

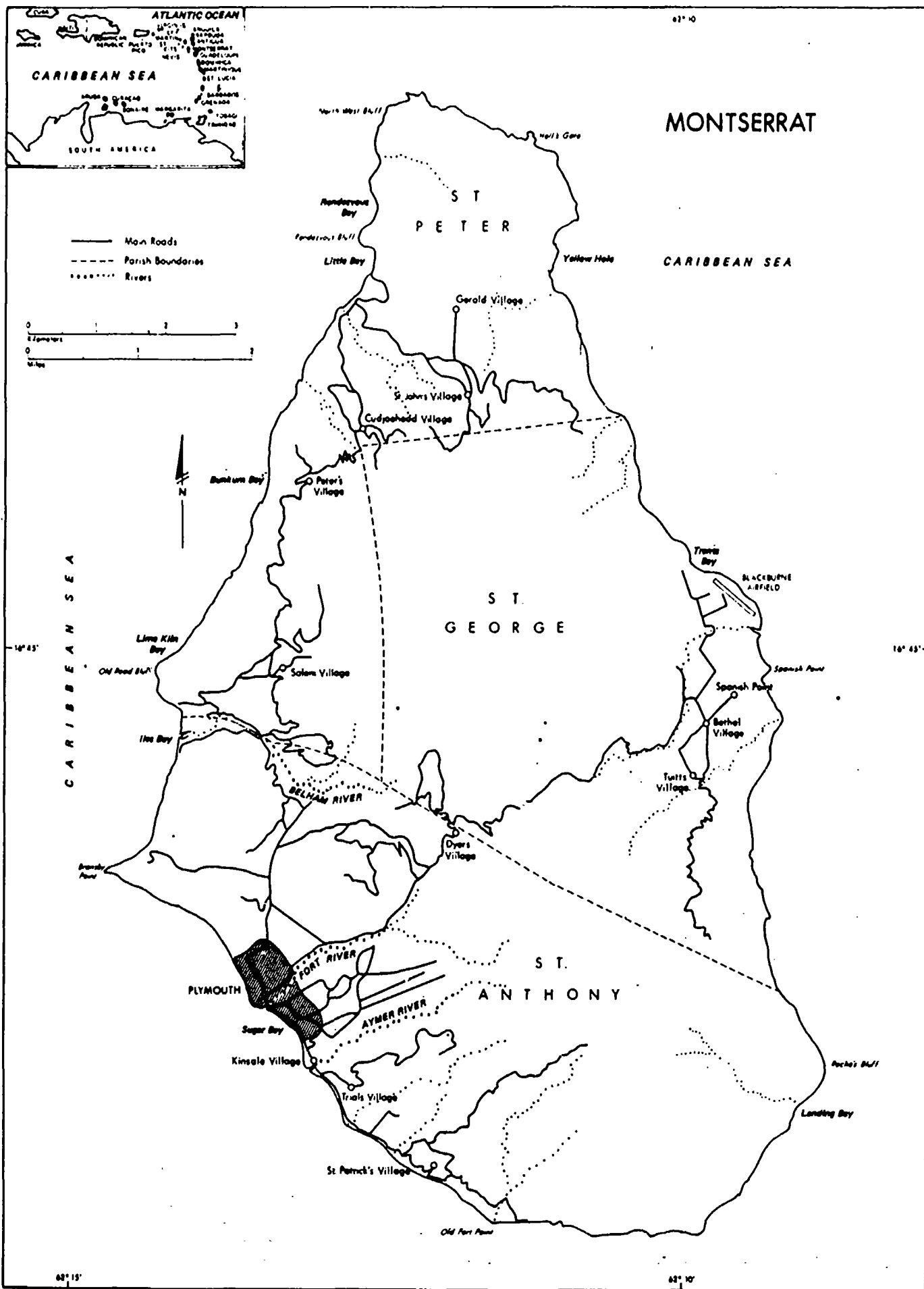
**Report of the
Technical-Vocational Education
and Training
Reconnaissance Mission**

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MONTSERRAT



INTRODUCTION

1. This Reconnaissance Report contains the findings of a Unesco Reconnaissance Mission consisting of Mr. W.L. Taylor (Economist) and Mr. W. Moller (Consultant, Technical Educator) which visited Montserrat from November 21, to November 26, 1982. The Report is one of seven prepared by the Mission since the latter visited seven countries in the region; viz., St. Lucia, St. Vincent and the Grenadines, the Commonwealth of Dominica, Grenada, the State of Antigua and Barbuda, St. Christopher and Nevis, and Montserrat.

