Fundamentals of Educational Planning

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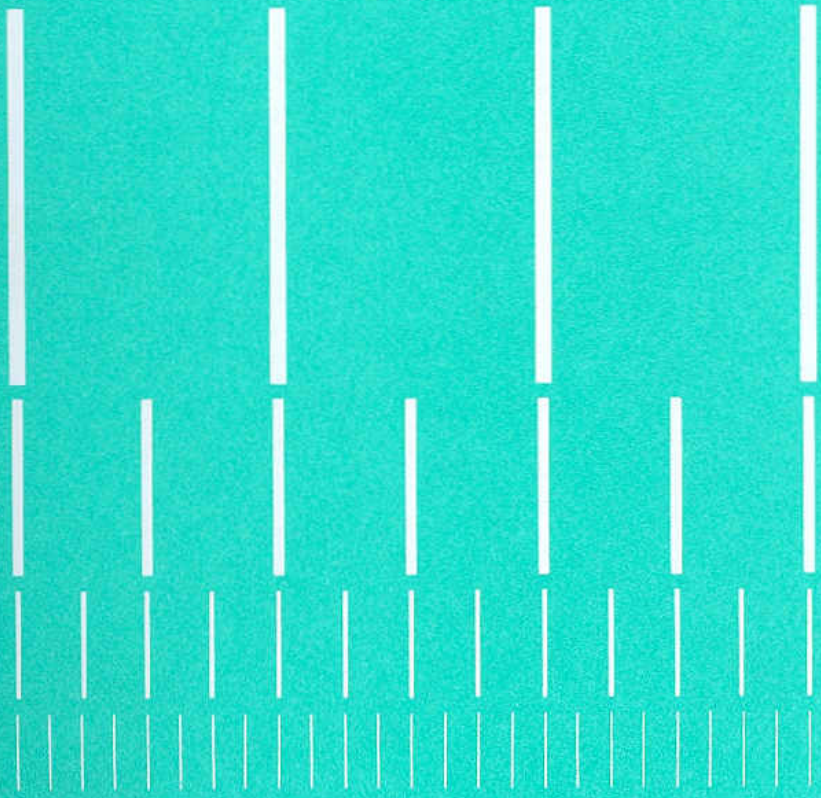
Educational strategies for small island states

David Atchoarena



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Fundamentals of educational planning

The booklets in this series are written primarily for two types of clientele: those engaged in educational planning and administration, in developing as well as developed countries; and others, less specialized, such as senior government officials and policy-makers who seek a more general understanding of educational planning and of how it is related to overall national development. They are intended to be of use either for private study or in formal training programmes.

Since this series was launched in 1967 practices and concepts of educational planning have undergone substantial change. Many of the assumptions which underlay earlier attempts to rationalise the process of educational development have been criticised or abandoned. Even if rigid mandatory centralized planning has now clearly proven to be inappropriate, this does not mean that all forms of planning have been dispensed with. On the contrary, the need for collecting data, evaluating the efficiency of existing programmes, undertaking a wide range of studies, exploring the future and fostering broad debate on these bases to guide educational policy and decision-making has become even more acute than before.

The scope of educational planning has been broadened. In addition to the formal system of education, it is now applied to all other important educational efforts in non-formal settings. Attention to the growth and expansion of educational systems is being complemented and sometimes even replaced by a growing concern for the quality of the entire educational process and for the control of its results. Finally, planners and administrators have become more and more aware of the importance of implementation strategies and of the role of different regulatory mechanisms in this respect: the choice of financing methods, the examination and

certification procedures or various other regulation and incentive structures. The concern of planners is twofold: to reach a better understanding of the validity of education in its own empirically observed specific dimensions and to help in defining appropriate strategies for change.

The purpose of these booklets includes monitoring the evolution and change in educational policies and their effect upon educational planning requirements; highlighting current issues of educational planning and analysing them in the context of their historical and societal setting; and disseminating methodologies of planning which can be applied in the context of both the developed and the developing countries.

