

Chapter 3: Mauritius

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Population (1993): 1,111,000

Population Growth Rate (1960-93): 1.5% per annum

Land Area: 1,480 square kilometres

GNP per Capita (1994): US\$3,500

Year of Independence: 1968

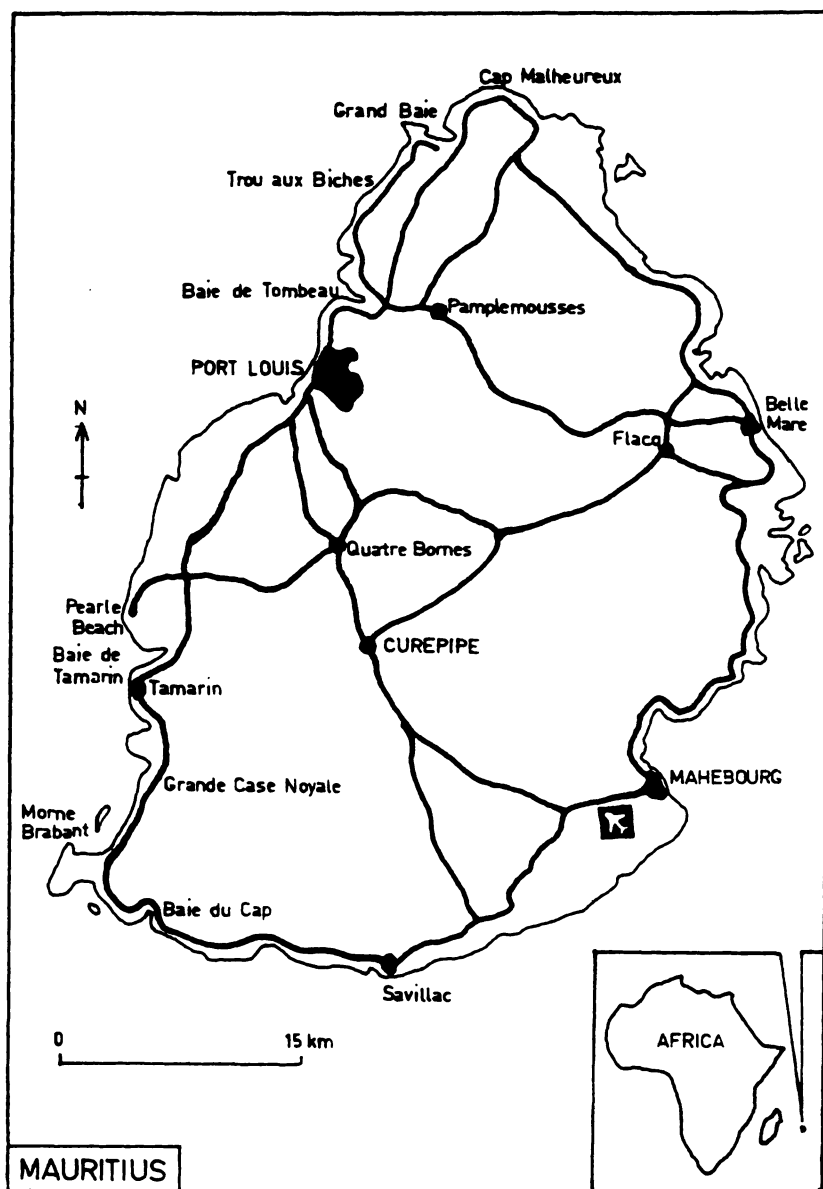
UNDP Human Development Index (1994): 0.831

Unlike most other colonial territories, Mauritius was uninhabited in the precolonial era. The island was probably visited by Arabs before Portuguese voyagers rediscovered it in 1510, but it was the Dutch who took possession of the island in 1598 and named it Mauritius. The Dutch left in 1710, and were replaced five years later by the French, who changed the name to Isle de France. In turn, the French were replaced in 1810 by the British. The British allowed the French language and culture to remain, but again named the island Mauritius.

