuition fees impact on access to education, equity, and the equilibrium of public finances, in most countries, public authorities in charge of the education sector regulate the process of adjusting tuition fees.

The Tuition Fees Model addresses the following principal issues surrounding tuition fees, as set out in more detail below:

- What appropriate share of the education cost should be borne by students and their families?
- To what degree should tuition fees reflect differential underlying programme costs, (e.g. those for Medicine, Engineering, Business or the Humanities), the student's year of study, and his/her residential status?
- What is the appropriate way to increase tuition fees as underlying costs increase?, and
- What kind of support can be offered to enable students and/or their caregivers to meet the cost of tuition fees, or to be relieved of some or all of such costs through means-tested, or need-based, loans and grants in an effort to maintain access to public higher education for all students willing and able to benefit from such studies, regardless of the student's/caregiver's financial means?

### 6.3.1 Determining tuition fees and their affordability

The general level of tuition fees is essentially determined by the general level of costs involved in delivering such tuition by public higher education institutions. Tuition fees may adjusted according to the following criteria:

- Affordability
- Return on education
- Residential status of the student (citizenship), and
- Nature of the public higher education institution.

#### (a) Affordability

Affordability relates to the average level of tuition fees compared with the public higher education institution's average level of income. In order to maintain current levels of affordability and encourage access to public higher education, the average tuition fee per student should not exceed 25% of the average per capita income measured by the gross domestic product (GDP) per capita. The 25% ceiling can be revised downward if budgetary constraints are relaxed.

#### (b) Return on education

The expected return on public higher education affects the level of tuition fees. If the private rate of return on public higher education is high, and/or graduates' unemployment rate is low, the percentage of fees based on the GDP per capita can be maintained at a high level, otherwise this percentage should be reduced. These two important parameters, i.e. the private rate of return and the

unemployment rate, need to be assessed by way of specific surveys in order to make informed decisions.

(c) Students' residential status

In line with the Southern African Development Community (SADC) Protocol on Education and Training, students from SADC member countries are charged the same level of fees as Namibian students.

Students from outside SADC should be charged higher tuition fees, unless mutual agreements between the countries concerned can be concluded to allow relatively equal bidirectional flows of students. The fees per credit unit should be equal to 80% of the cost per credit unit, or any other appropriate percentage of the cost per credit unit, as determined by the NCHE from time to time.

### 6.3.2 Differentiation in tuition fees

The following criteria are to be taken in account in determining the level of tuition fees for a specific programme:

- The field of learning: The level of tuition fees per field of learning is determined by the weighting attached to that field. This weighting takes two things into account:
  - o Differences in the cost of a credit unit, and
  - o Differences in the return on education.

However, it is not advisable to use the Funding Framework weightings in calculating the tuition fee per credit unit, because this will translate into huge differences in the tuition fees payable by students at different higher education institutions and in different faculties, which would not be socially or politically advisable. On the other hand, linking tuition fees to the cost per credit unit may not be advisable either: many priority fields of learning are more costly, which may discourage students from seeking qualifications in such fields. Moderate weightings can therefore be used, if necessary.

- Duration of programme: The National Qualifications Framework types of qualification, such as certificates and diplomas, being of shorter duration, are less expensive and should, therefore, be encouraged. The differences among the weightings of these various types of qualification should also be moderate.
- The year of study: Tuition fees in a student's first year should be lower than in subsequent years in order to encourage prospective students. Once again, the differences among the weightings of various years of study should be moderate.
- The type of offering: Although the workload for part-time students is spread over a longer period, it is the same as that for full-time students. Thus, tuition fees per credit unit are identical for Contact types of offerings, irrespective of whether the studies are part-time or full-time. However, tuition

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4. The private rate of return is an economic concept that means the return for the beneficiary (the student). This can be contrasted with the social rate of return, which refers to the benefits of education for society as a whole.

fees per credit unit should be lower for the Distance type of offering. Also, because of the different weightings per field of learning and type of offering, one can expect tuition fees at public higher education institutions to be lower for undergraduate studies. For lower-cost institutions (e.g. two-year and four-year comprehensive or technical colleges), for programmes leading to a first degree, and especially for the first year or first two years of study, a lower tuition fee per credit unit could be introduced.