In order to help the Institute identify the real up-to-date issues in educational planning and policy-making in different parts of the world, an Editorial Board has been appointed, composed of two general editors and associate editors from different regions, all professionals of high repute in their own field. At the first meeting of this new Editorial Board in January 1990, its members identified key topics to be covered in the coming issues under the following headings:

1. Education and development
2. Equity considerations
3. Quality of education
4. Structure, administration and management of education
5. Curriculum
6. Cost and financing of education
7. Planning techniques and approaches
8. Information systems, monitoring and evaluation

Each heading is covered by one or two associate editors.

The series has been carefully planned but no attempt has been made to avoid differences or even contradictions in the views expressed by the authors. The Institute itself does not wish to impose any official doctrine. Thus, while the views are the responsibility of the authors and may not always be shared by

UNESCO or the IIEP, they warrant attention in the international forum of ideas. Indeed, one of the purposes of this series is to reflect a diversity of experience and opinions by giving different authors from a wide range of backgrounds and disciplines the opportunity of expressing their views on changing theories and practices in educational planning.

The recent arrival on the international scene of a large number of small states has generated a lot of interest among researchers and practitioners. The education sector does not constitute an exception to this trend, and numerous publications have already been devoted to this theme. Wanting to review the educational strategies and the educational planning techniques that are most appropriate in this context, the editorial committee asked David Atchoarena, when he was at the *Agence nationale pour le développement de l'éducation permanente* (ADEP – National Agency for the Development of Continuous Education) in the French West Indies, to write this volume entitled: *Educational strategies for small island states*. The author offers a complete and synthetic picture of the significance, the relevance and the practical implications of insularity for educational planning. The suggested strategies, whose applicability goes far beyond the context of small island states, are varied and respond to well-defined constraints. By way of a summary, the author pinpoints the components of a planning approach that should be of interest to all planners and managers of education in these countries.

Jacques Hallak
Director, IIEP

Composition of the Editorial Board

Preface

Small states have been attracting a lot of attention for several years. Numerous publications have been devoted to them in various fields, and in particular that of education. This interest undoubtedly reflects their emergence at the forefront of the international scene, and their undeniable strategic importance – which can be demonstrated if only by counting the number of small states that have been created over the last twenty years in the Caribbean, the South Pacific, and more recently in Eastern Europe. Nevertheless, this interest goes far beyond mere political opportunism, for small island countries are confronted with specific problems that require appropriate reflection and responses. To quote just a few examples, because of the absence of economies of scale, resulting precisely from the small size of these countries, the preparation of teaching curricula, the production of school textbooks, the organisation of examinations and the establishment of an evaluation and acquisition validation system, the training of teachers and more generally the organisation of post-secondary education are all extremely expensive undertakings. Most of these countries therefore use foreign curricula and textbooks, and send their students abroad for training. This leads to cultural dependence and vulnerability, which cannot fail to reinforce the economic dependence and vulnerability that these countries already suffer.

In this booklet, the author, David Atchoarena, starts by presenting characteristics common to small states, which constitute a set of specificities and constraints, but also advantages. He then lucidly analyses the various problems encountered by officials responsible for educational management and planning, before suggesting a number of concrete action strategies. These formulae are not entirely specific to small island states, but they constitute a

coherent group of appropriate measures that educational planners in these countries can apply to their advantage. The author reminds us that, despite their similarities and points in common, small states are quite varied: it is preferable not to adopt a standard-setting approach and not to pretend to suggest solutions valid for all. Hence the case of archipelago states, which is almost an extreme case of the effects of small size, remoteness and insularity, is discussed separately.

The author closes by giving the components of a planning approach for these countries. Here again, the suggested approaches and techniques are not fundamentally different from those that are or could be applied elsewhere. Nevertheless, the characteristics and the constraints of small island countries should lead planners to favour certain approaches and techniques and to reject others.