The colonial processes created a multi-ethnic society. In addition to the colonisers themselves, slaves were brought from mainland Africa and from Madagascar by both the French and the British. In addition, Indian labourers were brought by the British to work in the sugar cane fields when the freed slaves refused to work there; and at the end of the nineteenth century Chinese traders arrived to set up small shops. These developments account for the multicultural and multilingual dimensions of Mauritius today. The majority of the people are Hindus, followed numerically by Roman Catholics, Muslims and Buddhists.

For many years the economy relied mainly on sugar. However, since independence the government has made a sustained effort to diversify the economy. A manufacturing Export Processing Zone was set up, mainly for production of garments. Also, tourism was developed; and recently the service sector, including offshore banking, has been encouraged.

The country's strong and continuing French legacy is reflected in the fact that most newspapers are in French and that the creole used in everyday interaction is based on French. However, the education system is based on British patterns. It has a six-year primary cycle which children normally



enter at the age of five. This is followed by the secondary cycle, comprising five years to School Certificate (SC) and a further two years to Higher School Certificate (HSC). In 1996, Mauritius had 267 primary schools with 120,000 pupils, and 120 secondary schools with 90,000 pupils. The government now aims to give all children aged four to 15 access to education.

Mauritians place strong emphasis on education, and consider the certificates obtained at each level to be of major importance. This stress on examinations starts in the primary school. To gain admission to secondary schools, applicants must pass the Certificate of Primary Education (CPE) examination. The annual pass rate at the first attempt is usually about 65 per cent, but rises to 75 per cent with repetition. The top pupils are ranked in order of merit on the CPE results in order to determine admission to the most sought-after secondary schools. Pupils who do not pass the CPE examination at all are channelled into basic secondary schools for three years.

The Mauritius Examinations Syndicate

The Mauritius Examinations Syndicate (MES) was established in 1984. Prior to that time, operations were primarily conducted by the Ministry of Education in conjunction with the Ministry of Finance and various other bodies. The sharing of roles between ministries exemplified a type of operation which is fairly common in small states, which have small bureaucracies and must maximise use of scarce resources. The Ministry of Finance had the necessary data-processing staff and equipment which the Ministry of Education lacked. As the number of examinations grew, however, the government decided to establish a separate body. The MES was created by Act of Parliament, and is required to:

- organise and conduct such examinations as may be directed by the Minister of Education;
- conduct relevant research and related activities tending to promote the development of a sound system of examinations;
- award certificates; and
- cooperate with other examination bodies.

The name Syndicate was chosen for two reasons. First, the name had respectability through the long association with the University of Cambridge Local Examinations Syndicate (UCLES). Second, the word Syndicate conveyed an important message about cooperation with teachers and others engaged in the educational process.

An additional reason for creating the MES as a separate body concerned security in the examinations process. In 1981, question papers for the Cambridge SC and HSC examinations leaked in advance — to the extent that questions were printed in local newspapers a few days before the examinations were due to have been taken. Two years later, irregularities occurred with the CPE examination. Following these two leakages, the authorities decided that a single body with sole responsibility for administration would be better able to operate a secure system.

The hunger for certificates has prompted Mauritians to enter for many examinations offered by overseas bodies as well as local ones. Table 3.1 lists the main examinations administered by the MES on its own behalf and on behalf of other bodies. The numbers of candidates taking the different examinations is shown in Table 3.2. The largest numbers are for CPE, SC and HSC. Substantial numbers also sit accounting, Pitman (secretarial) and London Chamber of Commerce examinations. As the economy has diversified, examinations have also become needed in such areas as tourism, hairdressing, welding, and electronics. Developments in vocational education have led to National Trade Certificate courses for which the examinations are jointly administered by the MES and the Industrial & Vocational Training Board.

The governing body of the MES is a Board of nine persons. The Board lays down policy decisions and approves the budget, but leaves the organisation of examinations and the development of research to the Director, who reports to the Board.

The MES has had to meet the challenge of organising an increasing number of examinations since 1984 whilst giving special attention to security and reliability. It has gradually increased its staff from about 70 in 1984 to 220 in 1996. The staff includes 19 employees in the finance section (including responsibility for payment of fees and allowances to invigilators and others who are not employees of the MES), while others are engaged in establishment matters, storage, purchases, security, premises, and printing.

