

## *Executive Summary*

### **The growing focus on tertiary education**

Tertiary education policy is increasingly important on national agendas. The widespread recognition that tertiary education is a major driver of economic competitiveness in an increasingly knowledge-driven global economy has made high-quality tertiary education more important than ever before. The imperative for countries is to raise higher-level employment skills, to sustain a globally competitive research base and to improve knowledge dissemination to the benefit of society.

Tertiary education contributes to social and economic development through four major missions:

- The formation of human capital (primarily through teaching);
- The building of knowledge bases (primarily through research and knowledge development);
- The dissemination and use of knowledge (primarily through interactions with knowledge users); and
- The maintenance of knowledge (inter-generational storage and transmission of knowledge).

The scope and importance of tertiary education have changed significantly. Over 40 years ago tertiary education, which was more commonly referred to as higher education, was what happened in universities. This largely covered teaching and learning requiring high level conceptual and intellectual skills in the humanities, sciences and social sciences, the preparation of students for entry to a limited number of professions such as medicine, engineering and law, and disinterested advanced research and scholarship. These days, tertiary education is much more diversified and encompasses new types of institutions such as polytechnics, university colleges, or technological institutes. These have been created for a number of reasons: to develop a closer relationship between tertiary education and the external world, including greater responsiveness to labour market needs; to enhance social and geographical access to tertiary education; to provide high-level occupational preparation in a more applied and less theoretical way; and to accommodate the growing diversity of qualifications and expectations of school graduates.

As participation in tertiary education has expanded, tertiary education institutions (TEIs) have assumed responsibility for a far wider range of occupational preparation than in the past. As the result of a combination of the increased knowledge base of many occupations and individual's aspirations, not only doctors, engineers and lawyers but also nurses, accountants, computer programmers, teachers, pharmacists, speech therapists, and business managers now receive their principal occupational qualifications from a TEI.

Furthermore, TEIs are now involved in a wider range of teaching than their traditional degree-level courses. While the extent of such teaching is not large, many examples can be found of TEIs that offer adult education and leisure courses, upper secondary courses to prepare students for tertiary-level study, and short specific occupational preparation at sub-degree level. In addition, it has become more common for TEIs not only to engage in teaching and research, but also to provide consultancy services to industry and government and to contribute to national and regional economic and social development.

Substantial reforms are taking place in tertiary education systems mainly aimed at encouraging institutions to be more responsive to the needs of society and the economy. This has involved a reappraisal of the purposes of tertiary education and the setting by governments of new strategies for the future. It has also involved more room of manoeuvre for institutions but with clearer accountability for the institutions to society. The tertiary sector is expected to contribute to equity, ensure quality and operate efficiently.

### Main trends within tertiary education

Although not all countries are in the same position, a number of trends within tertiary education emerge.

#### – *Expansion of tertiary education systems*

The expansion of tertiary education has been remarkable in recent decades. Globally, in 2004, 132 million students enrolled in tertiary education, up from 68 million in 1991. Average annual growth in tertiary enrolment over the period 1991-2004 stood at 5.1% worldwide.

#### – *Diversification of provision*

Expansion of tertiary education was accompanied by a diversification of provision. New institution types emerged, educational offerings within institutions multiplied, private provision expanded, and new modes of delivery were introduced.

#### – *More heterogeneous student bodies*

The rise of female participation has been the most noteworthy trend affecting the composition of student bodies in tertiary education. A second prominent development is the growing participation of more mature students leading to a rise in the average age of student bodies. In addition, in most countries, tertiary student bodies are increasingly heterogeneous in terms of socio-economic background, ethnicity and previous education.

#### – *New funding arrangements*

A number of trends are also discernible in funding arrangements for tertiary education. First, there has been a diversification of funding sources. Second, the allocation of public funding for tertiary education is increasingly characterised by greater targeting of resources, performance-based funding, and competitive procedures. Third, a number of countries are expanding their student support systems.