- Expected return on higher education: The differentiation of fees between the various fields of learning is also affected by the return rate on higher education for each field. Higher fees per credit unit could be charged for fields of learning (i.e. programmes) with higher returns.

As for the Funding Formula, the workload per student will be measured by the number of subjects for which the student is registered, and the number of credit units attached to those subjects. As mentioned previously, the unit of any cost-related calculation is the credit unit. The general level of fees in public higher education institutions is determined by the fees per credit unit. The University of Namibia and Polytechnic of Namibia's databases have been used to estimate the general level of tuition fees (per credit unit).

### 6.3.3 Adjustment of tuition fees

A specific cost index, namely the Higher Education Cost Adjustment Index (HECAI), will be used to adjust tuition fees as costs increase. The HECAI depends on two main factors, both of which are separate price indices:

- The first main factor, which measures changes in labour costs, is the Employment Cost Index, and
- The second main factor, which measures changes in the prices of goods and services purchased by public higher education institutions, is the Goods and Services Cost Index.

The HECAI assumes that faculty and staff salaries are the major drivers of public higher education institutions' expenditures, and that such expenses need to be accounted for in any proper analysis of the rise in the real institutional costs over time. The HECAI weights the Employment Cost Index at 75% of the index and the Consumer Price Index at 25% of the index, based on the logic that public higher education institutions spend about 75% of their budgets on labour.

### 6.3.4 Tuition fees and financial assistance schemes

Any decision about the level of tuition fees needs to take into account the level and coverage of any existing financial assistance scheme for students. Firstly, financial assistance to students, whether in the form of loans or grants, constitutes indirect funding for public higher education institutions. Without loans and grants, most potential students would not be able to attend public higher education programmes. Secondly, international experience as well as economic theory shows that a good

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5. The University of Namibia has been using the credit unit as the basis for calculating its tuition fees since the credit unit system was introduced in 2008.

Tuition Fees Model needs to be supported by an adequate and well-designed student financial assistance scheme: since most students cannot afford to pay for public higher education, their contribution to the cost of their degree should be complemented by such a scheme.

## 7. STRUCTURAL ARRANGEMENTS FOR COORDINATING THE FUNDING FRAMEWORK

Coping with the current impediments to equitable access to public higher education requires a multi-faceted approach involving a defined institutional arrangement, the tools for data collection, planning and budgeting, and a systematic budgeting process.

### 7.1 Institutional arrangement

#### 7.1.1 NCHE

As stated earlier, the NCHE was established by the Higher Education Act to address the need for an oversight body –

- (a) to promote –
  - (i) the establishment of a co-ordinated higher education system;
  - (ii) the access of students to higher education institutions; and
  - (iii) quality assurance in higher education; and
- (b) to advise on the allocation of moneys to public higher education institutions.

Furthermore, the NCHE advises the line Minister on –

- (i) the structure of the higher education system in general;
- (ii) quality promotion and quality assurance in higher education;
- (iii) the allocation of public moneys to higher education institutions;
- (iv) the governance of higher education institutions; [and]
- (v) any other aspect related to higher education; ... .

#### 7.1.2 The Funding Framework and HEMIS Committee

Section 14 of the Act provides for the NCHE to establish committees to advise it on matters that relate to its functions, or to assist it in performing certain functions it has assigned to any such committee.

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<sup>6</sup> Section 5 of the Act.

<sup>7</sup> Section 6 of the Act.

Accordingly, the NCHE set up a Funding Framework and HEMIS Committee to –

- review and make recommendations on the annual updating of the parameters of the Funding Formula
- review and discuss with public higher education institutions their Annual Development Plans and tuition fee adjustments
- make recommendations to the NCHE in respect of public higher education institutions' budget proposals for submission to the line Ministry
- monitor trends in public higher education indicators, and suggest appropriate interventions where necessary
- make recommendations in respect of adding new indicators to the Funding Framework on emerging issues
- maintain open communication with public higher education institutions on issues pertaining to data collection and management, and
- ensure the timely publication and dissemination of public higher education statistics.