Because of his experience at the Ministry of Finance and Planning in Saint Lucia, and then at the ADEP in the French West Indies, David Atchoarena pays very particular attention to vocational training and human resources development policies in island states. He thereby makes a very original contribution to the existing literature on this theme, as well as to the series on Fundamentals of Educational Planning. This very rich volume should be of interest to all individuals, decision-makers, planners and also aid agency officials, who are concerned about improving the management of education systems in small island states.

Françoise Caillods
Co-general editor of the series

Contents

List of acronyms

CARCAE	:	Caribbean Regional Council for Adult Education (Conseil régional caribéen pour l'éducation des adultes)
CARICOM	:	Caribbean Community (Communauté des Caraïbes)
CARNEID	:	Caribbean Network of Educational Innovation for Development (Réseau d'innovations éducatives pour le développement dans les Caraïbes)
CBI	:	Caribbean Basin Initiative
COL	:	Commonwealth of Learning
CXC	:	Caribbean Examinations Council
GNP	:	Gross National Product
MIRAB	:	Migration, Remittances, Aid, Bureaucracy (Migrations, transferts, aide, bureaucratie)
NOG	:	Non Governmental Organization
OAS	:	Organization of American States
OECS	:	Organization of Eastern Caribbean States (Organisation des Etats des Caraïbes orientales)
SADC	:	Southern African Development Community (Communauté pour le développement de l'Afrique australe)
SPARTECA	:	South Pacific Regional Trade and Economic Co-operation Agreement
SPBEA	:	South Pacific Board for Educational Assessment
USP	:	University of South Pacific
UWI	:	University of the West Indies
WAEC	:	Western African Examinations Council

Introduction

Since the end of the eighties there has been a growing number of publications on education in small states. This one is therefore part of a trend that is both dynamic and relatively recent. Once the reserve of economists, sociologists and geographers, the subject of the development of small countries has now become part of the field of interest of educators and educational planners. This change is not due to simple imitation, or even a desire to be fashionable, but rather expresses a more fundamental awareness of certain specificities.

Education is not an independent discipline, but is intimately connected with the functioning of society, with its economics and politics. Hence it is not surprising that the constitution, albeit incomplete, of small states as a theoretical subject of social sciences has also given rise to debate and reflection in the discipline of education. However, one must beware of false truisms and avoid foundering in excessive particularism. This publication avoids considering small countries as an a priori theoretical subject, and prefers to treat them, at this stage, as a research subject.

The relevance of reflecting on educational planning in small states supposes that, in this respect, they make up a relatively homogeneous group that is different from other categories of countries. In fact, the theme of small states has emerged as the result of the conjunction of two phenomena, one of a scientific nature, namely the search for specificity, and the other of a political nature, namely the substantial rise in the number of such countries. The attention that small countries are now enjoying is also due to their irruption on the world scene. While not representing an universally recognized subject of science, they are asserting themselves and are accepted as a subject of international relations. This reality in and

of itself justifies the interest generated by this new category of states, in the field of education and elsewhere. In October 1991, small states represented more than 20 per cent (34 countries) of the members of UNESCO (163 states).

The main difficulty that 'small state theoreticians' run up against is the very definition of their object of study. This situation is well illustrated by the prevailing terminological fuzziness. The adjectives small, mini and micro indifferently qualify the nouns state, country, island, territory and economy. This plethora of expressions to designate the same reality reflects the inability of researchers, or of practitioners, to agree on common criteria. In the absence of a unanimously accepted definition, the general tendency is to fall back on a characterization of the object, and this publication does not escape such semantic pirouettes.

The first part of this monograph consists in a kind of detour aimed at relocating the theme of small states in a theoretical and historical perspective. This preliminary discussion is indispensable for a deeper understanding of the issue of educational planning in these countries. It allows for a re-articulation of the development prospects of small economies with respect to the question of education development.