#### – *Increasing focus on accountability and performance*

The development of formal quality assurance systems is one of the most significant trends that have affected tertiary education systems during the past few decades. Starting in the early 1980s quality became a key topic in tertiary education policy. The expansion

of tertiary education has raised questions about the amount and direction of public expenditure for tertiary education. In addition to fiscal constraints, increased market pressures have also fostered the growing focus on accountability in tertiary education.

– *New forms of institutional governance*

Over the past few decades important changes have occurred in the leadership of tertiary education institutions, including the emergence of new perspectives on academic leadership and new ways of organising the decision-making structure. Academic leaders are increasingly seen as managers, coalition-builders or entrepreneurs.

– *Global networking, mobility and collaboration*

Tertiary education is becoming more internationalised and increasingly involves intensive networking among institutions, scholars, students and with other actors such as industry. International collaborative research has been strengthened by the dense networking between institutions and cross-border funding of research activities.

## Main policy challenges

In the governance of tertiary education, the ultimate objective of educational authorities as the guardians of public interest is to ensure that public resources are efficiently spent by TEIs to societal purposes. There is the expectation that institutions are to contribute to the economic and social goals of countries. This is a mixture of many demands, such as: quality of teaching and learning defined in new ways including greater relevance to learner and labour market needs; research and development feeding into business and community development; contributing to internationalisation and international competitiveness.

There is a tension between the pursuit of knowledge generation as a self-determined institutional objective and the statement of national priority as defined in the aims and goals of the tertiary system. The objective, from a governance point of view, is then to reconcile the priorities of the individual institutions and the broader social and economic objectives of countries. This entails determining how far the former contributes to the latter as well as clarifying the degree of latitude the institution has in pursuing its own self-established objectives. The main policy challenges are listed in Table 1. Most countries face the challenge of simultaneously raising tertiary education participation rates, improving quality and achieving a sustainable level of financial support. Many countries are also now in a transition from a focus on quantity to a greater emphasis on the quality, coherence, and equity of tertiary education.

**Table 1. Main challenges in tertiary education**

<b>Domain</b>	<b>Main challenges</b>
<b>Steering tertiary education</b>	<ul style="list-style-type: none"> <li>Articulating clearly the nation’s expectations of the tertiary education system</li> <li>Aligning priorities of individual institutions with the nation’s economic and social goals</li> <li>Creating coherent systems of tertiary education</li> <li>Finding the proper balance between governmental steering and institutional autonomy</li> <li>Developing institutional governance arrangements to respond to external expectations</li> </ul>
<b>Funding tertiary education</b>	<ul style="list-style-type: none"> <li>Ensuring the long-term financial sustainability of tertiary education</li> <li>Devising a funding strategy consistent with the goals of the tertiary education system</li> <li>Using public funds efficiently</li> </ul>
<b>Quality of tertiary education</b>	<ul style="list-style-type: none"> <li>Developing quality assurance mechanisms for accountability and improvement</li> <li>Generating a culture of quality and transparency</li> <li>Adapting quality assurance to diversity of offerings</li> </ul>
<b>Equity in tertiary education</b>	<ul style="list-style-type: none"> <li>Ensuring equality of opportunities</li> <li>Devising cost-sharing arrangements which do not harm equity of access</li> <li>Improving the participation of the least represented groups</li> </ul>
<b>The role of tertiary education in research and innovation</b>	<ul style="list-style-type: none"> <li>Fostering research excellence and its relevance</li> <li>Building links with other research organisations, the private sector and industry</li> <li>Improving the ability of tertiary education to disseminate the knowledge it creates</li> </ul>
<b>The academic career</b>	<ul style="list-style-type: none"> <li>Ensuring an adequate supply of academics</li> <li>Increasing flexibility in the management of human resources</li> <li>Helping academics to cope with the new demands</li> </ul>
<b>Links with the labour market</b>	<ul style="list-style-type: none"> <li>Including labour market perspectives and actors in tertiary education policy</li> <li>Ensuring the responsiveness of institutions to graduate labour market outcomes</li> <li>Providing study opportunities for flexible, work-oriented study</li> </ul>
<b>Internationalisation of tertiary education</b>	<ul style="list-style-type: none"> <li>Designing a comprehensive internationalisation strategy in accordance with country’s needs</li> <li>Ensuring quality across borders</li> <li>Enhancing the international comparability of tertiary education</li> </ul>