### 7.1.3 NCHE Secretariat

The NCHE Secretariat, established under section 16 of the Act, renders secretarial and administrative services and technical assistance to the NCHE or its committees in terms of section 18 of the Act.

One of the structures within the Secretariat is the Funding Framework and HEMIS Unit. This Unit addresses secretarial, administrative and technical issues specifically for the Funding Framework and HEMIS Committee, and is responsible for –

- collecting and assessing public higher education data for completeness and reliability
- processing such data
- producing public higher education statistical reports
- analysing public higher education institutions' MTPBs, and
- preparing public higher education institutions' budget proposals for submission to the line Ministry.

### 7.1.4 Public higher education institutions

Section 20 of the Act requires a public higher education institution or any other person, at the written request of the NCHE, to furnish it with such information as the NCHE may reasonably require for purposes of the performance of its functions in terms of the Act. In accordance with this provision, all public higher education institutions are expected to submit data on their students, staff and research output to the NCHE once a year for the production of annual public higher education statistical reports.

In addition to these data, public higher education institutions are expected to submit data on their programmes, facilities and equipment to the NCHE once a year. They are also required to submit their MTPBs to facilitate the estimation of State subsidies.

#### 7.1.5 The line Ministry

The line Minister is the custodian of the budget vote under which public higher education falls. Thus, the line Minister is responsible for determining and motivating budget allocations to public higher education institutions.

#### 7.1.6 Ministry of Finance

The Minister of Finance determines the budget allocation to the line Ministry's vote, within which allocations to public higher education institutions are determined.

#### 7.1.7 Cabinet

The line Minister reports to Cabinet not only on the progress made as regards implementing the Funding Framework, but also on the impact of public funding on the public higher education system. Cabinet discusses these reports and issues directives on the Framework's further implementation, where necessary.

#### 7.1.8 Parliament

Parliament discusses public higher education institutions' annual reports – which include their MTPBs – as part of their line Ministry's Accountability Report. Parliament's decisions are then reflected in the approved National Budget.

### 7.2 Tools for data collection, planning and budgeting

#### 7.2.1 The Higher Education Management Information System

HEMIS is web-based software developed in order to manage all the tasks included in the Funding Formula. HEMIS facilitates the collection of data from public higher education institutions. A number of databases exist, as follows:

- The Subject Database
- The Student Database
- The Staff Database
- The Research Output Database
- The Faculty Database, and
- The Facility Database.

A Tuition Fees Database is under development.

Regarding its functionality, HEMIS has four components, as follows:

- The Funding Formula Component, which enables the calculation of operational funds, performance funds and the State subsidy
- The Investment Assessment Component, which computes the investment resources
- The Data Management Component, which imports and exports data from public higher education institutions, and
- The Statistics Component, which assists in producing the Namibia Public Higher Education Statistical Yearbook.

### 7.2.2 Medium-term Plans and Budgets

The MTPB is linked to each public higher education institution's Strategic Plan. An MTPB is developed once a year. MTPBs cover a three-year period, in line with the Government's Medium-term Plans. The MTPB drafting process is aimed at linking strategic planning to annual budgeting.

#### THE MAIN CONTENT OF THE MTPB

##### 1. Environmental scan and challenges

This section examines cultural issues, resource concerns and other factors that may impinge on the planning process.

##### 2. Summary of the Annual Report

The annual report gives the opportunity to provide a global evaluation of the institution. The importance of linking assessment and planning has become increasingly apparent in recent years. Professional and regional accrediting association criteria place a growing emphasis on an integrated approach to assessment and planning. Strategic planning provides a means to address key planning and change management issues with the kind of holistic approach that helps foster a culture of continuous assessment and renewal throughout the institution.

The main components of the Annual Report are the following:

- Enrolment
- Facilities and equipment
  - Facilities
  - Equipment
  - Library
- Financial resources
- Human resources
- Internal performance
  - Examination results
  - Graduates

<sup>8</sup> The various Government Offices, Ministries and Agencies prepare Medium-term Plans which feed into the Government's Medium-term Expenditure Framework (MTEF). The MTEF is a three-year rolling budget, with the budget for the first year being fairly firm, while those of subsequent years are in the form of estimates.

