Chapter 6
Evidence-based planning and governance

‘Governing without data is like driving without a dashboard,’ said former UN secretary-general Kofi Annan in his keynote speech at the Dakar Higher Education Summit in 2015. Central to the Herana project was the acknowledgement that the systematic collection and analysis of performance data made possible by digital information systems are the basis for evidence-based strategic governance. The task of collecting and cleaning data, developing data standards and implementing systems for storing, retrieving and sharing data may be unglamorous, but it is essential.

The methods adopted by the Herana team to embed the collection and use of organisational performance data in support of their transition to research universities were both opportune and collaborative. It capitalised on each participating university’s self-articulated strategic plan to become research-led by introducing agreed-upon procedures for data collection, standards and indicators to provide an empirical foundation for assessing organisational performance and change at each university. Data were collected, organised and verified as part of a collaborative effort between the Herana team and the university representatives. Data were interpreted, presented and discussed at regular Herana seminars and at forums hosted by the participating universities.

The project’s focus on data was opportune for two reasons. First, the establishment of Herana took place at a time when Africa’s flagship universities were expressing aspirations to become research-led universities but lacked systematic processes for collecting and interpreting data, particularly in relation to research performance. Second, the Herana project coincided with an increased emphasis globally on university ranking systems from which African universities were, and still are, largely excluded.
The first section of this chapter elaborates both the challenges faced by the universities in collecting performance data as well as on their achievements. However, it became apparent that university-level data collection, analysis and planning capacity are inexorably linked to national data systems, national planning capacity and funding. The second section of this chapter reflects on these aspects.

Planning, the importance of evidence and the role of Herana

From the Herana project it has become apparent that the management of information is an indicator of the degree of organisational coherence or fragmentation. While in some cases fragmentation is the result of a shortage of trained staff or inappropriate technology, in others, a major problem appeared to be the lack of systemic procedures related to the collection, storage and retrieval of data. Because institutionalisation is the basis for evidence-based policy and management, it becomes problematic when ‘one-off’ datasets are used to influence decision-making. Limited capacity for analysing data and translating it into policy information also has various consequences. These factors often lead to a mismatch between aspiration and reality, where institutional leaders and websites declare their universities to be ‘world-class’ while in some of these universities, academics publish on average one article every five or ten years as the previous chapter has shown.

Bunting (2014) described in detail the limited institutional data capacity encountered during the 2009 data collection exercise conducted as part of Herana Phase 1. He found that some universities could not extract the required data because they lacked appropriate, functional and comprehensive electronic student and staff databases. In some cases, the classifications for the data were inaccurate; in others, the data sets were incomplete. Some institutions lacked a central management information office for storing complete data sets. The translation of the data into indicators posed another major challenge as did the absence of comparable performance data among peer institutions. By the time of the launch of Herana Phase 3 in November 2014, the capacity of the participating universities had improved markedly and, as was illustrated in Chapter 2, there are now comparable performance data for the eight flagship universities in the study. However, in order to become research-led universities, most of the participating universities need to strengthen further their planning and research management offices.

If the future development of research universities in Africa is to be more evidence-driven, then the Herana project has made a contribution to this process by developing an agreed, common, data collection and analysis framework among eight universities and by creating some
capacity in data collection at each of the participating universities. However, during the consultative forums convened by Herana, it became clear that while there has been an improvement in the data-collection capacity at all the universities, as well as an increase in the use of data, the institutionalisation of information gathering, and especially the centralisation and analysis of data, still posed considerable challenges. In this regard, improving capacity at the Herana universities has not necessarily led to institutionalising data collection and its use in evidence-based planning as optimally as Herana might have wished.

This is well illustrated in Makerere University’s ‘2017 Strategic Plan Review’ which asserts that the university continues to have fragmented and inconsistent information provision because of the lack of a one-stop information centre and that much still needs to be done about strengthening the institutionalisation of data. It goes on to say that ‘there is no rationalised research performance monitoring and evaluation either by colleges or individual academic staff. As such, the systemic status of research facilities review, prioritisation and resource-allocation remains fragmented and a preserve of the respective colleges’ (Makerere University 2017: xii).

Such self-assessment in a public document is noteworthy among universities in Africa (and elsewhere) and shows a strong awareness of, and commitment to, open, transparent evaluation. The comment is indicative of the increasing importance of data for planning and for the governance of research at all the participating institutions.

Beyond awareness is the use of data for planning and governance purposes, and a required investment in digital infrastructure and the creation of organisational structures to support the collection and use of performance data for such purposes. Two examples from Makerere University and the University of Ghana support the claim that participating universities are becoming more data oriented. In the case of Makerere University, the example illustrates the use of data while the example of the University of Ghana illustrates organisational investments and adaptations for incorporating data into their plans and performance reviews.