The CPE section has 15 staff, and the SC/HSC section has 22. This gives an indication of the number of persons involved in the conduct of examinations, which includes looking after accommodation, recruiting invigilators, marking, moderating, and corresponding with overseas bodies, schools and private candidates. The MES also has a research section with eight specialised professionals supported by 12 research assistants and data processors. All staff in the examination and research sections hold first degrees. Some of them also hold postgraduate qualifications, and a few are registered for M.Phil. and Ph.D. studies.

Table 3.1: Main Examinations Administered by the Mauritius Examinations Syndicate

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|-----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. Certificate of Primary Education | 25. Society of Actuaries |
| 2. Cambridge School Certificate/Higher School Certificate | 26. Master of Business Administration: several universities |
| 3. Association of Accounting Technicians | 27. University of London: external degrees and diplomas |
| 4. Association of Business Executives | 28. University of South Africa |
| 5. Association of Health Care & Medical Records Officers | 29. Association of Business & Administrative Computing |
| 6. Association of International Accountants | 30. Institute of Data Processing Management |
| 7. Australian Insurance Institute | 31. British Computer Society |
| 8. Chartered Association of Certified Accountants | 32. City & Guilds of London Institute (CGLI) |
| 9. Chartered Institute of Bankers | 33. Joint MES/CGLI |
| 10. Chartered Institute of Management Accountants | 34. Royal Institute of Chartered Surveyors |
| 11. Chartered Institute of Marketing | 35. College of Estate Management |
| 12. Chartered Institute of Transport | 36. Engineering Council |
| 13. Chartered Insurance Institute | 37. Institution of Structural Engineers |
| 14. Institute of Actuaries | 38. Society of Engineers |
| 15. Institute of Administrative Management | 39. Textile Institute |
| 16. Institute of Chartered Secretaries and Administrators | 40. Conservatoire de Musique |
| 17. Institute of Company Accountants | 41. Lycée Polytechnique |
| 18. Institute of Professional Managers and Administrators | 42. Institute of Commercial Management |
| 19. Chartered Institute of Purchasing and Supply | 43. Institute of Chartered Financial Analysts of India |
| 20. Royal Statistical Society | 44. Diplomas and degrees by distance education from Holborn College and universities including Southern Queensland, South Pacific and Durban Westville (South Africa). |
| 21. Institute of Supervisory Management | 45. Institute of Financial Management |
| 22. London Chamber of Commerce and Industry | |
| 23. Pitman Examinations Institute | |
| 24. Royal Society of Arts | |

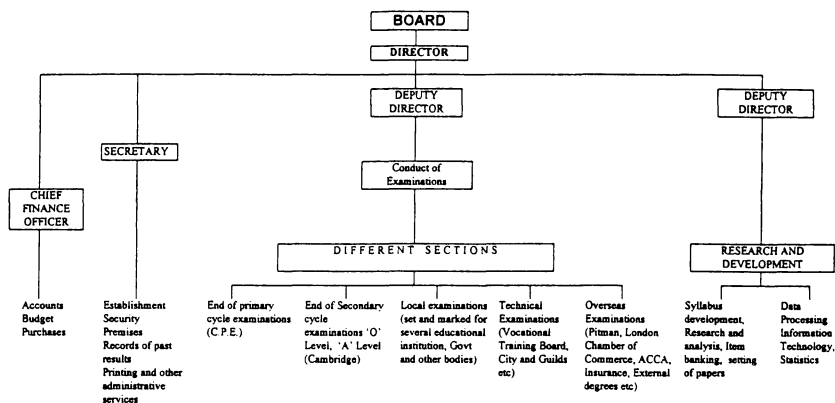
Table 3.2: Approximate Annual Number of Candidates for the Principal Examinations, Mauritius