- Research and scientific production
- International cooperation, and
- Cooperation with industry.

### 3. Summary of the Strategic Plan

- **Mission, Vision and Values:** Reviewing the institution's guiding principles is a useful reference point for planning, especially when determining how to allocate resources and measure achievements.
- **Strategies, Goals and Objectives:** These are used to identify an institution's aspirations in tangible, achievable and measurable terms.
- **Targets:** The institution's main targets are presented in relation to the objectives under the MTEF period.

### 4. Annual development perspectives

An institution's Annual Development Plan is compiled in order to improve its performance and achieve its strategic goals. It should include the following in particular:

- Programmes to be developed
- The expected evolution of student enrolment
- The resources needed to achieve strategic goals (these resources are not only material but cover all aspects of institutional management)
- The expected operational budget, and
- An estimation of the investment needs.

The MTPB is the main input for the budget exercise. The planning and budgeting process starts with the NCHE discussing, assessing and eventually approving the MTPB for each public higher education institution. The process is guided by the objectives of national development goals and embraces the following:

- Appropriateness of the public higher education institution's priorities
- Priority in contributing to national objectives assigned to the public higher education sector, and
- The resource envelope assigned to the sector by the State.

This process ensures that the public higher education sector and its future expansion are monitored against targets agreed by the line Ministry and public higher education institutions.

With the Funding Framework applied as intended, public higher education institutions remain free to develop and offer any programmes and courses in respect of their mandate. However, only programmes and courses that are approved by the line Minister will be funded by State resources. Thus, any non-approved programmes or courses would need to be funded using the institution's own resources.

### 7.3 The budgeting process

This section presents the budgeting process, showing where it interfaces with various stakeholders.

#### 7.3.1 Submission of data and the MTPB

The budgeting process starts with the submission by public higher education institutions of the required Student and Subject Databases together with their MTPBs.

#### 7.3.2 Assessment of data and the MTPB

The NCHE Secretariat assesses the databases for completeness and reliability and processes them. The Secretariat then evaluates the MTPBs to determine whether the institution's development perspectives –

- are in line with the requirements of national development goals
- are in accordance with the institution's vision, mission and values, and
- respond appropriately to labour market demands.

The output is a report sent to each public higher education institution with comments and proposed adjustments. Once the comments and proposed amendments have been discussed by the parties concerned, the output of this stage of the process will be an agreed-upon MTPB for the public higher education institution, which will then be submitted to the Funding Framework and HEMIS Committee for consideration.

#### 7.3.3 Approval of the MTPB

The mutually agreed MTPBs are submitted to the Funding Framework and HEMIS Committee for consideration and onward transmission to the NCHE. After due evaluation, the NCHE approves the MTPBs and returns them to the NCHE Secretariat to be used as input for the public higher education institutions' budget formulations.

#### 7.3.4 Review of the global parameters of the Funding Formula

The next step is for the NCHE Secretariat to review and update the global parameters of the Funding Formula. These parameters include –

- the cost of a credit unit
- weightings for the various fields of learning and types of offering, and
- additional costs for economy of scale.

Prior to their finalisation, the updated values are discussed with representatives of all public higher education institutions. The output is an agreed proposal concerning adjustments to the global

parameters of the Funding Formula, which is submitted to the Funding Framework and HEMIS Committee for consideration.

#### 7.3.5 Preparation of budget proposals

The NCHE Secretariat uses HEMIS to prepare a budget proposal for each public higher education institution and to assess its required investments as per their MTPBs. In addition, the relevance and estimates of the investments are assessed in the light of each public higher education institution's development perspectives.