The ‘Makerere University 2001–2005 Strategic Plan’ was published just before the Herana project commenced. The plan states that research was one of the core activities of the university and that the university would take ‘forward the development of a critical mass of science and technology and research’. It also states that there was a need to strengthen the coordination of research activities, to enhance research skills among staff, and to put in place mechanisms for the dissemination and utilisation of research results. However, the only data in the report were a set of financial tables projecting institutional costs for the period 2001 to 2005.
In stark contrast, the university’s ‘2017 Strategic Plan Review’ published at the end of Herana 3 explicitly articulated the direction of the university as: ‘a research-driven university in which research and teaching/learning are mutually reinforcing’ (Makerere University 2017: ix). Accordingly, it prioritised the establishment of research and technology innovation incubation centres, knowledge transfer partnerships and a networking partnership. In addition, the knowledge-production goals are clearly underpinned by evidence-based planning in the 2017 document. The review contains a detailed section on Makerere University’s research achievements which are supported by data. To illustrate: ‘Increased research output in form of publications especially in journal articles which has more than doubled, policy briefs and paper presentations at national and international conferences. This has propelled the university (to rank) among the top 10 over the period under review. The university has been able to train more staff to PhD levels from 420 to 732. Staff at senior levels, namely professors, associate professors and senior lecturers, has improved not only the quality of teaching but also research and innovations and knowledge transfer and networking’ (Makerere University 2017: x).

Increasing research outputs, doctoral graduates and senior staff are three key Herana performance indicators. In an even more radical departure from the 2001–2005 plan, the 2017 review contains 16 data tables and 29 graphs providing performance data which presents an assessment of its achievements from 2008 to 2015, which dovetails with the Herana data (Makerere University 2017). Many of the data tables and graphs are the same as those prepared for the Herana project and – in the case of research outputs – go beyond the Herana data. Using the SCOPUS bibliometric index, Makerere University planners not only calculated percentage increases in publications but also disaggregated the data by type of research output (see Figure 6.1).

The data and indicators were used by Makerere University’s management to assess performance over the 2008 to 2015 period and as a basis to inform the planning and governance functions of the university. It is a radical departure from the aspiration-driven approach that had characterised the pre-2008 period at Makerere University. Responding to a question about whether the institution had produced its own indicator document with evidence-based policy proposals for strengthening knowledge production, the university noted: ‘The university annually produces two indicator documents. The annual Fact Book gives a snapshot on the indicators of the university. The self-assessment report, discussed by university management and other academic leaders in the university, makes comparison to especially some of the eight universities under Herana. The university planning and reporting process is captured by the practice of evidence-based policies. This presentation captures the key
gaps in the performance of the university. This is further strengthened by the league tables and other initiatives that require the university to demonstrate outputs and relevance’ (CHET 2017).

At the University of Ghana, the university registrar, Mercy Kuukuwa Agyaakowa, reported that the institution was committed to becoming research-intensive. In its ‘Strategic Plan 2014–2024’, research is cited as being central to the university’s transformation process (University of Ghana 2014). The plan states that the university’s priority is to create a climate that will stimulate research and community engagement. To that effect, it has:

- adopted an integrated enterprise-level software system;
- established an institutional research and planning office; and
- created a research–management structure headed by a pro-vice-chancellor with responsibility for research, innovation and development, with a director of research assisted by research development officers to identify research opportunities, create awareness of these opportunities, help with applications and conduct research administration.

In November 2013, all participating Herana universities were asked to write a short report on the use of the data with specific reference to the use of data
for managing the research performance of their university. The following are some of the important points that emerged from their reports:

- Data are used internally for monitoring and evaluating the institutional strategy.
- Research performance indicators are crucial for establishing the interface between research impact and appropriate research policy.
- Calibrating research performance by academic rank is currently a vital research management information activity.
- The Herana indicators have been a crucial source of cross-national and cross-institutional comparative data and have enabled the university to assess its performance and develop a set of new goals for the future.
- Indicator reports have been used as a platform to get feedback from both internal and external stakeholders about university core activities.
- The indicators have, in some countries, started to inform national discussions on the performance of public universities.
- The university has used the data to initiate action to engage government more actively to determine and execute relevant research aimed at economic development.
- The comparative indicator data has been important for beginning to inculcate evidence-based decision-making within the institution. (CHET 2017)

As part of the Herana project, a series of forums were held with university managers concerning the collection of data and their use in academic planning, for example, in enrolment management and the utilisation of staff resources. Significant changes in the collection and use of data were revealed among the participating universities. Feedback from participants also indicated that continued training of staff responsible for managing data and greater investment in new technology in support of their efforts are required to institutionalise the collection and analysis of information in support of evidence-based institutional strategic planning and implementation.