The second part analyses the implications of small size for educational planning. To begin with, a statistical overview of education in small states gives a sense of the problems that are encountered. This overview also reveals, in an indirect way, the significance of context-dependent factors (history, culture, level of development) for the educational behaviour and circumstances of these countries. Despite such real diversity, small size and insularity subject the management and development of education to common constraints in all cases. These particular constraints often result from the concerted impact of vulnerability factors of a demographic, socio-economic and geographic nature. Analysis of this equation reveals the specific character of small states in the field of education. It also sheds convergent rays of light on the 'educational pathology' that small countries develop. Finally, taking these specificities into account leads to a reconstruction of the planning framework.

The third part proposes a strategic reflection encompassing the key aspects of planning and management of education. Small size and insularity represent a double challenge for the planner. He or she must simultaneously overcome unusual handicaps and know how to transform certain constraints into advantages. For this task, he or she has at his or her disposal a set of tools and methods, many of which belong to the classical panoply of educational planning. And thus, apart from the presentation of innovative approaches, the articulation of action strategies seeks to show how the general principles of planning can be put at the service of small countries. Rather than approaching these issues by level of education or type of training, strategic reflection is essentially organised around several major functions: forecasting, pedagogy, administration, co-operation. Particular attention is paid to archipelago states, because of their extreme specificity. While trying to avoid presenting excessively standardised answers, this part does try to suggest some principles of action that will then have to be re-interpreted and adapted by each educational planner as a function of the particular conditions prevailing in his or her country.

The empirical basis for this publication is drawn mainly from the Caribbean and South Pacific regions. Therefore the argumentation often flows from island considerations, whence the title. Nevertheless, some examples are drawn from other island zones (notably the Indian Ocean), and African (island and continental) references are not absent from the analysis either.

I. Small states: an attempt at definition and characterisation

The notion of size

The literature devoted to development issues pays special attention to problems specific to small states, also referred to as small countries. The theoretical debate about small size could take up a lot of space. It is not our intention to prolong a discussion that falls into the domain of taxonomy, but rather to set out a few simple criteria that lead to an understanding of the small state concept.

First of all, there is no universal definition of what constitutes a small state. Several types of approaches are superimposed on one another. The first tendency consists in defining small size by means of simple and static indicators. These are most often the size of the population (demographic criterion) or of the territory's surface area (spatial criterion). (Robinson, 1960; Kuznets, 1971; Demas, 1965; Chenery and Surquin 1975) are some of the authors representing this tendency. Along the same line of thinking, the magnitude of the National Product is a convenient indicator for measuring the size of an economy.

Sociology has also taken an interest in defining small size. For Benedict (1967), it is the nature and the number of relations and roles that makes it possible to identify a small society.

A last approach consists in tackling the notion of size through the development process. This involves measuring the structural dimension of an economy, that is, both the level of diversification of economic functions and the degree of complexity of relations among the agents. For Perroux (1969), for instance, a small nation can be defined on the basis of four indicators:

- strong openness of the economy, evaluated on the basis of the contribution of foreign trade to the national product;
- the concentration of production and exports;
- weak diversification capacity;
- weak manpower training capacity.

This definition has the merit of explicitly including the field of education. On the other hand, its application requires carrying out a detailed structural analysis, which limits its practical scope.

The multiplicity of approaches leads to some perplexity, so it is very tempting to follow J. Robinson and to accept that "even if one is unable to define an elephant, one can still recognise it".

In the final analysis, and despite its shortcomings, the demographic approach is the one most commonly used. A threshold of one million inhabitants is generally applied to delimit the community of small states. In 1990, the Conference organised by UNESCO in Mexico on 'Planning and management of educational development' decided to raise this threshold to 1.5 million inhabitants (Atchoarena, 1992).

This approach is used mainly because of its simplicity. One should nevertheless keep in mind that such a classification reduces complexity to a single indicator. The reality of small states is not limited to demographic size, and to grasp the concept of small state it is necessary to have a vision including the dynamics of development. Small size often ends up being associated with concepts of dependence, vulnerability, viability, or even isolation.