2. The Mission was a direct response by the Director-General of Unesco to the request made by the seven Ministers of Education for a Reconnaissance Mission, viz.,

"Considering the urgent need to initiate and support on-going work-oriented vocational educational programmes so as to make the educational systems in the Eastern Caribbean more relevant to social needs, and as an immediate follow-up to the recent Unesco Sector Surveys of the Eastern Caribbean, the Director-General provides a Reconnaissance Mission to the seven LDCs in technical and vocational education to be fielded by the Unesco Educational Financing Division in consultation with the Caribbean Development Bank to assist the OECS countries in obtaining financing on best possible terms for these and future surveys"^{1/}

3. The Terms of Reference of the Mission instructed it to:

- (i) determine with the Government those project items in the field of technical/vocational education and training which the Government is seeking to finance with assistance from external funding agencies, including the Caribbean Development Bank;
- (ii) make preliminary capital costing of each project item; and,
- (iii) determine whether the Government could finance, on an on-going basis, the additional recurrent expenditure likely to be engendered by the implementation of the project items.

4. The basis for the selection of the project items was confined to the recently published Unesco Education Sector Survey - Montserrat An Analysis of the Education and Training System and Recommendations for its Development and, more specifically, to the Recommendations

^{1/} Report of Second Meeting of Caribbean Ministers Responsible for Unesco Affairs with the Director-General of Unesco, Dr. Amadou-Mahtar M'Bow, Castries, St. Lucia, 19/20 July, 1982, p. 38.

relating to technical and vocational education contained therein.^{1/} It is essential that this Reconnaissance Report be read in conjunction with the Sector Survey.

5. Before the Mission's arrival in the country Unesco had asked the Ministry of Education to establish a Working Party to prepare the Government's proposals for discussion with the Mission. Thus, the data contained in this Report had been prepared nationally and not by the Mission. Where the Mission had doubts about the data and the project items, reference is drawn to these doubts at appropriate places in the Report.

6. Before and after the Mission, the latter held consultations with the President and staff of the Caribbean Development Bank and briefed them fully on the Mission's findings. It is hoped that the Caribbean Development Bank may be able to assist in the financing of some of the project items.

7. Whatever the eventual scale of the project to be implemented, the Mission noted several problems common to all seven countries visited. The adequate supply and the training in adequate numbers of the technical teachers and instructors which will be required, in addition to existing staff, is an absolute prerequisite for successful continuing implementation. In several of the countries there is currently a severe scarcity of such staff with appropriate industrial experience. Local schemes such as the use of graduates from local technical colleges are simply not sufficient. In the absence of a regional scheme for co-operation in this field, the Governments concerned should perhaps make special and additional allocation of fellowships to nationals for training in the region. Furthermore, it appeared to the Mission that the content of the various courses and their associated detailed syllabi need to be determined in greater detail and, without suggesting standardization, it also seemed to the Mission that there was room for regional collaboration in this respect.

8. As a follow-up to this Report, Unesco is planning to send two Project Preparation Missions (one to the Leeward Islands and one to the Windward Islands) early in the second quarter of 1983. At appropriate places in the Report, the Mission has suggested various technical actions which the Government's Working Party responsible for elaborating the project proposals should complete before the arrival of the Project Preparation Mission. The latter, working in close conjunction with the Working Party, will prepare a Loan Request for the Government which can be used by it in its efforts to secure suitable external capital financing.

9. It should be noted that the costs of technical assistance (experts and fellowships) have not been made for this initial cost estimation. Such assistance will undoubtedly be required in some countries, but this Report takes the view that it will be more appropriate to estimate these costs at the preparation stage when the Government of Montserrat will be better placed to assess its requirements in this field of external financing.

^{1/} Unesco, EFM/112, April 1982, pp. 20-27.

10. The estimated capital cost of the proposals contained in this Report amount to EC\$ 1,671,300 US\$ 619,000 exclusive of inflation and contingencies. In the Mission's opinion this is too high. For comparative purposes, it is the equivalent of some 80 per cent of the 1981 Recurrent Estimates for Education. Some additional scrutiny and refinement is, therefore, indicated.