Notwithstanding the ongoing challenges in institutionalising data collection and use, the strategic plans adopted by the universities in the Herana network, which emphasised the importance of becoming research-led universities, were clearly shaped by the use of the Herana indicators on knowledge production concerning, for example, the ratio of undergraduate-to-postgraduate enrolments, the proportion of senior staff with doctorates, doctoral enrolments, and graduation and research outputs. In this regard,
one of the most important achievements of the Herana project has been the heightened awareness of the importance of valid data for producing evidence-based planning and policies (CHET 2017).

At most of the participating Herana universities, their respective governments require mainly undergraduate enrolment and graduation data, and, in some instances, performance in comparison to the previous reporting period. What is not required are national and international comparative performance data, and a focus on data related to a particular reform or institutional-strengthening strategy. A second, critical, achievement of the Herana project was to produce an agreed-upon, common data framework among the eight universities each located in a different African country. This framework includes standardised definitions of key terms in higher education data (e.g. full-time equivalent, weighted publications, etc.), a classification schedule of programmes and qualifications, and templates for inputting raw data (Bunting 2014).

Equally important from the perspective of the overarching interest in research universities, Herana has provided indicators specific to the assessment of research performance at universities in Africa. These indicators provide guidance to strategic initiatives such as ARUA as they negotiate membership criteria, standards, policies and indicators for the assessment of the research performance of member universities.

Government capacity, systems and data quality

A lack of capacity is often used to account for failures in African higher education, and capacity development remains a challenge at both the institutional and national levels even though the staff capacity of central administrative units in the eight Herana universities has overall been expanded (Maassen & Jungblut 2017). Visits to the offices of government departments responsible for higher education in the eight Herana countries were often disconcerting: piles of administrative folders surrounded the officials, among whom there were PhD-educated bureaucrats with some university teaching experience. By contrast, at least some of the national higher education commissions and councils seemed better resourced with more professional, business-like offices. The research group also observed that the government bureaucrats they met seldom interacted with officials in similar positions in other countries, and that they were generally absent from the capacity-building higher-education conference circuit.

In terms of strengthening higher education divisions in education ministries, a debate continues about whether higher education systems should have a dedicated ministry of their own, rather than being embedded within broader education ministries, or whether higher
education should be combined with other key knowledge areas (such as science and technology) in a so-called ‘super ministry’. Although there may be no ideal model in this regard, this is a public governance issue that should be kept on the table.

The creation of quasi-independent government agencies in the field of higher education opens up space for developing and concentrating specialised capacity and expertise at the level of national governance. Higher education councils/commissions in the Herana study have developed expertise around key functions – both internally and within other institutions and the sector at large – relating to quality assurance, planning, research, policy advice and stakeholder engagement (Bailey 2015). Arguably, this brought capacity into the system that had not been available in the parent ministries or their departments. However, the most commonly cited obstacle to implementation in all eight councils/commissions was a lack of capacity. This was manifested as shortages of staff within these organisations because vacancies had not been filled and also a lack of expertise in specialised areas such as quality assurance, research and data analysis.

Capacity issues also emerged in a study on science-granting councils in sub-Saharan Africa. Mouton et al. (2015) advised that opportunities should be created for these councils to share information and learning on a regular basis, and that the capacity of their programme officers and staff should be systematically strengthened. The authors also supported the establishment of accredited training courses and workshops for continuous professional development in areas such as peer review and evaluation procedures; grant-making; management of international science and technology agreements; policy analysis and research; priority-setting for science, technology and innovation; and the basics of research and development management and bibliometrics.

Comprehensive, up-to-date data on higher education institutions and sectors is crucial to the effective implementation of a range of governance functions including decision-making in relation to the accreditation of institutions or the allocation of funds; policy advice to government; and strategic planning for institutions and the sector. Four of the eight Herana countries had a tertiary or higher education management information system in place, but only those in Mauritius and South Africa could be considered comprehensive. In South Africa, the information system was housed in the national Department of Higher Education and Training, while in Mauritius it was located in the Tertiary Education Commission. The locations of such information systems, which are decided by the government, can affect their impact.

What remains missing in the higher education information systems of many African countries is an incentive for universities to provide
performance data to a central administrator, either in the form of a government department, the national statistics agency, or a body responsible for the oversight of higher education. In South Africa this problem has been addressed: Universities do not receive their annual government funding if they have not supplied the required data to the department responsible for higher education. In addition, South African universities and academics do not receive subsidies linked to research outputs if they have not supplied the required research output data.