The strong dependence of small economies on foreign trade results in greater sensitivity to shocks originating from outside. The amount of international aid also constitutes a form of dependence. Small states are in fact the ones with the highest *per capita* rates of aid.

The vulnerability of small states is a result of their weak capacity to resist external influences, or even threats, whether they be cultural or economic. The concept of vulnerability therefore reflects an exacerbated form of dependence, whereby not only the development but even the survival of the society depends on relations with the outside world.

The state of isolation that characterises certain small countries is also a negative factor. Brock (Bacchus and Brock, 1987) distinguishes three forms of isolation: spatial isolation, political isolation, and social and cultural isolation. This is once again a relative criterion, for the degree of isolation is a function of the extent of integration of the economy and the society in a communication network. The association between isolation and small size in fact admits numerous exceptions.

In the final analysis, the extreme vulnerability that small states generally experience raises the question of their long-term viability. If viability means the capacity of a country to survive as a sovereign state, then it is indubitable that small states are viable. On the other hand, if it is a question of the extent to which an economy can provide, in a sustained manner, a satisfactory standard of living without becoming highly dependent financially, or even politically, then for most small countries viability remains an objective to be attained.

The position of small states in the international community

The interest being paid by the social sciences to the development of small states is closely related to the evolution of the place they occupy on the international scene. The phenomenon of decolonisation is the root cause of the increase in the number of small states. It was mainly as of the seventies that territories with populations of just a few hundred thousand acceded to the status of sovereign state. The appearance of this new category of members of the international community raised two basic questions. First there was the question of the ability of these small entities to meet their own needs in a relatively autonomous manner. The problem of defending the integrity of national territories then became a major concern. Economic viability and development on the one hand, and national security on the other were, from the outset, the two concerns arising from the appearance of small states.

In the course of the sixties there was a debate about how small states should be recognised by and participate in the United Nations

system, with some member countries in favour of creating a special status. This option was rejected on the basis of the principle of juridical equality of nations. Respect for the 'one country, one vote' rule, which governed decision-making within the General Assembly, amounted to political emancipation for small nations, which have come numerically to dominate the international scene. In 1954, fifty states drew up the United Nations charter; in January 1992, the organisation had 166 members, most of them countries of relatively moderate size.

This evolution of the international configuration was reflected in scientific terms, as of the end of the fifties, by publications on the economies of small states; the precursors were Arthur Lewis, but also S. Kuznets, E.A.G. Robinson and B. Benedict, mentioned above. With a view to applying this research at the operational level, international organisations soon took up the issue of the vulnerability and development of small states. The United Nations (UNITAR, Status and Problems of Very Small States and Territories, 1969; UNCTAD, Developing Island Countries, 1974) recommended several series of measures, especially in terms of economic policy, to ensure the viability and promote the growth of small countries. In 1979, the Commonwealth Secretariat launched a specific programme for its small members; the continuation of this initiative later resulted in the publication of an authoritative report on the subject (Commonwealth Secretariat, Vulnerability, Small States in the Global Society, 1985). At the regional level, in the eighties the Organization of American States specifically tackled the development of its small members in the Caribbean and of Suriname (OAS, Study of the Development Problems of the Small and Very Small States of the Organization of American States, 1982).

The introduction of co-operative arrangements in the area of trade represents an important contribution to the growth of small economies. The agreements linking the United States with the Caribbean states (Caribbean Basin Initiative), or Australia and New Zealand with the countries of the South Pacific (South Pacific Regional Trade and Economic Co-operation Agreement) are examples of support mechanisms for the export sectors of small countries.

At the multilateral level, the Lomé Convention goes even further, by according a special status to island states. In the same spirit, the Caribbean Common Market (CARICOM) puts that community's micro-states into a separate category, that of least developed countries (LDCs), a status that ensures them preferential treatment.

Measures adopted since the seventies in favour of small states have been numerous and now cover a large number of areas, both economic and otherwise. However, it was not until the middle of the eighties that the international community also took an interest in issues related to education.

