



## Introduction

*Today, more than ever before in human history, the wealth—or poverty—of nations depends on the quality of higher education. Those with a larger repertoire of skills and a greater capacity for learning can look forward to lifetimes of unprecedented economic fulfillment. But in the coming decades the poorly educated face little better than the dreary prospects of lives of quiet desperation.*

Malcolm Gillis, President of Rice University, 12 February 1999

Today, global wealth is concentrated less and less in factories, land, tools, and machinery. The knowledge, skills, and resourcefulness of people are increasingly critical to the world economy. Human capital in the United States is now estimated to be at least three times more important than physical capital. A century ago, this would not have been the case.

The developed world is reacting quickly, with education a major political priority. High-quality human capital is developed in high-quality education systems, with tertiary education providing the advanced skills that command a premium in today's workplace. Most developed countries have seen a substantial rise in the proportion of their young people receiving higher education. Lifelong learning is also being used to help workers adjust to rapidly changing economies.

And what about developing countries?<sup>1</sup> Will they be able to compete in the knowledge economy or do they face a future of increasing exclusion, unable to develop the

skills required for the twenty-first century? This challenge is well understood by most residents of the developing world. President Benjamin W. Mkapa of Tanzania, for example, is concerned that higher education in Africa is becoming increasingly obsolete. "Our universities," he says, "must produce men and women willing to fight an intellectual battle for self-confidence and self-assertion as equal players in the emerging globalized world."

In light of these concerns, this report asks the following three questions:

- What is the role of higher education in supporting and enhancing the process of economic and social development?
- What are the major obstacles that higher education faces in developing countries?
- How can these obstacles best be overcome?

Some readers will be surprised that we spend this time reiterating arguments for the importance of higher education. After all, educa-

<sup>1</sup> "Developing country" is not a precise term, although more than 80 percent of the world's population lives in a developing country, as conventionally defined by the World Bank on the basis of income per capita. Our overview includes Africa, much of Asia, nearly all of Latin America, and large parts of the former Soviet Union. Clearly, the developing world exhibits tremendous variation culturally, politically,

socially, and economically. However, we are confident that general principles exist and have focused on issues that arise most frequently, drawing conclusions that can be applied in many different countries. Exceptions do exist of course, and some readers will feel that certain points do not apply in their country. We hope this reaction will be rare.

tion is associated with better skills, higher productivity, and enhanced human capacity to improve the quality of life. Education at all levels is needed if economies are to climb from subsistence farming, through an economy based on manufacturing, to participation in the global knowledge economy.

During the past two or three decades, however, attention has focused on primary education, especially for girls. This has led to a neglect of secondary and tertiary education, with higher education in a perilous state in many, if not most, developing countries. With a few notable exceptions, it is underfunded by governments and donors. As a result, quality is low and often deteriorating, while access remains limited. Higher education institutions (and whole systems) are politicized, poorly regulated, and sometimes corrupt.

We believe that a more balanced approach to education at all levels is needed. The focus on primary education is important, but an approach that pursues primary education alone will leave societies dangerously unprepared for survival in tomorrow's world.

## New Realities

Within a few decades of the end of World War II, the major colonial empires had disintegrated. Initially, newly independent countries, and poorer countries more generally, looked to their higher education systems to deliver support for national efforts to raise standards of living and alleviate poverty. They also attempted to widen access to higher education and, in some cases, there was a belief that higher education could help make societies more democratic, while strengthening human rights.

No country can claim complete success in achieving these traditional "nation-building" goals, but in most countries some progress has been made on all three fronts. Since the 1960s,

higher education has been forced to confront what we refer to as the "new realities": *expansion*, *differentiation*, and the *knowledge revolution*. These are changing higher education and the environment in which it exists. All are now powerful influences in developing countries, challenging policymakers to look afresh at their systems of higher education and think creatively about what they can achieve.