## Main policy directions

To meet the challenges outlined above, a number of policy options are suggested across the many facets of tertiary education policy – governance, funding, quality assurance, equity, research and innovation, academic career, links to the labour market and internationalisation. Table 2 summarises the main policy directions. Not all of the policy directions apply equally to all 24 countries participating in the Review. In a number of cases many, or most, of the policy suggestions are already in place, while for other countries they may have less relevance because of different social, economic and educational structures and traditions. This is a challenging agenda, but tackling one area without appropriate policy attention to inter-related aspects will lead to only partial results. Nevertheless, it is difficult to address all areas simultaneously, and resource constraints mean that trade-offs are inevitable.

**Table 2. Main Policy Directions**

<b>Policy Objective</b>	<b>Main policy directions</b>
<b>Steering tertiary education: setting the right course</b>	<ul style="list-style-type: none"> <li>Develop a coherent strategic vision for tertiary education</li> <li>Establish sound instruments for steering tertiary education</li> <li>Ensure the coherence of the tertiary education system with extensive diversification</li> <li>Build system linkages</li> <li>Strengthen the ability of institutions to align with the national tertiary education strategy</li> <li>Build consensus over tertiary education policy</li> </ul>
<b>Matching funding strategies with national priorities</b>	<ul style="list-style-type: none"> <li>Develop a funding strategy that facilitates the contribution of the tertiary system to society and the economy</li> <li>Use cost-sharing between the State and students as the principle to shape the funding of tertiary education</li> <li>Publicly subsidise tertiary programmes in relation to the benefits they bring to society</li> <li>Make institutional funding for instruction formula-driven, related to both input and output indicators and including strategically targeted components</li> <li>Improve cost-effectiveness</li> <li>Back the overall funding approach with a comprehensive student support system</li> </ul>
<b>Assuring and improving quality</b>	<ul style="list-style-type: none"> <li>Design a quality assurance framework consistent with the goals of tertiary education</li> <li>Develop a strong quality culture in the system and put more stress on internal quality assurance mechanisms</li> <li>Commit external quality assurance to an advisory role as the system gains maturity but retain strong external components in certain contexts</li> <li>Align quality assurance processes to the particular profile of TEIs</li> <li>Avoid fragmentation of the quality assurance organisational structure</li> </ul>
<b>Achieving Equity</b>	<ul style="list-style-type: none"> <li>Assess extent and origin of equity issues</li> <li>Strengthen the integration of planning between secondary and tertiary education systems</li> <li>Consider positive discrimination policies for particular groups whose prior educational disadvantage is well identified</li> <li>Provide incentives for TEIs to widen participation and provide extra support for students from disadvantaged backgrounds</li> </ul>
<b>Enhancing the role of tertiary education in research and innovation</b>	<ul style="list-style-type: none"> <li>Improve knowledge diffusion rather than strengthening commercialisation via stronger IPRs</li> <li>Improve and widen channels of interaction and encourage inter-institutional collaboration</li> <li>Use the tertiary education sector to foster the internationalisation of R&amp;D</li> <li>Broaden the criteria used in research assessments</li> <li>Ensure the shift towards project-based funding is monitored and provide a mix of funding mechanisms</li> </ul>
<b>Academic career: adapting to change</b>	<ul style="list-style-type: none"> <li>Give institutions ample autonomy over the management of human resources</li> <li>Reconcile academic freedom with institutions' contributions to society</li> <li>Improve the entrance conditions of young academics</li> <li>Develop mechanisms to support the work of academics</li> </ul>
<b>Strengthening ties with the labour market</b>	<ul style="list-style-type: none"> <li>Coordinate labour market and education policies</li> <li>Improve data and analysis about graduate labour market outcomes</li> <li>Strengthen career services at secondary and tertiary educational levels</li> <li>Enhance provision with a labour market orientation</li> <li>Include labour market perspectives and actors in policy development and institutional governance</li> </ul>
<b>Shaping internationalisation strategies in the national context</b>	<ul style="list-style-type: none"> <li>Develop a national strategy and comprehensive policy framework for internationalisation</li> <li>Improve national policy coordination</li> <li>Encourage TEIs to become proactive actors of internationalisation</li> <li>Create structures to promote the national tertiary education system</li> <li>Develop on-campus internationalisation</li> </ul>
<b>Implementing tertiary education policy</b>	<ul style="list-style-type: none"> <li>Establish ad-hoc independent committees to initiate tertiary education reforms and involve stakeholders</li> <li>Allow for bottom-up policy initiatives to be developed into proposals by independent committees</li> <li>Recognise the different views of stakeholders through iterative policy development</li> <li>Favour incremental reforms over comprehensive overhauls unless there is wide public support for change</li> </ul>

