

## KEYNOTE ADDRESS

# EDUCATION FOR DEVELOPMENT THE CHALLENGE OF THE 21ST CENTURY<sup>1</sup>

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### Introduction

Mr. Chairman, Honourable Minister, University colleagues, distinguished ladies and gentlemen. The organizers of this second biennial conference of the Faculty of Education are to be complimented on the forward view which they seek to take and for the wide array of expertise they have assembled. It would be surprising, to say the least, if at the end of the conference, participants do not have a well-rounded understanding of the challenges which the education sector must address on the eve of the 21st century.

### Human Resource Development

The ultimate resource of a society is its people. Like many other economists, I start from the position that human productive capacity, or what we call human capital, is the major resource in human society. I began there in *Caribbean Development to the Year 2000* (Bourne, 1988) with a summary statement which bears repetition here:

People are an asset in the development process. Their asset value is improved by education and training. Thus policies adopted towards improving the quality of labour are of considerable development significance. The development process itself generates a demand for qualitative changes in human resources. Failure to produce an appropriately trained and educated population would constrain the adaptability of the

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<sup>1</sup>This is a revised version of the address delivered at the 2nd Biennial Cross-Campus Conference on Education held at UWI, St. Augustine, 22-24 April, 1994.

Commonwealth Caribbean to structural changes in the world economy and to substantially improve its development performance. (p. xxvi)

However, one must avoid too strong an insistence on the human capital definition of human resources recognizing that "the process of human resource development is itself a means of inculcating values and attitudes contributory to social stability and growth" (CARICOM. Planning Committee, 1990, p. 16).

It is also necessary to be mindful of the fact that education is only one important facet of human resource development. Health and nutrition are no less essential. The benefits of improvements in health and nutrition are widespread and accrue beyond the short-term.

Infant malnutrition related to dietary deficiency, infection or sensory deprivation results in severe impairment of cognitive capacity and physical performance. These factors affect growth of the brain, attention span and short-term memory, thus having a negative influence on school performance.

The main inference to be drawn from this brief review of the wider concept of human resource development is that the policy framework must be multi-dimensional. In particular, it must extend beyond the education sector. Nonetheless, the business of this conference is education, on which I now focus the remainder of my address.

### **Knowledge Base for the 21st Century**

This conference will no doubt articulate extensively the knowledge and skill requirements for development in the 21st century. However, just in case you miss my favoured ones, let me be presumptuous enough to bring them to your attention. First, foreign language competence deserves a greater role in our educational scheme for the future. The Commonwealth Caribbean economies, of necessity, must be outward-oriented economies--interfacing extensively with the rest of the world in all the main fields of economic intercourse, including the purchase and sale of professional services. Furthermore, the Commonwealth Caribbean



is part of a geographical zone in which the principal language is Spanish, and Portuguese and French are the languages of significant minorities. Yet the Commonwealth Caribbean remains not only stubbornly unilingual but pays no more than lip-service to foreign language education, beginning it too late at age 11 in the high schools, and dropping it too early at age 16 in most cases.

This is one element of a recipe for accelerated marginalization in the 21st century. Secondly, and closely related, education in the Commonwealth Caribbean should expand the community's knowledge of world society--the history, politics, structure, and culture of the major countries and the emergent ones, as well as the principal trends in world economy and society. It is something of a paradox that the phenomenal growth in international communication has been paralleled by parochialism in the content of Caribbean education at primary, secondary, tertiary, and university levels. Thirdly, educationists and policy makers seem to be fully seized of the importance of greater emphasis on science and technology in the educational package for the future. Nonetheless, consideration ought to be given to the desirability of a much expanded and improved programme for science and technology education at the primary and secondary levels, bearing in mind that science and technology education should aim not only at producing scientists and technologists, but also at producing a scientifically and technologically oriented and aware general populace. Fourthly, the development of a large cadre of technicians and artisans is a *sine qua non* for industrial and agricultural development. This constitutes a strong argument for reassessing this facet of education and training policy in the Commonwealth Caribbean, especially with a view to adjudging the sufficiency of resource flows to this component of the education sector. One would also need to enquire whether levels of labour remuneration for teachers and trainers, as well as for graduates in the technical sub-sector, are consistent with the development significance attached to it.