Expansion is a result of the tremendous increase in the number of students. In the 1940s and 1950s, higher education in developing countries was characterized by few students and graduates, with the students frequently in training for either the (colonial) civil service or a few professions. Today, however, there has been a dramatic shift from class to mass, with half of the world's students of higher education living in developing countries. As more and more children complete their primary and secondary education, many wish to continue to gain a degree. Developing countries have also seen real incomes rising, bringing further education within the reach of an increasing number of families.

Expansion has produced a variety of consequences. In many instances, existing institutions have grown in size, transforming themselves into mega-universities; in other cases, traditional institutions have been replicated by public or private means. An even more creative response has been seen in *differentiation*, a process whereby new types of institutions are born and new providers enter the sector. Developing countries now have a tremendous variety of colleges and universities, instead of the small number of homogeneous institutions existing 50 years ago. Private institutions have joined public ones,<sup>2</sup> while a range of

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<sup>2</sup> The terms "public" and "private" are frequently used in this report to describe institutions of higher education. "Private," in particular, requires cautious application. Some private schools are philanthropic entities and are not for profit. Generating surpluses is not the dominant motive of these organizations, and in that sense they resemble state schools.

vocational and professional schools now complement the traditional universities.

Expansion has caused the average quality of education to decline in many countries as resources are stretched increasingly thin. Developing countries now need to clarify the national benefit they receive from education systems and to explore the results that a differentiated (and usually unplanned) system delivers. Private institutions are currently growing most quickly, and there is an especially urgent need to explore what the private sector can and cannot deliver. Policymakers can then plan for the orderly development of a higher education system; establish mechanisms to maintain quality; and, most importantly, nurture areas for which private funds are unlikely to be available. These include basic scientific research, support for the humanities, and scholarship support to increase access for underrepresented groups.

## The Knowledge Revolution

We live in a period of major structural change. The classic industrial revolution that started in the United Kingdom at the end of the eighteenth century spread gradually and unevenly to Europe and beyond. By the end of the twentieth century, a number of so-called follower countries had joined the ranks of industrial nations, and today industrial countries are found throughout the world. Some have narrowed, and even closed, the gap between rich and poor, with the East Asian countries being a good example. Average incomes have tended to increase across the world (except in Sub-Saharan Africa) in the past 20 years, although one-quarter of the world's population still lives in abject poverty.

In a predominantly industrial economy, the economic processes involved in catch-up are well understood. Levels of agricultural and manufacturing productivity must be raised by

combining imported technology from advanced countries with relatively cheap labor, and by moving labor from low- to high-productivity sectors. In this traditional pattern of development, an educated (and healthy) labor force is a great advantage, but the emphasis is on basic literacy and numeracy skills, and the capacity to learn new tasks.

This pattern is still valid, but the late twentieth century saw the growth of a knowledge-centered, as opposed to a manufacturing-centered, economy. The “knowledge revolution” has seen exponential and continuing increases in knowledge in advanced countries since World War II. Many indicators confirm this, including the number of new patents, databases, and journals, as well as research and development expenditures. Nearly all industries have been affected, from biotechnology to financial services, with the nature of economic growth changing since “tinkerers” and craftsmen guided the early technology of the industrial revolution. Systematic knowledge has gradually replaced experience in furthering technology, with sophisticated and theoretical knowledge now the predominant path for technical progress. The world's Silicon Valleys are pushing the technological envelope; they are doing so by building on a thorough understanding of the underlying science.

Advances in information technology, meanwhile, have made this ever-increasing volume of knowledge more accessible, effective, and powerful. Networked computers and new forms of telecommunications spread information around the world with dazzling speed. The Internet, in particular, means that more knowledge than ever is in circulation. Those who have the skills to use it have access to an extraordinarily valuable (and sustainable) resource.

Participation in the knowledge economy requires a new set of human skills. People need to have higher qualifications and to be

capable of greater intellectual independence. They must be flexible and be able to continue learning well beyond the traditional age for schooling. Without improved human capital, countries will inevitably fall behind and experience intellectual and economic marginali-

zation and isolation. The result will be continuing, if not rising, poverty.