I. PROJECT ITEMS

1. The Government had studied the Sector Survey^{1/} and had prepared appropriate proposals to implement the Survey's Recommendations^{2/}. These proposals are intended to meet the needs of students for:

- (a) Terminal education at Junior Secondary/All Age;
- (b) Terminal education at Senior Secondary level;
- (c) Terminal education at Technical College craft/Technician level;
- (d) Background technical education for further (more specialized) technical training and,
- (e) Modular skills training (for graduates of any of the preceding programmes).

(i) SECTOR A - WORKSHOPS FOR SECONDARY SCHOOLS

2. The Government, therefore, proposed the construction of a few workshops and the modification of existing buildings so as to provide each of the three Junior Secondary Schools and the Senior Secondary School with a general purpose, industrial arts workshop to enable two or more areas of industrial arts at the vocational level to be taught. The areas of training offered would be Woods and Metals; Technical Drawing, Electricity, Craftwork, Sewing and Home Economics. Some additional new equipment would also have to be provided ^{3/}.

<u>Estimated Cost</u>	<u>US\$</u>	<u>EC\$</u>
Building Modifications	158,000	426,600
Equipment	134,000	361,800
Total	<u>292,000</u>	<u>788,400</u> excluding inflation and contingencies

(ii) Follow-up

3. The students in Junior Secondary Schools would be approximately 11 to 14 years old. As mentioned in the discussions with the Government, the Mission had some difficulty in envisaging the teaching of Metalwork or Electricity courses at the vocational level for this age group. The content of these courses needs to be worked out in detail before project preparation can take place. Any course in (even basic) Electricity requires a fair background of mathematics and Physics which everybody should take anyway. It is easy to postulate that only simple tools and simple manipulations and skills

^{1/} Unesco, EFM/112, April 1982.

^{2/} See Annexe 1 for details of the proposed project.

^{3/} See Annex 2 for working details of each proposal.

will be taught, taking into account the mental and physical capacities of 12 to 14 year olds. But it is difficult to construct effective terminal courses in Metals or Electricity at this level. "Effective" here means that the pupils will come away with some practically applicable knowledge and skills and not just children's picture book ideas.

4. Similar remarks apply at the Senior Secondary level. There is the additional consideration that the CXC Industrial Arts Syllabus requires too much equipment for such a small country as Montserrat.

5. The proper operation of these workshops requires the considerable provision of materials. The cost of this will be much higher than that spent per pupil on general education institutions in the past. Any kind of pre-vocational or skill-oriented education requires a much greater outlay for materials than general education. Without this provision, the teaching in the workshops will be largely restricted to theory with the whole purpose of the educational objectives not being achieved, and, therefore, a waste of resources.

6. Finally, the recruitment of adequately trained and competent instructors is likely to pose serious problems.

(iii) SECTOR B - MONTSERRAT TECHNICAL COLLEGE

7. The College plans to build a few workshops to expand its programme as recommended in the Sector Survey ^{1/}, and to upgrade existing equipment. The expansion appears modest given that the workshops will be used conjointly with the Senior Secondary School, adjacent to the College. The estimated equipment cost is rather heavy for the Metals and Electricity workshops and also for Business Machines ^{2/}. These costs need to be revised in the light of course content and the number of work places to be provided.

<u>Estimated Costs</u>	<u>US\$</u>	<u>EC\$</u>
Building	144,000	388,800
Equipment	183,000	494,100
Total	<u>327,000</u>	<u>882,900</u>

(iv) Comments

8. In addition to the reservation about equipment mentioned above, the Mission has doubts about the country's ability to secure sufficient numbers of competent instructors for the expanded programme.

^{1/} Unesco, EFM/112, April 1982.

^{2/} See Annex 3 for details of costs.

<u>Summary of Costs</u>	<u>US\$</u>	<u>EC\$</u>
	Building	Equipment
Workshops for Secondary Schools	158,000	134,000
Montserrat Technical College	144,000	183,000
	<u>302,000</u>	<u>317,000</u>
<u>Grand total</u>	<u>619,000</u>	<u>1,671,300</u> excluding inflation and contingencies

9. Given that amounts of this order of magnitude are unlikely to be readily forthcoming from external funding agencies, the Mission suggests that the Government scale down the proposal before project preparation.

II. RECURRENT COSTS

(v) Junior Secondary Schools

10. At the Junior Secondary School level the authorities estimated that only one additional staff member would be required for the two Junior Schools. The proposed salary would be EC\$ 20,000 per annum.