### Higher Education

To survive at socially acceptable levels of living in the 21st century, the Commonwealth Caribbean needs to substantially expand its stock of highly trained and educated personnel. Major progress has been made

over the past three decades in expanding the number of higher educated and trained persons in all countries. Nonetheless, the Caribbean labour force remains under-educated compared to many other developing countries. For 10 UWI member countries, including the 3 campus countries, that is, Barbados, Jamaica, and Trinidad and Tobago, census data reveal that the proportion of the employed labour force aged 25 to 44 years in possession of university education and training typically was lower than 5%. This finding is corroborated by UWI-conducted surveys of employers in 1990. According to the surveys, only about 7.2% of the reported labour force are graduates. Furthermore, there is a low incidence of graduates in professional, technical and related occupations, and also among administrative, executive and managerial personnel.

There is no doubt that efforts at increasing the higher education proportion of the labour force have been vitiated by emigration, Jamaica and Guyana being the most adversely affected countries. However, while emigration in one context is correctly treated as a waste of resources allocated to education and training, in this present context it has to be viewed as one component of replacement demand, that is, the creation of a labour supply gap to be filled by the education and training sectors. Human resource planners cannot afford to be unmindful of the emigration loss factor in estimating human resource supply and the requisite capacity expansion.

Some indication of the contribution of university education to economic growth is provided by estimates of social rates of return. The Office of Planning and Programming at the University has made some estimates for a typical undergraduate degree, taking account of the average length of time taken to graduate, the private and social costs, the structure of public service pay, employment rates, and using incremental gross domestic product as the lower bound estimate of total social benefits. The estimated social rates of return are 24.6% for Barbados, 26.5% for Jamaica, and 23.3% for Trinidad and Tobago. These estimates indicate sizeable net benefits to investment in university education and training.



## The Question of Balance

Despite the impressive social rates of return derived from university education, there is the need for a formulation of overall financial policies in the education sector. The need for reformulation is signalled by several factors. First, because of the fiscal weaknesses of Commonwealth Caribbean countries, real educational expenditures have decreased, or at best, stagnated in most countries, certainly on a per capita basis since 1980. The educational fund has shrunk despite the best efforts of Caribbean governments. In many cases, recurrent expenditure on education maintained its share of total recurrent expenditures, even though government expenditures decreased relative to GNP. Secondly, unit costs accelerate with each progression on the educational scale. For example, the World Bank estimates that in Jamaica, unit cost ratios are 1:1 for primary education, 2:1 for secondary, 5.4:1 for tertiary, and 50.9:1 for university education. The Trinidad and Tobago ratios are 1.4:1 for secondary education and 17.6:1 for university education. As a consequence, the secondary, tertiary and university sub-sectors absorb large proportions of total educational expenditures disproportionate to their shares of graduates. In situations of resource stringency, large disparities in unit costs should signal the need for reconsideration of optimality of resource allocation among the sub-sectors and force reconsideration of the means of financing the expenditures. Thirdly, there are considerable social returns to be gained from expansions in secondary and technical education and indeed in other tertiary, non-university education which once more raises the question of expenditure balance between the sectors.

## Sharing the Costs of University Education

Perhaps the most controversial topic at the moment is the matter of cost-sharing in university education and training. This issue has a particular urgency since it is clear that Caribbean governments cannot finance the warranted growth in expenditures and that the quality of education and training is in danger of being vitiated by the secular decline in real per capita expenditures at the University. Cost-sharing between governments, the society, and students, is one approach to a solution to the dilemma. Another, of course, is to seek improvements in cost-

efficiency through fuller utilization of physical, capital and human resources, technological change in the education sector, improvements in management systems, and increasing the graduation rate of students. In the time remaining, I wish to concentrate on the matter of cost-sharing, notwithstanding the importance of cost-efficiency.

The discussion might be simplified by defining only two parties to the sharing of costs—government (or taxpayers) and students (or their parents). This allows us to conceptualize the problem as one of tuition fee policy.

As is well-known, at the instance of the university, the Committee on Tuition Fees in its June 1991 Report recommended tuition fees equivalent to 10% of economic cost (defined to include capital costs) in 1992/93, and 15% for the 1993/96 triennium. Part-time undergraduates and full-time postgraduates should be charged 50% of full-time undergraduate fees. It also recommended the abolition of the cess to coincide with the introduction of the new tuition fees.

The initial response from the student body indicates disfavour with these proposals for cost-sharing, underlined by their concerns about cost-efficiency in the provision of University educational and training services, and the availability of financial support facilities for those requiring it.