## Common policy themes

Despite the major differences and traditions across countries, they share some common policy priorities.

### *Establishing a grand vision for tertiary education*

A first priority for countries should be to develop a comprehensive and coherent vision for the future of tertiary education, to guide future policy development over the medium and long term in harmony with national social and economic objectives. Ideally, it should result from a systematic national strategic review of tertiary education and entail a clear statement of the strategic aims. It would also require reflection, debate and consensus-building. A representative body could help reconcile the diverging interests of different stakeholders – government, institutions, students, teaching staff and scientific community, private sector and civil society – by having them work together towards recommendations for the medium and long term strategy for tertiary education.

The success of tertiary education also depends on policies across a range of governmental areas. Inter-ministerial bodies that link education officials to public authorities with responsibility for complementary lines of policy such as immigration, science and technology, and labour market policies can play an important role in widening and regularising policy consultation within government.

Extensive and flexible diversification may provide countries with a wider capacity to address varied national needs – in terms of research and innovation, the development of a skilled workforce, social inclusion and regional development – than a system of limited and fixed diversification. Thus, countries might want to assess how much diversification, of what sort and in which regions is best-suited to meet the strategic goals of the system. The mission and profile of individual institutions would need to be clearly defined in accordance with this diversification strategy. There is no single model or best approach to devising a system of tertiary education with extensive levels of diversification. In particular, a diverse system of tertiary education can be conceived either with distinct institutional sectors or within a single institutional type.

### *Ensuring that the capabilities of tertiary education contribute to countries' economic and social objectives*

In all of the sets of policy suggestions strong emphasis is placed on the need to ensure an outward focus of tertiary systems and TEIs. This entails strong educational links to employers, regions and labour markets; effective university-industry links for research and innovation; participation of external stakeholders in system and institutional governance and in quality assurance; a significant share of external funds in institutional budgets; and a broad internationalisation policy portfolio.

One simple way to encourage institutions to more deliberately contribute to the goals of the tertiary system would be for the tertiary education authorities to require all institutions in receipt of public funding to prepare, and regularly update, meaningful strategic plans aligned with the national tertiary education strategy. It would also be important to review options to widen the scope of institutional autonomy so as to allow for greater responsiveness (to students, stakeholders, regions) and efficiency in operations. At the same time, the national policy towards institutional governance needs to allow institutions to make the most of their autonomy and new responsibilities. It

would be important to establish a legal framework that provides them with the opportunity to establish a local governing body which would operate at a strategic (as opposed to scientific) level, would comprise internal and external stakeholders, and would be supported by a senior management group.