As *Knowledge for Development*, the 1998–99 *World Development Report*, puts it: “Knowledge is like light. Weightless and intangible, it can easily travel the world, enlightening the lives

## Box 1

### Into the Heart of the Matter—The Travails of Higher Education in the Democratic Republic of the Congo (DRC)

Like most developing countries, the DRC faces powerful pressures to expand its higher education sector. After achieving independence from Belgium in 1960, what is now the third largest African country, with a current population of 47 million, had only two universities, both established in the mid-1950s. Their combined enrollment was around 2,000 students. Five years later, in 1965, enrollment in higher education—as a proportion of the number of people at the ages most relevant to higher education—had still barely moved above zero (as compared with the 4 percent average of both Asia and Latin America).

Both the government and private organizations have attempted to address the growing demand. The government established several pedagogical institutes designed to produce secondary school teachers. Continuing pressure for access to higher education has also led to the establishment of several private three-year institutes, as well as a few private universities offering, among them, degrees in medicine, the sciences, economics, international relations, law, politics, communications, humanities, and philosophy.

Despite these initiatives, demand continues to outstrip capacity. Acute shortages are evident in technology, the sciences, and medicine—fields in which training is particularly expensive to provide. The number of requests for enrollment in these fields is so high that during the academic year 1995–96, at the

Public University of Kinshasa, nearly 2,500 freshmen packed a single class in biomedical sciences. And students are right to seek to become physicians, given that the DRC has only one doctor for every 14,000 inhabitants. By 1995, the country continued to have an extremely low proportion of its population enrolled in higher education, compared to other developing countries. Moreover, most of the new schools replicate each other, and programs in medicine, technology, or specialized education remain rare.

The DRC, like many developing countries, faces the challenge of responding to increasing demand while attempting to provide a quality education. The current situation is extremely difficult. Most universities, public and private, lack the necessary funds to provide basic educational infrastructure—sufficiently spacious classrooms, laboratories, equipped teaching hospitals, libraries, computers, and Internet access. In general, students have no textbooks, and professors must dictate their notes or copy them onto a blackboard. The majority of schools have no library, no telephone, and not a single computer that students can use.

Schools in the DRC share a number of serious problems. The DRC as a whole lacks sufficient resources to provide adequate support to faculty. Many professors therefore choose either to teach at several universities to make ends meet, to move to corporations, or simply to relocate to a developed coun-

of people everywhere. Yet billions of people still live in the darkness of poverty—unnecessarily.” In part, at least, people live in poverty because they cannot reach the switch to turn on the light, and that switch is called education. Higher education has never been as im-

portant to the future of the developing world as it is right now. It cannot guarantee rapid economic development—but sustained progress is impossible without it.

As the World Bank recognizes, the further developing countries fall behind, the more dif-

### Box 1 continued

try for higher pay. Several factors help to foment corruption and undermine professors' willingness to evaluate students even-handedly, including low pay for faculty and salary payment delays lasting several months. The current evaluation system is highly subjective and leaves students at the mercy of professors who themselves often need to be evaluated.

Another critical issue is the shortage of faculty with graduate-level training. Most faculty are trained in overseas universities. The current scarcity of government resources and international scholarships for overseas universities makes it difficult to plan any significant training of future faculty to expand higher education. A plausible solution might begin with the establishment of a few graduate schools, in a variety of disciplines, through cooperation with international universities and foreign donors.

Another problem with higher education in the DRC is that it is rarely possible to study part-time. In the current official system, all students are registered for full-time attendance. Failing to pass any course automatically cancels all grades obtained that year, even for courses that a student has passed. This practice discourages working people from improving their skills and contributing to the nation's development. A rare exception is the American University of Kinshasa (Université Franco-Américaine de Kinshasa), a private university that since 1994 has pioneered a credit-based system that also allows students to program their courses around a work schedule.

Public universities in the DRC also need the restoration of managerial and financial autonomy (which they lost in 1972). Autonomy could promote quality education by stimulating competition, as was formerly the case between Université Lovanium, Université Officielle du Congo, and Université Libre de Kisangani. Government will still need to play an active role, overseeing the system and setting policies, standards, and regulations. In summary, the DRC is a textbook example of systemic problems that are fundamentally undermining the country's ability to capture the benefits of higher education.