(vi) Montserrat Senior Secondary School

11. It is visualised that an additional four staff will be needed to implement this proposal, also at a cost of EC\$ 20,000 per annum each (EC\$ 80,000 per annum total).

(vii) Montserrat Technical College

12. The Commerce/Business Studies course will demand an additional two staff at EC\$ 20,000 per annum each (EC\$ 40,000 per annum total). In addition, it was held that a storekeeper (maintenance staff member) would be desirable at a salary of EC\$ 15,000 per annum.

(viii) General

13. Thus, additional staff recurrent salary costs will amount to approximately EC\$ 155,000 per annum, (US\$ 57,407). At first sight, this might appear to be a modest amount, but it is the equivalent of about 30 per cent of what Montserrat actually spent (recurrent) for all of Junior Secondary Education and Secondary Education in 1979. If Technical Education only is considered the salary increase in para. 12 above is about 37 per cent of actual recurrent expenditure for Technical Education only, in 1979.

14. Furthermore, the additional salary costs are not the only recurrent costs to be taken into account. As the Sector Survey pointed out^{1/} Montserrat had been seriously under-spending on "materials and supplies" to support the general education and training effort. Unless greatly increased "materials and supplies" votes and increased maintenance sums are made available, this Report would counsel a reduction in the proposals more consistent with the country's ability and willingness to make the resources available to ensure successfully continuing implementation.

^{1/} EFM/112, page 2, para. 9 and 10.

Technical Vocational Educational and Training
Recommendations - Education Sector Survey

1. The uniquely small population of Montserrat is a key factor to be considered in the implementation of the Recommendations as contained in the Report. Thus, the proposals have been tailored to meet the needs of students whose training and education would lead to:

- (a) Terminal Education at Junior Secondary/All Age;
- (b) Terminal Education at Senior Secondary level;
- (c) Terminal Education at Technical College, Craft/
Technician level;
- (d) Background Technical Education training for further
(post-College) Technical Training;
- (e) Modular skills training (for graduates of any of the
preceding programmes).

2. The College presently offers training in the areas of Typing, Shorthand, Office Practice, Carpentry, Masonry, Electrical Installation and Auto-Mechanics. Besides the already proposed multi-purpose workshop incorporated into the College system, proposals are also made in the Sector Survey^{1/} for further expansion to accommodate training in the areas of: appliance repair; radio and TV repair; auto-body repair and painting; auto-electrical repair; automatic transmission; compression ignition engines; masonry and plumbing. Provision is also made for training in the areas of refrigeration and air conditioning.

Commerce/Business Studies

3. Restructuring and re-equipping of the office arts facilities along with provision for a model office (equipped) is proposed for further improvement of the system.

4. To accommodate the above categories without unnecessary duplication of expensive equipment, and to ensure the most efficient use of the present resources the following structural innovations are recommended.

5. A General Purpose Industrial Arts Workshop at each of the Junior Secondary and the Senior Secondary Schools to provide general orientation to the technical areas to provide limited modular skills training for students (12-15 years).

6. A Multi-Purpose Workshop within the Technical College system to accommodate:

- (a) Technical Courses at CXC level for students of the
senior section of Montserrat Secondary School.
- (b) Craft and Technician Courses.
- (c) Modular skills training courses.

1/ EFM/112, p. 22, para. 40.

Definitions

7. General Purpose Workshop:

This is defined as a workshop equipped to accommodate two or more areas of Industrial Arts at the vocational level.

8. Multi-Purpose Workshop:

This would indicate a workshop with space and facilities to accommodate individual areas of a number of Technical subjects to provide Technical/Vocational Education and Training at CXC and Craft Certificate levels, or even at the Technical level.

9. Summary of Proposals

At the completion of this project, three/four General Purpose Workshops,^{1/} and one Multi-Purpose Workshop, are envisaged.

Salem Junior Secondary School (86 boys, 80 girls)

10. Industrial Arts:

The School now utilizes an 800 sq. ft. wood working area with limited equipment. With supplementary wood working equipment and the addition of metal working equipment, this area could serve the Metal/Woods Section of the Industrial Arts Programme. An adjoining area of approximately 600 sq. ft. could be modified and equipped for Technical Drawing and Basic Electricity.

11. Home Economics/Craft:

These areas are adequately accommodated, but could be considerably improved with additional equipment and general repairs.