Despite the policy attention on the commercialisation of university R&D results in recent years, methods and instruments to support the diffusion capabilities and interactive support activities of tertiary institutions deserve closer policy consideration. Linkages and collaboration between the tertiary education sector and other actors in the research and innovation system need to be further developed, with the aim of improving knowledge diffusion. The tertiary education sector should be flexible and responsive to industry needs in terms of co-operative projects, and policy needs to ensure that small and medium-sized enterprises (SMEs) and firms from all technological sectors are considered when programmes are designed.

Academic freedom has been, according to some groups, under threat as a result of a number of trends within tertiary education. At the same time, institutions are under pressure to use public funds to the benefit of society as a whole. This calls, in most countries, for a re-conceptualisation of what comprises academic work. In this context, academic freedom needs to be framed within institutions' obligation to society, *e.g.* with academics pursuing their objectives while accounting for institutional goals, being provided with support and conditions to meet these goals. Academics also ought to have autonomy in the design of the courses they teach and freedom to select research topics and approaches to research – possibly within priorities defined at the institution or system level. They should not be constrained in their interpretation of research results or prevented from publicising them; this greater freedom ought to go together with greater accountability for the outcomes of their academic activities.

### ***Devising sound instruments for steering tertiary education***

As tertiary education authorities divest some responsibilities such as the direct administration of academic institutions and take on others in terms of policy steering and performance evaluation, they need to change their competencies and organisation. An evaluation of their staff expertise and current skill needs may be useful to identify potential mismatches and to develop professional development and training programmes to keep pace with changing demands. Instruments could be developed for steering that achieve accountability and also permit wide scope for institutional autonomy. Possible ways of meeting these two goals and optimise outcomes in the areas of quality, efficiency and system responsiveness include, for example, instruments such as performance contracts or performance-related funding and the collection and dissemination of more and better information, for system monitoring, policy development and information to stakeholders.

Government control and oversight is not the only means to steer the behaviour of educational institutions – and in some instances may not be the best. Depending upon national circumstances, governments may wish to evaluate how they may strategically use institutional competition and student choice as a means to achieve stronger performance from their tertiary system. This may be achieved by recognising new types of institutions, allowing the portability of institutional subsidies and/or student support, strengthening credit transfer and articulation arrangements to foster mobility between institutions, and improving the availability of information about quality to prospective students.

### ***Developing a funding strategy that facilitates the contribution of the tertiary education system to society and the economy***

The overarching foundation for any funding strategy is that public funds steer the tertiary education system in a way that facilitates its contribution to society and the economy. A guiding basis is to design a funding approach to meet the policy goals sought for the tertiary education system – *e.g.* expansion, quality, cost effectiveness, equity, institutional or system capacity – which differ across countries at a given point in time.

A number of principles should govern the funding of tertiary education. To begin with, there are good arguments to support cost-sharing between the State and students (and their families). In light of the evidence of the private benefits of a tertiary degree, graduates could bear some of the cost of the services offered by tertiary institutions. The case is stronger when limitations in the public funding of tertiary education lead to either the rationing of the number of students, the decline of instructional quality (as a result of declining expenditure per student), or the limited availability of funds for supporting disadvantaged groups.

Another basis for funding tertiary education is the principle of allocating public funds in relation to the relevance to society at large. In ideal terms this would translate into the public funding of activities which generate educational externalities to the benefit of society as whole – irrespective of the nature of the provider – and levels of public funding which reflect the magnitude of educational externalities relative to private benefits.

Another fundamental pillar is a comprehensive student support system. It facilitates access by reducing liquidity constraints faced by students. A mixed system of grants and loans would assist students in covering tuition fees and living costs, alleviating excessive hours spent on part-time work, or disproportionate reliance on family support. In many countries student support systems need to be expanded, diversified and to place extra-emphasis on the financial need of students.

Finally, the criteria for the distribution of funds to institutions need to be clear to all. This is best achieved through a transparent formula which shields allocation decisions from political pressures and tailors incentives to shape institutional plans in harmony with national goals. The basis for allocating “core” funding to institutions – in particular that related to instruction – should to some extent be output-oriented to support excellence in teaching and learning. However, performance-based funding mechanisms should be carefully implemented to avoid undesired effects.