<i>Examination</i>	<i>No. of Candidates</i>
Certificate of Primary Education	35,000
School Certificate (November & June)	18,000
Higher School Certificate (November & June)	8,000
Chartered Association of Certified Accountants	5,700
Pitman (three times a year)	5,000
London Chamber of Commerce (twice a year)	2,500
Local Vocational Examinations	2,000
City & Guilds (twice a year)	1,400
University of South Africa (Distance mode)	1,200
Other examinations: ranging from 500 candidates to only one	

It might be argued that the MES is over-staffed by comparison with other countries covered in this book. Certainly the MES has benefitted from the buoyant economy, which has meant that the organisation has not faced the financial stringency of some other countries. However, the fact that the MES has substantial research capacity is a feature to be noted and applauded. Also, the MES undertakes much work in curriculum development which, if not done within the MES, would have to be undertaken by other bodies. Another factor underlying the size of the MES is the need to have cross-checking through sharing of responsibility. An example is the need for three different people to hold keys to separate locks on the safes containing live examination papers. Such arrangements mean that individuals are less likely to be tempted to abuse the trust placed in them. Moreover, the administration of examinations for foreign institutions justifies employment of some of these staff and actually earns money for the MES. Were the MES to be engaged solely in the operation of domestic examinations, its tasks could probably be accomplished with only a quarter of its present establishment.

Figure 3.1 shows the structure of the MES. Particularly for reasons of accountability, it is very important to know the exact responsibilities of each officer and to whom each officer reports. The size of the operation permits more specialisation than is possible in most other small states.

Figure 3.1: Organisation Chart of the Mauritius Examinations Syndicate



Security

In a country which is not only small but also attaches a high premium to certificates, the organisation of examinations must be carried out with a high degree of professionalism and the utmost confidentiality and security. The CPE examination is the most demanding from this perspective. It is taken by the largest number of candidates, and is closely monitored by the public because it determines the secondary schools to which pupils may be admitted. For admission to the most competitive schools, the top 2,500 boys and the top 2,500 girls (out of about 15,000 boys and 15,000 girls) are ranked in order of merit. The public perception of which secondary school is the best is at the root of the ranking procedure, because there are two or three boys' schools and the same number of girls' schools to which nearly all candidates would like to gain admission.

To ensure a tight system, right from the preparation of the question papers through to the declaration of results, every possible measure to ensure a well-organised and secure examination system has to be followed rigorously. The security measures have several elements. Beginning with preparation of papers, not more than two highly reliable persons are involved in the setting of each draft, and the typing is done by two experienced Confidential Secretaries. In order not to involve more Mauritians, and to tap expertise not available in Mauritius, the papers are moderated by the University of London Examinations & Assessment Council (ULEAC). This arrangement was launched in 1994 following an allegation of irregularity in the examination process, although the irregularity was alleged to have taken place outside the MES on the day of the examination.

For greater anonymity and confidentiality, the MES has set up a bank of questions and complete papers. Resource persons, including lecturers at the Mauritius Institute of Education and primary school inspectors, have been trained to prepare questions and full papers. Experienced primary teachers also prepare individual questions to build up a bank of questions, though for security reasons they do not prepare full papers. Until 1993, the papers were printed by the MES. However, since about 10 people were involved in the printing and there was always the risk that one of them could leak the contents, the decision was taken to have the papers printed by a top United Kingdom (UK) security printer.

When the question papers reach Mauritius, they are accompanied by police officers to the MES, where they are kept in a strongroom. To gain access to the strongroom, three senior officers (including a security officer) holding different keys must be present at the same time. Other security measures, including burglar alarms, control access to those MES buildings which are not open to the public.

The next stage in the process requires security in delivery of papers to the 300 centres at which candidates sit the examinations. Papers are delivered to centres only on the day each examination is taken. In this respect, Mauritius has an advantage from being a country which is small not only in population but also in area. The papers are delivered by about 60 school inspectors and experienced headteachers. Each of these people delivers the papers for five examination centres to the supervisors of those centres. The supervisors are usually headteachers who are posted to schools other than their own.

At each examination centre, two police officers are posted to ensure that the examination is conducted in accordance with instructions. These instructions include requirements concerning the opening of the sealed question papers and the placing of completed scripts in envelopes which must be sealed immediately.