A first approach consisted in identifying the priority qualification needs of small economies, and then efforts were concentrated on reinforcing endogenous capacity to meet those needs. Finally, the scope was broadened to include all questions related to the management and planning of education. This publication continues that trend.

In closing this brief overview of the place occupied by small states on the international scene, it is appropriate to refer to the upheavals affecting today's world order. The breakup of the Soviet Union and the disintegration of Yugoslavia have made small state issues very urgent and topical. In this turbulent international context, the appearance on the scene of new partners is causing a profound transformation of international economic relations. The scope and the potential consequences of these changes justify renewed interest in these special entities that small states constitute.

A heterogeneous group

In spite of their common characteristics, small states are very heterogeneous. The discussion about small states must now take account of these differences, which are reflected by great contrasts in the analysis of actual problems and in the formulation of development strategies.

Distinctions among different types of small countries can be made on the basis of three series of discriminating variables: variables of a geographic nature, socio-economic variables, and

political variables. In its 1991 Report on World Development, the World Bank collected a set of basic indicators for economies with less than one million inhabitants (*see Table 1.1*). An examination of these data gives a statistical overview of the condition of small countries, and reveals some of the demarcation lines differentiating them.

A first major geomorphological difference consists in distinguishing continental countries from island formations. Of the 56 economies with less than one million inhabitants listed by the World Bank, only 12 are continental countries. Thus there is a strong correlation between insularity and small size. This observation justifies the special attention we pay later on to island states. Of the 12 continental countries, one state, Swaziland, is a complete enclave, while five others are, to lesser degrees, relative enclaves (Gambia, Guyana, Belize, Suriname, Brunei). As for the small island economies, here we find several configurations. In reality, very few of these entities consist of just one island; as a rule these territories are archipelagos, sometimes with considerable distances separating the individual islands. Such multi-island states sometimes consist of several hundreds of islands, whose population density, size and level of development are not homogeneous.

Of the geographic criteria, the spatial dimension is one that leads to significant differences. There is nothing in common between the size of a country such as Guyana (215,000 km^2), Suriname (163,000 km^2) or even Guinea-Bissau (36,000 km^2) and that of states covering less than 500 km^2, such as Malta, Barbados or the Maldives. Nauru, as an extreme case, covers only 21 km^2. Problems of communication and land planning are not of the same order when the scale ranges from hundreds of thousands of km^2 to several hundred.

The geographical distribution of small economies is another factor to be taken into consideration. The community of small states does in fact extend over the entire planet, including Europe (Iceland, Luxembourg, etc.), Africa (Guinea-Bissau, Gambia, etc.), Asia (Brunei, Macao), the large island basins of the South Pacific (Kiribati, Tonga, etc.), the Caribbean (Dominica, Grenada, etc.), the Indian Ocean (Maldives, Seychelles, etc.), and the intercontinental zone of the Middle East (Bahrain, Qatar).