### ***Emphasising quality and relevance***

It is important, in order to build a national commitment to quality, that the aim of the quality assurance system be clear and expectations be formulated in alignment with the tertiary education strategy. A well co-ordinated quality assurance system might be expected to ensure that: each student is provided with quality and relevant education; the overall system is contributing to the social and economic development of the country; TEIs’ activities foster equity of access and outcomes; quality assurance contributes to the improvement of co-ordination within and integration of the overall tertiary system. There is also a balance to be struck between accountability and quality improvement. From an accountability point of view, it is important that quality assurance systems provide information to various stakeholders but quality assurance also needs to be/become a mechanism to enhance quality rather than simply force compliance with bureaucratic requirements.

A strong quality culture in TEIs – shared by the academic leadership, staff and students – helps to reinforce the quality assurance system. To a large extent, this attention to maintaining and improving academic standards builds up over-time. However, evidence suggests that a strong quality culture may also develop as a result of public intervention, *e.g.* through the creation of internal quality assurance systems by TEIs or in response to appropriate incentives such as publishing student evaluations of their learning experience.

The development of the quality assurance system needs to be seen as an ongoing process. Whilst there is a clear need and rationale for external quality monitoring during the early stages of development to fulfil the need for accountability and ensure that baseline standards of quality are met throughout the system, this rationale is likely to fade over time. It would therefore be important – once baseline standards are met – that external quality assurance evolves towards an advisory role to enhance improvement.

The approach to ensuring relevance to society should also be closely interconnected with quality assurance mechanisms, since low-quality programmes are, for example, unlikely to be relevant to the labour market. Thus for an approach based on relevance to be successful, a robust system of quality assurance needs to be in place.

### ***Raising the profile of equity within national tertiary policy agendas***

Clearly, issues of equity in tertiary education in many countries need to become more prominent in national debates and policy making. A coherent and systematic approach to equity would, in the first instance, assess where equity problems arise: whether they are related to income constraints faced by families and insufficient student support, inequity of opportunities at the school level, admissions issues, or other barriers such as the lack of knowledge about the benefits of tertiary education. This requires the systematic collection of data to inform the development of appropriate policies to reduce inequalities in tertiary education, *e.g.* the socioeconomic background of the tertiary student population, completion rates by family background, regional flow of students, student's part-time work, or the social and economic conditions of student life.

Key ingredients in an equity agenda include career guidance and counselling services at the school level, the integration of planning between secondary and tertiary education systems, opportunities for tertiary education study from any track in upper secondary school, a varied supply of tertiary education to accommodate a more diverse set of learners, alternative types of provision to account for the cultural diversity of the population, the expansion of distance learning and regional learning centres, positive discrimination policies for particular groups whose prior educational disadvantage is well identified and incentives for TEIs to widen participation and provide extra support for students from disadvantaged backgrounds.

### ***Positioning national systems in the international arena***

The background for internationalisation varies considerably across countries according to their economic and political power, size and geographic location, dominant culture, the quality and typical features of their tertiary education system, the role their language plays internationally, as well as their previous internationalisation policies. In this context, it is important for countries to develop a national strategy or master plan for internationalisation in light of their country-specific goals in the tertiary education sector, but also beyond education (human resources development, research and innovation *etc.*).

Obviously, this strategy needs to adapt to country-specific circumstances, building upon natural advantages and acknowledging constraints, and there is no ideal internationalisation strategy other than maximising the benefits of internationalisation in the national context.