The marking of scripts is done centrally, with the index numbers of the candidates hidden during the marking exercise. Marking is done under the supervision of a Research Officer of the MES or a lecturer from the Mauritius Institute of Education. Teachers, headteachers and inspectors are also involved at different levels, and receive proper training in advance.

Finally, the marks are entered directly from each marking centre into the MES computer through dedicated telephone lines. Security arrangements ensure that the correct marks are fed into the computer. The marks are fed twice, by two different persons, for extra verification.

For other examinations, a slightly different security system is in place. For the SC and HSC examinations, which come from Cambridge, the

security system is the same as when CPE papers are received from the printers. However there are no policemen when the envelopes are opened in the centres, because the candidates are older and can verify for themselves whether the envelopes are properly handled.

Localisation and International Recognition

The education system of each country must be adapted to its requirements, environment, socio-economic context, and type of development desired. The examination system, being part of the education system, must respond to these demands. Assessment procedures and tools must also be reliable and valid, in order to secure recognition of qualifications both domestically and abroad.

The primary school curriculum was devised locally to respond to the country's environment and socio-economic requirements. However, some external inputs are considered desirable for quality-control and to maintain professionalism in the operation.

Before 1980, there were two examinations at the end of the primary cycle: a Primary School Leaving Examination and a Junior Scholarship examination for admission to the top secondary schools. The Junior Scholarship examination, like the Primary School Leaving Examination, had been organised locally until allegations of leakage were made in the 1960s. The responsibility for setting and printing the question papers was then given to Moray House College of Education in Edinburgh, Scotland, with which Mauritius had a link as some Mauritians had been there for teacher education courses. The arrangement also gave a form of credibility through its external nature. Despite their competence and experience, however, the foreign paper-setters were not really in a position to understand what was required of 11-year old children in Mauritius in all subject areas and particularly in Geography. Because of this, in 1980 the government localised the whole examination.

As noted above, in 1994 an external input was reintroduced, in the form of a contract with ULEAC, following widespread discussion again of the dangers of malpractice and leakage. ULEAC was chosen because although, like UCLES, it mainly operates at the secondary level, the organisation had some demonstrated expertise in primary school examinations in the UK. The arrangement was initiated not so much for international recognition but rather to increase security by reducing the number of Mauritians involved. However, the fact that the arrangement seems to ensure some international underwriting for the local examination operated by the MES is an added benefit.

Although in principle there is a case for the secondary education system

to be Mauritianised, there are also compelling reasons not to sever links with international bodies. It is true that countries smaller than Mauritius have developed their own education and examination systems. However, Mauritian society is conservative, and places high value on international links. For reasons of international recognition and portability of qualifications, Mauritians would prefer a certificate from Cambridge or London to a local one. At one point the UCLES examinations were criticised on several counts. The Economics papers were considered not to have enough local content or to be keeping up with changes in the Mauritian economy; the French papers were considered too easy for a society which uses French extensively in everyday life; and the Geography and History papers were also considered too distant from Mauritian contexts. However, UCLES has become more flexible than it used to be, and in recent years has found ways to respond to these shortcomings.

For these reasons, the SC and HSC examinations continue to be organised by UCLES. In fact, even when the UK moved to 'O' and 'A' levels, and recently to the General Certificate of Secondary Education (GCSE), Mauritius kept the old nomenclature of School Certificate and Higher School Certificate. The main reason was that the general public felt that the existing system was working satisfactorily and that there were no strong reasons to change it.

Another major advantage from adherence to UCLES concerns the range of subjects offered. Tables 3.3 and 3.4 show the numbers of candidates for the various subjects at SC and HSC levels. The range of subjects is very wide, particularly at the SC level. Many subjects have fewer than 100 candidates, and some have fewer than 10. Cost factors would make it impossible to offer these subjects if the MES took over the operation. UCLES is able to offer these subjects because the addition of candidates from different countries creates an economically viable operation.