Table 1.1 Basic indicators for economies with less than one million inhabitants

	Population (thousands inhabitants) mid-1989	Area (thousands km2)	GNP per inhabitant		Annual average inflation %		Life expectancy at birth (years) 1989	Adult illiteracy %	
			Dollars 1989	Annual growth (%) 1965-1989	1965-1980	1980-1989		Women 1985	Total 1985
1. Guinea-Bissau	960	36	180	..	..	53.2	40	83	69
2. Gambia	849	11	240	0.7	8.1	14.1	44	85	75
3. Equatorial Guinea	407	28	330	..	..	..	46	..	63
4. Guyana	796	215	340	-1.6	7.9	20.0	64	5	4
5. Sao Tome & Principe	120	1	340	..	..	18.3	66	..	..
6. Maldives	210	a	420	2.5	..	6.4	61	..	..
7. Comoros	458	2	460	0.5	..	5.3	55	..	..
8. Solomon Islands	313	29	580	..	7.7	10.5	64	..	..
9. Kiribati	69	1	700	..	..	5.5	55	..	..
10. Western Samoa	163	3	700	..	..	9.7	66	..	..
11. Cape Verde	361	4	780	..	..	9.7	66	61	..
12. Vanuatu	152	12	860	..	..	4.3	64	..	..
13. Swaziland	761	17	900	2.1	9.0	11.9	56	34	32
14. Tonga	98	1	910	..	..	7.5	67	..	..
15. Fiji	740	18	1,650	1.8	10.3	5.6	67	19	15
16. Belize	184	23	1,720	2.5	7.1	2.4	68	..	..
17. Saint Lucia	148	1	1,810	..	..	3.6	71	..	..
18. Grenada	94	a	1,900	..	..	..	69	..	..
19. Suriname	437	163	3,010	1.2	..	6.2	67	10	10
20. Seychelles	67	a	4,230	3.2	12.2	3.4	70	..	..
21. Malta	350	a	5,830	7.2	3.5	2.0	73	18	16
22. Barbados	256	a	6,350	2.4	11.0	5.5	75	..	..
23. Cyprus	695	9	7,040	..	..	6.0	76	..	..
24. Bahamas	249	14	11,320	1.1	6.4	6.1	68	..	..
25. Qatar	422	11	15,500	..	..	..	70	..	..

Table 1.1 (cont'd)

	Population (thousands inhabitants) mid-1989	Area (thousands km2)	GNP per inhabitant		Annual average inflation %		Life expectancy at birth (years) 1989	Adult illiteracy %	
			Dollars 1989	Annual growth (%) 1965-1989	1965-1980	1980-1989		Women 1985	Total 1985
26. Ireland	254	103	21,070	3.4	26.8	34.8	78	..	..
27. Luxembourg	377	3	24,980	6.1	4.3	4.4	75	..	..
28. American Samoa	38	a	..	..	..	..	72	..	..
29. Andorra	506	..	..	..	..	..	..	..	..
30. Antigua and Barbuda	78	a	..	..	..	6.7	74	..	..
31. Aruba	60	a	..	..	..	..	..	..	..
32. Bahrain	489	1	..	..	..	-1.3	69	36	27
33. Bermuda	60	a	..	..	8.1	9.1	..	..	..
34. Brunei	249	6	..	..	..	-5.1	75	..	..
35. Channel Islands	142	..	..	..	..	..	77	..	..
36. Djibouti	411	23	..	..	..	..	48	..	..
37. Dominica	82	1	..	0.5	12.6	6.1	75	..	..
38. Faeroe Islands	47	1	..	..	..	..	..	..	..
39. French Guiana	90	90	..	..	..	..	..	..	..
40. French Polynesia	193	4	..	..	..	..	72	..	..
41. Gibraltar	31	a	..	..	..	..	..	..	..
42. Greenland	56	342	..	..	..	..	..	..	..
43. Guadeloupe	341	2	..	..	..	..	74	..	..
44. Guam	134	1	..	..	..	..	73	..	..
45. Isle of Man	67	..	..	..	..	..	..	..	..
46. Macao	448	a	..	..	..	..	72	..	..
47. Martinique	338	1	..	..	..	..	76	..	..
48. Mayotte	69	..	..	..	..	..	..	..	..
49. Netherlands Antilles	189	1	..	..	..	..	77	..	..
50. New Caledonia	162	19	..	..	..	..	69	..	..

Table 1.1 (cont'd)

	Population (thousands inhabitants) mid-1989	Area (thousands km2)	GNP per inhabitant		Annual average inflation %		Life expectancy at birth (years) 1989	Adult illiteracy %	
			Dollars 1989	Annual growth (%) 1965-1989	1965-1980	1980-1989		Women 1985	Total 1985
51. Pacific Islands Trust territories	169	2	..	..	..	..	..	..	..
52. Puerto Rico	3,301	9	..	..	..	..	75	..	..
53 Réunion	584	3	..	..	..	..	72	..	..
54. Saint Kitts-Nevis	41	a	..	..	..	6.4	69	..	..
55. Saint Vincent and the Grenadines	113	a	..	1.9	10.9	5.8	70	..	..
56. Virgin Islands (UK)	109	a	..	..	..	..	74	..	..