Also absent in most African systems is an incentive for the central data administrator in the system to report to government and/or to the higher education councils. In countries where legal provisions require the collection and distribution of university performance data, data are still predominantly compiled and submitted in paper format. For example, data are collected by means of a paper–based census of universities, converted from paper to digital format by a central agency, collated and prepared as a report to be published in a non-editable format such as PDF, printed and tabled in parliament. In rare cases, the PDF version of the report will be available from the responsible agency’s website and the raw data may be made available upon submission of a formal request. This places serious constraints on both the accessibility and reuse of data (Van Schalkwyk et al. 2013). Limited access and reuse, in turn, stifles improvements in data quality. The more eyes there are examining the data, the more likely it is that discrepancies and inaccuracies in the data will be brought to light. Exposing data problems is not only important in terms of making corrections to published data, but can play an important role in adjusting data processes and standards in order to reduce the risk of recurring data errors.

Herana experienced at first-hand the value of publishing its data openly. On several occasions, this resulted in data being challenged by administrators and university leadership. For example, disagreements would ensue over the number of doctoral graduates for a given year in the Herana data and a vice-chancellor’s recollection of how many doctoral graduates he capped at the graduation ceremony of the same year. Or the number of publications recorded in the Herana data would be challenged. In each case, the processes and standards followed by the Herana team were tested, and more accurate and authoritative data on a university’s performance could be produced and recorded.

**Data for planning and governance**

The Herana forums were hosted by most of the participating universities and attended by, amongst others, members of council, with the latter expressing an interest in the available data and suggesting improvements
in university systems to afford them greater access to the university’s performance data. Nonetheless, the forums also confirmed a breakdown in the flow of performance data from planning and other administrative offices in the university to the university council, as well as to university executives, ministries and other national government agencies.

Research on the use of data in South African universities (Van Schalkwyk et al. 2013) showed, for example, that at the seven public universities studied, requests for data were seldom made by university councils. At one of the seven universities in the study, where performance data were presented to the university’s council on the back of the initiative taken by the planning office, data were often met with suspicion. The council of that university would insist that the data provided by the planning office be verified by a third party before it was satisfied that the data reflected an accurate state of affairs. The university was the only one in the study facing a crisis in its governance (Van Schalkwyk et al. 2013).

This implies that producing more and better data and elaborate charts and infographics does not necessarily equate to their use by university council or university executives in strategic decision-making, nor does it mean that more and better data on university performance will be used for national governance purposes. In other words, while data collection and analysis for planning purposes may be improving (in step with the increased professionalisation of university administrators), it does not necessarily follow that there will be an improvement in the governance of African universities. At the very least, it cannot be assumed that university leaders responsible for governing transformation will be interested in the information and data provided by planning offices to take decisions that will result in improvements in their research performance. A pilot survey undertaken at two of the Herana universities (Maassen & Jungblut 2017) suggests that part of the challenge is that university leaders on the one hand stimulate an enhancement of the capacity of their central administrative units, in the sense of increasing the number of staff positions in these units and recruiting better educated and more experienced staff for these positions. But on the other hand, the mandates of the units are in a number of ways restricted by the institutional principals which creates various barriers for these units to use their enhanced capacity for producing the data they as professional experts perceive to be of relevance for evidence-based governance.

In addition, while Herana data show that as the eight participating universities moved to becoming more research-led, the problematic governance relationship between university and national government actors and agencies is regarded by the institutional representatives as hampering the further strengthening of their university’s research productivity. Therefore, it is of importance to differentiate between
planning and governance, and to get a better understanding of differences in how data is accessed, interpreted and used in the execution of each of these functions. The effective use and value of data for the transformation of universities will depend on the links between evidence-based planning and evidence-based governance. While Herana did not explore these differences, future research in this area will need to be mindful of the distinction. This is embedded in the overall importance of investigating the basic features of the public governance of higher education in Africa, including recent changes in public governance arrangements and the relationships between higher education governance and institutional as well as system-level performance. This will also allow for producing knowledge on the governance-related factors that are responsible for cross-country differences in the performance of individual universities and national higher education systems in Africa.

Conclusion

One of the strategic objectives of the Herana project was the institutionalisation of eight years of capacity-building in performance data collection within the eight participating universities and the promotion of institution-specific policies to contribute to the universities’ knowledge-producing capabilities.

In relation to these goals, the project’s main achievements were in developing a common data framework among the eight universities; improving their data collection capacity; advancing and promoting the importance of data-based decision-making within the universities; indicating the kinds of strategic directions that leading universities in Africa may take in engaging internal and external stakeholders to strengthen their knowledge production, and linking this more closely to national economic development; and promoting the importance of research-led universities on the continent.

However, much still needs to be done to institutionalise data collection and use across the participating Herana universities, in ARUA, and, more broadly, in the higher education systems of African countries. Universities in the network will also need to go beyond data collection and management. They will need to incorporate the systematic analysis and interpretation of data in a more structured and expertise-driven way into their decision-making processes as they govern the university’s transition to becoming research-led.