However, attachment to UCLES does also bring some disadvantages. One, which is explained below, concerns cost; and another concerns relevance. Since UCLES examinations serve many countries, there are limits on the extent to which they can be tailored to suit individual clients. However, UCLES has worked hard to provide content in line with Mauritian requirements. For example, special papers are offered for Mauritian candidates in History, Geography and seven Asian languages. Syllabuses for these papers are developed by advisory committees in Mauritius, and, after discussion and advice from Cambridge, are approved as UCLES syllabuses. Mauritians are also involved in local marking of scripts in such subjects as Art, French and all the Asian languages. Although French is offered in the UK and internationally at both 'O' and 'A' levels by UCLES,

Table 3.3: Numbers of Candidates, by Subject, in School Certificate Examinations, Mauritius, 1992-95

Subject	1992	1993	1994	1995	Subject	1992	1993	1994	1995
Addit. Maths (code 4031)	6,004	6,576	6,547	6,814	Hinduism	737	910	905	890
Addit. Maths (code 4030)	1	3	2	4	World Affairs	9	4	4	3
Agricultural Science	71	17	0	0	History of Mauritius	82	43	23	39
Agriculture	160	247	369	437	Human & Soc. Biology	177	208	158	126
Arabic	27	28	28	33	Islamic Rel. & Cult.	219	262	209	225
Art	2,179	2,590	2,767	3,206	Law	26	25	24	1
Biology	2,335	2,648	3,015	3,635	Literature in English	101	121	118	148
Chemistry	2,856	3,310	3,730	4,385	Marathi	10	8	9	6
Commerce	3,550	3,621	3,115	2,836	Maths A (code 4021)	494	485	421	480
Commercial Studies	206	236	237	268	Maths D (code 4009)	2	1	0	0
Computer Studies	471	632	653	709	Maths D (code 4029)	12,165	13,043	12,808	13,608
Design & Communication	70	156	329	475	Metal Work	29	0	0	0
Design & Technology	67	119	205	236	Modern Chinese	28	14	15	18
Economics	7,042	7,023	6,030	5,910	Physics	1,887	2,193	2,363	2,848
Electronics	45	53	53	40	Principles of Accounts	9,653	9,858	9,184	9,176
English Language	12,887	13,787	13,485	11,440	Religious Studies (2040)	4	2	16	16
English Literature	3,743	3,258	3,117	3,401	Religious Studies (2041)	21	21	40	51
Fashion and Fabrics	163	215	213	246	Science	40	40	27	43
Food Studies	211	301	312	377	Sociology	220	260	220	283
French	12,630	13,512	13,220	14,081	Spanish	1	1	1	3
French Literature	2,704	2,734	2,957	3,402	Statistics	133	218	234	251
Geography	256	269	288	294	Tamil	28	34	19	22
Geometrical & Mech. Drawing	571	534	341	179	Telugu	16	23	11	14
German	43	33	35	29	Urdu	147	192	183	72
Hindi	1,914	2,110	1,991	2,080	Woodwork	64	11	0	0

Source: MES Statistical Handbooks.

Table 3.4: Numbers of Candidates, by Subject, in Higher School Certificate Examinations, Mauritius, 1992-95

<i>Subject</i>	<i>1992</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>	<i>Subject</i>	<i>1992</i>	<i>1993</i>	<i>1994</i>	<i>1995</i>
Accounting	2,738	3,132	3,248	3,322	Hindi	221	295	364	359
Art	396	455	473	617	Hinduism	198	194	224	277
Biology	522	562	584	655	History	6	10	0	5
Chemistry	1,300	1,367	1,408	1,616	Islamic Studs.	21	22	29	33
Chinese	0	1	0	1	Law	4	2	6	0
Computing	0	0	0	23	Man. of Busin.	48	112	145	175
Design & Tech.	0	9	21	27	Marathi	0	2	0	2
Dress & Textile	38	49	50	52	Maths	3,111	3,615	3,719	3,850
Economics	1,884	2,165	2,094	1,923	Metal Work	6	0	0	0
English	297	261	275	290	Physical Sci.	3	5	8	7
Food Studies	39	46	43	58	Physics	901	943	977	1,074
French	1,321	1,450	1,567	1,776	Sociology	16	26	41	59
Further Maths	8	9	11	5	Tamil	4	1	0	0
General Paper	4,334	4,812	5,066	5,438	Telugu	1	2	2	2
Geography	50	49	44	39	Urdu	8	18	14	15

Source: MES Statistical Handbooks.

the level of the examinations is rather low for Mauritian candidates. Here again, UCLES agreed to the suggestions made by Mauritius to have special syllabuses in French for Mauritian candidates.