Economic pricing of university tuition is more complex than is often realized. It involves evaluation of the costs of producing university services, assessment of both private and social costs and benefits, knowledge of students' ability to pay, the extent of price competition from other universities, and economic philosophies particularly in relation to entitlement and fairness. Because ability to pay is often contingent upon access to credit, arrangements for student loans or deferred payment are also relevant to tuition pricing decisions.



## What Does a Degree Cost Students?

There are four categories of costs incurred by students:

- i. direct outlays on tuition and related charges, including cess;
- ii. direct outlays on living expenses and educational materials;
- iii. income foregone from not working during periods of university attendance; and
- iv. financing costs if costs under (i) and (ii) are credit-financed.

Tuition fees and other university charges are fixed by Council and the relevant committees. In addition, the governments of Jamaica and Trinidad and Tobago impose a cess on their nationals. Tuition fees comprise 0.75% of economic costs in Cave Hill, 0.25% in Mona, and 0.57% in St. Augustine. Inclusion of the cess would raise the percentage to approximately 2.6% to 3.8% for Jamaican students and 8.1% to 10.2% for Trinidad and Tobago students.

Living expenses vary greatly among students depending upon personal circumstances and place of residence, as well as upon general expenditure preferences. On the basis of commissioned surveys and the annual estimates of the Admissions Office at the three campuses, it appears that annual living expenses would not exceed US\$4,271 at Cave Hill, US\$2,741 at Mona, and US\$3,254 at St. Augustine. In many cases, they would be substantially lower.

Income foregone may be equated with the post-tax income of secondary school graduates in the public service, with allowance for the probability of employment and for wage rate distortions. The estimated income foregone annually is US\$1,428 in Barbados, US\$940 in Jamaica and US\$1,626 in Trinidad and Tobago.

Financing costs are estimated on the basis of 100% credit-financing of tuition and living expenses at a 10% interest rate on principal, repayable over 7 years post-graduation. They amount to US\$1,786 per annum in Barbados, US\$1,217 per annum in Jamaica, and US\$1,652 per annum in Trinidad and Tobago. Maximum total costs for a student may thus vary between US\$5,894 and US\$7,680 at Cave Hill, US\$4,004 and US\$5,201 at Mona, and US\$5,726 and US\$7,408 at St. Augustine.

The costs of studying at UWI are lower than elsewhere. Exclusive of financing costs, students would incur annual tuition and living costs of US\$4,466 at Cave Hill, US\$2,999 at Mona, and US\$4,130 at St. Augustine. The corresponding costs for non-medical students in the United Kingdom are US\$18,318 in London and US\$14,616 in economically depressed Glasgow. In the USA, the costs of tuition and room and board would be US\$10,198 at state universities and US\$21,731 at many private universities.

The main reason for the difference is tuition fees. Tuition fees in the UK are 14 times fees plus cess at St. Augustine. Tuition fees at US state universities are a multiple of 7.6 and those at private universities are a multiple of 18.5. The fee differentials are much larger in the cases of Cave Hill and Mona. But another important reason is the fact that recurrent costs per full-time equivalent student are lower at the UWI campuses than at US universities with similar staff-student ratios.

### Relative Rates of Return

A pertinent consideration in policies for cost-sharing is the fact that expenditures on university education generate higher incomes for graduates as well as higher incomes and other benefits for the society.

On the basis of quite conservative assumptions, private rates of return were estimated for representative graduates. If there are no financing costs, private rates of return are 16.9% for Barbados, 17.6% for Jamaica, and 17.2% for Trinidad and Tobago. If there are financing costs, private rates of return are lower—14.1% for Barbados, 14.7% for Jamaica, and 14.5% for Trinidad and Tobago. These rates of return are not inconsequential. Although higher tuition fees would reduce those benefits, they would nonetheless remain substantial.

Altogether, approximately 67% of the social benefits seem to accrue to graduates in Barbados and Jamaica, and 75% in Trinidad and Tobago. These estimates are sensitive to errors in the estimation of incremental gross domestic product. Underestimation inflates the share of graduates in net social benefits. However, the main inference that graduates



themselves are major beneficiaries of the social investment in their education remains valid.