Higher education involves more than teaching relevant skills to students. Theoretical and applied knowledge in a multitude of fields is created in universities, which also teach people how to access and use the world's knowledge. Developing countries need strong universities not only to carry out their own research, but also to select and absorb knowledge from all over the world. Undoubtedly other “green revolutions” will take place, and they are likely to be even more complicated and knowledge-intensive in their nature and application. Given the international setting of higher education—the worldwide community of scholars, study and training, and research reaching across borders—universities are ideally suited for the tasks of selection and absorption of knowledge.

difficulties they face. They are, it says, pursuing a moving target, as the high-income countries constantly push the knowledge frontier outward and pull away from the rest. At one time the rich countries might have viewed this future with indifference, confident that they were insulated from third-world misery. Today, with memories of the contagion that accompanied the first global financial crisis still fresh in people's minds, misery has become an infectious disease.

The new realities do not supersede the traditional goals of higher education, however. Indeed, there are many overlaps. Democracy, for instance, has spread at the same time as the knowledge revolution has gathered pace. It is founded both on well understood and widely practiced standards of civic virtue, and on the knowledge that allows widespread participation in the running of a society, values that can be examined and propagated in higher education institutions more effectively than they currently are.

Taken together, the new realities and traditional goals provide a powerful public-interest argument for developing higher education. The Task Force believes that the social returns to investment are substantial and exceed private returns by a wider margin than was previously believed.

## Structure of the Report

*Higher Education in Developing Countries: Peril and Promise* is aimed at five key audiences:

- higher education policymakers, including education ministers, members of governing boards, and others, who need to understand the special needs and opportunities that higher education faces in the new century;

- the wider political community, especially ministers of the economy and ministers of industry, as well as business leaders whose support is vital to enabling higher education to reach its goals;
- higher education professionals, such as presidents, rectors, vice-chancellors, deans, and professors who are responsible for enacting reforms and creating institutions that provide a high-quality and efficient service;
- lenders and donors, who must decide how they can best support the enhancement of higher education in the developing countries; and
- the general public (including students), whose understanding and support are absolutely necessary, given the quantity of public and private resources consumed by higher education.

The report helps guide these audiences through both the older problems and new realities faced by higher education. It avoids treating in detail topics that have been fully and frequently examined by others, such as financing and the use of new technologies in education,<sup>3</sup> and concentrates instead on areas that have received little consideration, especially those that reflect new pressures on the system. Expansion, differentiation, and the knowledge revolution are discussed in

<sup>3</sup> On financing see, for example, D. Bruce Johnstone, "The Financing and Management of Higher Education: A Status Report on Worldwide Reforms," a paper supported by the World Bank in connection with the UNESCO World Conference on Higher Education, Paris, October 5-9, 1998; World Bank, *Higher Education: The Lessons of Experience*, 1994; and A. Ziderman and D. Albrecht, *Financing Universities in Developing Countries*, Washington, D.C./London: The Falmer Press, 1995. On technology see, for example, John S. Daniel, *Mega-Universities and Knowledge Media: Technology Strategies for Higher Education*, London: Kogan Page, 1996; and World Bank, *World Development Report 1998-99: Knowledge for Development*, New York: Oxford University Press, 1999.

detail, as are neglected topics of considerable current importance, such as the governance of higher education, the need to consider higher education as a system, and the public interest in higher education. We also include substantial discussions on improving science and technology research and instruction in institutions of higher education, and on the nature and importance of general education.

The report proceeds by reasoned argument, relying heavily on experience and belief. Some empirical support is provided from case studies and statistical analysis, although further data analysis would certainly be use-

ful. Each chapter directs attention to a major issue in higher education, starting a dialogue from which we hope more specific policy recommendations will emerge. We have not attempted comprehensive studies of individual countries, or even of specific continents, but have instead addressed problems that affect many countries, cultures, histories, and traditions. We hope that each developing country, and each higher education institution, will find fresh insights in our work—and translate them into new ways of working in their own context.