Costs

For the CPE examination, there were 30,000 candidates in 1995. Each candidate took four compulsory subjects, and 20,000 candidates took an Asian language as an optional fifth subject. Each question paper, in the form of a booklet to be used as an answer book, had 16 A4 pages.

The cost of setting the papers and having them moderated by ULEAC was approximately £30,000. In addition, the cost of printing 40,000 copies of each of the compulsory papers and 30,000 copies of the optional papers (190,000 booklets in all), and then air-freighting them, was approximately £100,000; and the cost of organising the examination was £250,000. Excluding the salaries of MES staff, this gives a total figure of about £380,000, or £13 per candidate. Addition of salaries of the permanent MES staff and other government expenditures would create a total of about £600,000, or £20 per candidate. Had the papers been printed in Mauritius, the work would probably have been done at about one third of the cost. The

ULEAC operation also required five officers to travel to London and work there for 10 days. All expenses are borne by the Government of Mauritius.

For the UCLES examinations, in 1995 there were 16,000 SC candidates and 6,000 HSC candidates. Students took an average of six subjects at SC and three or four subjects at HSC (the maximum being three 'A' levels plus two subsidiary subjects). The government paid UCLES £1,500,000 in fees for these two examinations. The local expenses of conducting the examinations were approximately £330,000. This means that the cost of organising the examinations, excluding both salaries of MES staff and the fees that the candidates paid to UCLES, was about £15 per candidate. Inclusion of MES salaries and other government expenses would raise this figure to about £23 per candidate. For other examinations conducted by the MES, the cost per candidate is higher because the MES cannot gain economies of scale.

At earlier points in the history of Mauritius, the outflow of so much foreign exchange would have been considered problematic. However, in the 1990s the economy is buoyant and the government no longer places restrictions on foreign exchange. The links with ULEAC and UCLES are expensive, but are considered by the government to be within its financial capacity and worth the price.

Conclusions

Mauritius is a small country which operates in a very international environment. It has scarce natural resources, relies on others for its technology, and imports a large proportion of its food. Mauritius also has a multi-ethnic society with widely divergent origins, and linguistic links with India, the UK, France, China, and some parts of mainland Africa.

The people of Mauritius have endeavoured to shape an education system which on the one hand reflects the society of which they are part, and on the other hand facilitates the international linkages which they consider to be important. The examination system reflects these two goals. At the primary level, the CPE is prepared by the Mauritius Examinations Syndicate but moderated, and in a sense underwritten, by the University of London Examinations & Assessment Council. At the secondary level, Mauritius adheres to the system operated by the University of Cambridge Local Examinations Syndicate. This arrangement is costly, but provides the benefits of international recognition and portability. Moreover, UCLES has been willing to tailor certain examinations to Mauritian needs, and the system gives candidates a far greater choice of subjects than would be possible were the whole system to be undertaken by the MES. The idea of Mauritanising the secondary school examinations has been discussed, and the MES does now have the technical capacity. However, it is doubtful whether Mauri-

tianisation would be cheaper; and the present arrangement confers other benefits.

During the years since 1984, the MES has itself undergone considerable evolution and expansion. It is now a substantial enterprise which, despite the smallness of the society it serves, is able to undertake many specialist services. The MES is of course a fairly expensive operation; but the government's international approach to development, to which the MES has made a contribution, has paid substantial dividends to the Mauritian economy. Moreover, by acting as the local agent for a large number of external agencies, the MES is able to earn money to cover its costs. From these perspectives, the MES must be seen as a successful model.