### **The Tuition Fee Proposals Re-Examined**

It is useful to see how proposals for higher tuition fees compare with the economic upper limits derived from the market value of a degree to students. The upper limits range from US\$1,216 to US\$2,115 if there are financing costs, and from US\$2,737 to US\$4,179 if there are no financing costs. The 10% fee rule recommended for the 1993/96 triennium would result in fees of US\$1,103 at Cave Hill, US\$403 at Mona, and US\$879 at St. Augustine. On this basis, the new fee would be 5.7 times the existing fee at Cave Hill because of the extraordinarily high per capita economic costs of that campus, whereas it is only one-third greater than fees plus cess at Mona, and practically the same as existing fees and cess at St. Augustine. These new fees are greatly below the economic limits except for Cave Hill. Setting tuition fees at 15% and even 20% of economic costs still results in fees considerably below the economic upper limits at Mona and St. Augustine in the "with financing" case. For Cave Hill, the high economic costs allow absolutely no room for manoeuvre beyond the 10% rule. If there are no financing costs, the upper limit tuition fees for all three campuses are well in excess of those emanating from a 20% rule.

The conclusions to be drawn are that the fee proposals are not unreasonable insofar as the market value of degrees for Jamaica and Trinidad and Tobago is concerned. In the case of Barbados, the two major constraints on their acceptability are the high economic costs of the Cave Hill campus, and the availability of credit at interest rates lower than 10% per annum.

### **Ability to Pay**

It is not sufficient, however, to consider only the relative value of university education to the individual and to the society. Ability to pay for the education is critical. Socio-economic surveys have been conducted of students at Mona in 1987 and 1990, and at St. Augustine in 1989, 1990, and 1991. Data from the Barbados Student Revolving Loan Fund also

help in forming judgements about the economic situation of students and their parental households.

The Stone survey in 1987 indicated that between 34% and 40% of students at Mona were from professional households and a further 10% to 16% from households in which the main source of income was business. Thus, households that represent the middle and upper socio-economic groups supplied 50% of the student body.

The 1990 survey estimated that 60% of students have annual incomes lower than US\$2,353 (at 1990 prices and exchange rates). The weighted mean income was US\$5,834. Seventy-two percent of the sample reported annual parental incomes lower than US\$3,529. The weighted mean parental income was US\$5,560 per annum.

If reported incomes are to be believed, the overall conclusion is relatively low levels of income, from which one can infer, limited ability to afford higher tuition fees in the absence of credit facilities.

The ISER survey of St. Augustine students in 1989 found that 32% of students came from professional households and 12% from business households. Thus 44% were from middle and upper class backgrounds. The 1991 survey of student and parental incomes yielded 23% of students reporting annual incomes lower than US\$5,647, 56% between US\$5,647 and US\$9,882, and 20% between US\$9,882 and US\$14,118. The frequencies of reported parental incomes in the same income categories were 22%, 31%, and 26%. Mean reported student income was US\$7,491 and mean reported parental income was US\$11,175.

On the face of it, higher tuition fees are more affordable in Trinidad and Tobago, but it is clear that a significant proportion of students may experience difficulties requiring recourse to credit facilities.

The data available from the Barbados Student Revolving Loan Fund reveal 20% of students reporting annual family incomes not exceeding US\$6,000, 42% between US\$6,000 and US\$10,000, and 27% between US\$10,000 and US\$15,000. The mean family income is US\$7,433. The implications for affordability are that, given existing economic costs at



Cave Hill, the 10% rule is affordable, but at higher tuition fees, most students will have to resort to credit at highly subsidized interest rates.

### **Entitlement and Fairness**

It is claimed by students and others that free university education is a right. In the context of limited resources and, therefore, choice between alternative components of the education system, this claim has no validity. Free university education becomes a privilege obtained at the expense of those who have lower levels of access to good quality primary and secondary education. It is inequitable, especially since only between 58% and 84% of the secondary school age cohort gain admission to secondary schools in Jamaica and Trinidad and Tobago respectively, and fewer than 10% of secondary school students progress to tertiary education in the Caribbean.

There is also an issue of inter-generational fairness. Inadequate tuition fees paid by the present generation results in diminished capacity to service future generations, especially if the fee basis excludes the costs of capital replacement. The present cohorts of UWI students would be gaining at the expense of future cohorts.

Third, one may return to the issue of the distribution of benefits between graduates and the rest of society. This provides a basis for the sharing of costs between tuition fees and governmental subventions. If graduates accumulate a large proportion of net benefits, it is not unfair for them to pay a larger proportion of costs than they do now.

**End**

Mr. Chairman, I have ranged perhaps a bit too widely and perhaps unwisely in my address. Nonetheless, I hope that I have said a few things worth taking seriously by this august body. My best wishes for a successful conference.

## References

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