Plymouth Junior Secondary School (173 boys, 133 girls)

12. Industrial Arts:

A 650 sq. ft. inefficiently equipped wood working shop is in use at the School. A new building of approximately 1,700 sq. ft. with store room is proposed.

13. Home Economics/Craft:

With the construction of the new General Purpose Workshop, the existing wood area could be assimilated by the Home Economics/Craft Section.

^{1/} Three at this stage, a fourth, Eastern Junior Secondary School, may be included by the time of the arrival of the Project Preparation Mission.

Montserrat Secondary School (lower section)

The Technical Wing of the Montserrat Secondary School provides approximately 3,000 sq. ft. It is proposed to equip two (2) sections (2,000 sq. ft.) of this building to facilitate the industrial arts programme.

14. Home Economics/Craft:

It is proposed that a new structure of 2,000 sq. ft. be erected and equipped to facilitate the teaching of Food and Nutrition, Home Management, Needlework and Craft.

Montserrat Secondary School (senior section)

15. Industrial Arts:

The Senior Section of M.S.S. (CXC General) should be accommodated in the proposed Multi-Purpose Shop. This workshop, where possible, should be incorporated into the present Technical College system. The areas of Woods, Metals, Electricity and Technical Drawing are currently offered by CXC. Only Technical Drawing is taken at the school; facilities exist at the Technical College for Woods, Basic Mechanical Skills, and Trowel Trades. New workshop space and additional equipment are required in the areas of Metal, Electricity and Plumbing.

16. Home Economics:

The new Home Economics/Craft Centre referred to above should be equipped to CXC Home Economics Craft level.

Source: Ministry of Education, Montserrat, November, 1982.

Costing of Whole Proposal

School	Courses	Work Space			Equipment		Total
		State	Size	Cost US\$	State	Cost US\$	
1. S.J.S.S.	Woods/Metals	E	800 sq. ft.		A	7,500	7,500
	Tech./Draw./Electric	E/M	600 sq. ft. x 10	6,000	N	10,000	16,000
	Craft/Sewing	E	500 sq. ft.	-	A	5,000	5,000
	Home Economics	E	650 sq. ft.	-	A	5,000	5,000
	Total			6,000		27,500	33,500
2. P.J.S.S.	Woods/Metals	N	800 sq. ft. x 30	24,000		12,000	36,000
	Tech./Draw./Electric	N	600 sq. ft. x 30	18,000		10,000	28,000
	Craft/Sewing	E/M	500 sq. ft. x 10	5,000		10,000	15,000
	Home Economics	E	650 sq. ft.	-		5,000	5,000
	Storage	N	250 sq. ft. x 30	7,500		-	7,500
Total			54,000		37,000	91,500	
3. M.S.S.S.	Woods/Metals	E	950 sq. ft.	-	N	20,000	20,000
	Tech./Draw./Electric	E/M	750 sq. ft. x 10	7,500	M	15,000	22,500
	Craft/Sewing	N	1,000 sq. ft. x 45	45,000	N	15,000	60,000
	Home Economics	N	1,000 sq. ft. x 45	45,000	N	20,000	65,000
	Total			97,500	A	70,000	167,500
4. M.T.C. + M.S.S.	Stores	N	600 sq. ft. x 30	18,000		-	18,000
	Woods	E	1,500 sq. ft.	-	A	10,000	10,000
	Metals	N	1,200 sq. ft. x 30	36,000	A	45,000	81,000
	Tech./Drawing	E/M	850 sq. ft. x 10	8,500	N	5,000	13,500
	Electricity	N	1,200 sq. ft. x 30	36,000	A	45,000	81,000
	Masonry	E	1,000 sq. ft.	-	A	15,000	15,000
	Plumbing	N	1,200 sq. ft.	36,000	A	10,000	46,000
	Auto-Mechanics	E	2,000 sq. ft.	-	A	15,000	15,000
	Total			134,000		145,000	279,000
5. M.T.C. Additional	Commerce/Business Studies			9,000		30,000	39,000
	Business Machines					3,000	3,000
	Auto Body Repair					2,000	2,000
	Auto Electric Wiring					1,000	1,000
	Automatic Transmission					1,000	1,000
	Compression					1,000	1,000
	Total			9,000		38,000	47,000
GRAND TOTAL				301,000		317,000	618,000

Source: Ministry of Education, Montserrat, November, 1982.

Key: E - Existing
A - Additional
N - New
E/M - Existing/Modified