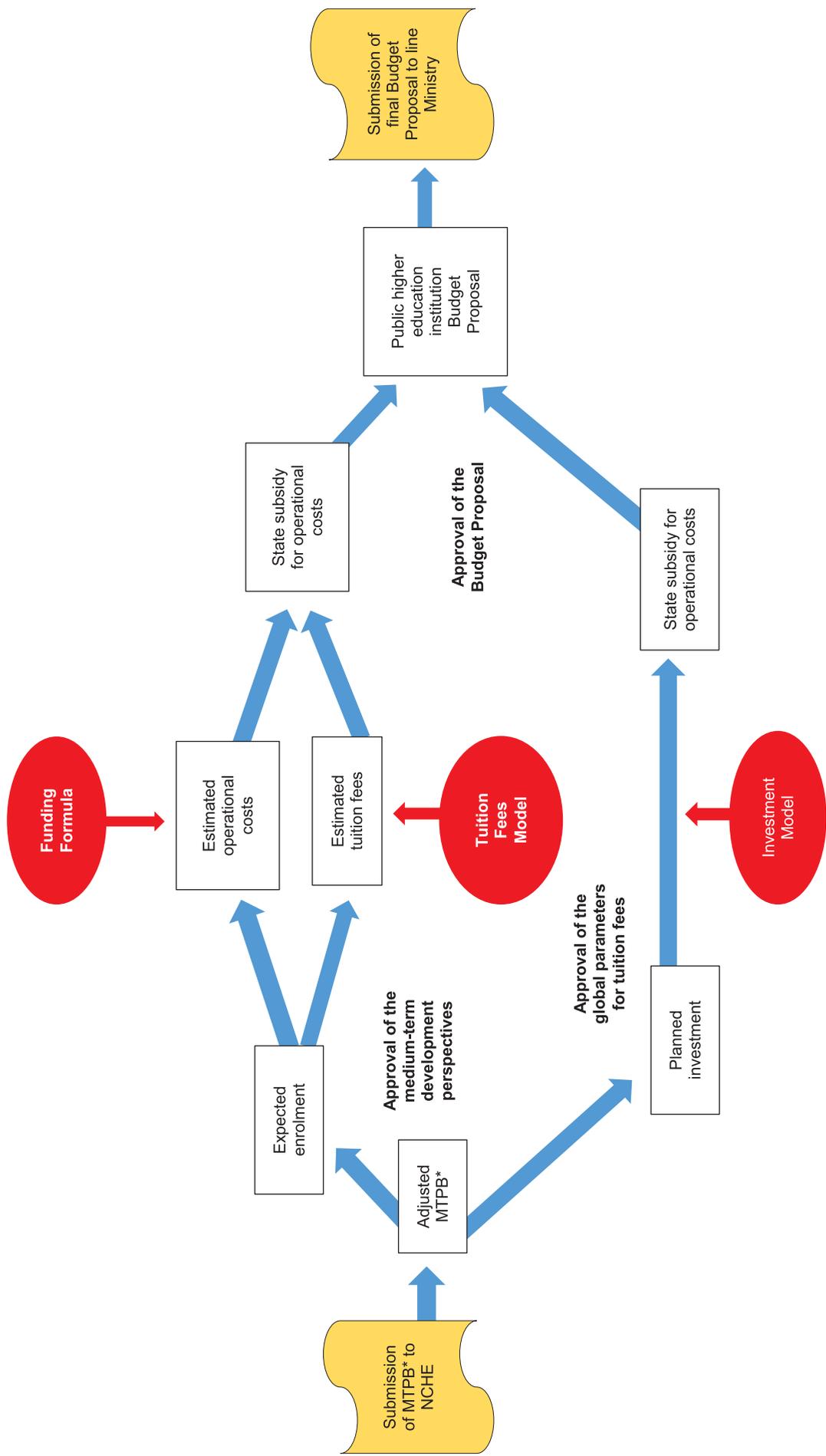
The output is an estimated budget proposal for each such institution. The budget proposals are discussed with each public higher education institution and submitted to the Funding Framework and HEMIS Committee for consideration.

#### 7.3.6 Approval of budget proposals

Once the NCHE Secretariat has considered the various public higher education institutions' budget proposals it takes them into account in drafting the overall budget proposal for such institutions.

The Secretariat submits this latter budget proposal to the NCHE for endorsement and submission to the line Minister for approval. Once satisfied, the line Minister includes the NCHE budget proposal in the line Ministry's budget, which it defends to the Ministry of Finance.

The process continues with Cabinet's endorsement of the National Budget and its final approval by Parliament. Figure 4 illustrates the budgeting process.



**Figure 4: The budgeting process**

\* Medium-term Plan and Budget