While the national/sector level has an important influence on the international dimension of tertiary education through policy steering, funding, programmes, regulatory frameworks, and cross-departmental policy coordination, internationalisation activities are pursued at the institutional level, and within TEIs at the discipline level. Given the diversity of TEIs, the principal potentials for national policy lie more in creating the framework conditions for them to become proactive actors of internationalisation, through interventions designed to remove blockages, by granting more autonomy to TEIs to make them more responsive to their external environment, or by including a special internationalisation strategy in the annual negotiations between the tertiary education authorities and TEIs as a way to promote their engagement in international cooperation and exchange. Government authorities also have a role to play to steer institutional strategies in directions that are sustainable over time in order to protect the sector and achieve the goals set in the national strategy. Greater sustainability of internationalisation strategies can be achieved by promoting the diversification of international activities.

Policy initiatives and institutions' efforts should also be targeted at the development of on-campus internationalisation, in recognition that only a small proportion of students take part in international mobility. This can be done by allowing and encouraging institutions to deliver part of their programmes in foreign languages and to intensify international enrolments in order to widen the scope for intercultural exchanges on-campus.

### ***Implementing policy successfully***

The process of policy design involves a number of challenges to yield sound results. Ideally, policy would need to be based upon informed policy diagnosis, drawn on best practice, backed up by adequate research evidence, and consistent – both intrinsically and with policies in other areas of public action. Of equal importance is consensus-building among the various stakeholders involved – or with an interest – in tertiary education.

In order to build consensus, it is important that all stakeholders see proposed tertiary education policies within the broader policy framework and strategy. Indeed, individuals and groups are more likely to accept changes that are not necessarily in their own best interests if they understand the reasons for these changes and can see the role they should play within the broad national strategy. There is therefore much scope for government authorities to foster the chances of successful policy implementation, by improving communication on the long-term vision of what is to be accomplished for tertiary education as the rationale for proposed reform packages.

Other possible approaches for successful policy implementation include the use of pilots and policy experimentation when needed, favouring incremental reforms over comprehensive overhauls unless there is wide public support for change, avoiding reforms with concentrated costs and diffused benefits, identifying potential losers from tertiary education reform and building in compensatory mechanisms and improving communication on the benefits of reforms and the costs of inaction.

## *1. Introduction*

### **1.1 The growing focus on tertiary education**

Tertiary education policy is increasingly important on national agendas. The widespread recognition that tertiary education is a major driver of economic competitiveness in an increasingly knowledge-driven global economy has made high-quality tertiary education more important than ever before. The imperative for countries is to raise higher-level employment skills, to sustain a globally competitive research base and to improve knowledge dissemination to the benefit of society.

Tertiary education contributes to social and economic development through four major missions:

- The formation of human capital (primarily through teaching);
- The building of knowledge bases (primarily through research);
- The dissemination and use of knowledge (primarily through interactions with knowledge users); and
- The maintenance of knowledge (inter-generational storage and transmission of knowledge).

The scope and importance of tertiary education have changed significantly. Over 40 years ago tertiary education, which was more commonly referred to as higher education, was what happened in universities. This largely covered teaching and learning requiring high level conceptual and intellectual skills in the humanities, sciences and social sciences, the preparation of students for entry to a limited number of professions such as medicine, engineering and law, and disinterested advanced research and scholarship. These days, tertiary education is much more diversified and encompasses new types of tertiary education institutions (TEIs) such as polytechnics, university colleges, or technological institutes. These have been created for a number of reasons: to develop a closer relationship between tertiary education and the external world, including greater responsiveness to labour market needs; to enhance social and geographical access to tertiary education; to provide high-level occupational preparation in a more applied and less theoretical way; and to accommodate the growing diversity of qualifications and expectations of school graduates.

As participation in tertiary education has expanded, TEIs have assumed responsibility for a far wider range of occupational preparation than in the past. As the result of a combination of the increased knowledge base of many occupations and individual's aspirations, not only doctors, engineers and lawyers but also nurses, accountants, computer programmers, teachers, pharmacists, speech therapists, and business managers now receive their principal occupational qualifications from a TEI. Furthermore, TEIs are now involved in a wider range of teaching than their traditional degree-level courses.