Note: a = less than 500 km2.
Source: World Bank. *World Development Report.* 1991.

Despite this wide dispersion, the South Pacific and the Caribbean are the two regions of the world with the greatest concentrations of small countries. They also make up the planet's most extensive island spaces.

The socio-economic characteristics of small economies admit several differentiating criteria. Population size, which justifies the existence of the category of small countries, also allows for identification of degrees of smallness. Some states in the group are close to one million inhabitants (Guinea-Bissau, Gambia, Guyana), while others have populations of less than one hundred thousand (Kiribati, Dominica, Seychelles, etc.). It is to distinguish the latter group that some authors use the qualifier 'micro'.

In economic terms, the *per capita* gross national product gives an indication of the wealth of these small economies. Of the 56 economies with less than one million inhabitants listed by the World Bank, 23, or 41 per cent, belong to the group of high-income countries (at least 6,000 dollars per inhabitant in 1988), while only 7, or about 13 per cent, are classified in the category of low-income countries (less than 546 dollars per inhabitant in 1988), with the remainder (26 countries) constituting so called intermediate income economies. These figures show that levels of wealth are extremely varied. They also show that there is no connection between small size and poverty.

The *per capita* GNP growth rate, measured over the 1965-1989 period, shows that performances have varied considerably. Average annual growth rates range from less than 1 per cent (Equatorial Guinea, Comoros, Dominica) to 7.2 per cent (Malta). One country, Guyana, actually posted negative growth of minus 1.6 per cent. These figures again confirm the diversity of circumstances of small states confronted with the challenge of development.

Two small countries, Iceland and Luxembourg, belong to the group of industrialised economies. The remaining small states have developing economies. However, their development modes differ substantially; one finds rural and agricultural economies (Comoros, Swaziland, etc.), as well as service economies (Antigua, Kiribati, etc.), or oil economies (Bahrain, Qatar). Hence economic structure is not closely connected with size.

Social indicators (life expectancy at birth and literacy rate) seem to suggest that on average small countries are in a rather favourable situation. Life expectancy is often 70 years or more. Data on the proportion of illiterates are less common, but more than half the countries for which figures are available report less than one third illiteracy. The highest illiteracy rates are to be found in the small countries of Africa (Guinea-Bissau, Gambia, Equatorial Guinea).

In political terms, only 34 of the 56 territories with fewer than one million inhabitants are actually independent states. The remainder are entities with various statuses, from colony to associated state. The actual status is not irrelevant for the educational planner. Integration to a greater or lesser degree with a larger economy, often a developed country, significantly changes the conditions under which the functions of development planning and management are carried out. In particular, allowances for the external constraint, a vital aspect of small economies, do not have the same impact depending on the institutional framework. Only the independent states have responsibility for ensuring trade equilibrium and fully manage their international relations. The concepts of viability and vulnerability, as defined above, are therefore applicable only to the sovereign entities. Hence the remainder of this volume in fact pertains only to this group of countries. Moreover, it is customary to include certain larger countries that, because of the development problems they confront and because of their relations with their region, present issues similar in many respects to those of small states. This is true in particular of Jamaica (2.3 million inhabitants), Trinidad and Tobago (1.2 million), Papua New Guinea (3.5 million) and Mauritius (1.1 million). Conversely, the small industrialised economies will be excluded from our analysis.

In conclusion, it can be said that, despite their great heterogeneity in geographic and socio-economic terms, the small economies included in the scope of this booklet exhibit the following characteristics:

- they are independent states whose accession to sovereignty often occurred not more than fifteen years ago;
- they are developing economies;

- with just a few exceptions, they have populations of less than one million;
- they are territories having been subjected to colonisation;
- finally, the majority of them are tropical islands.

The fact of being an island is not neutral with respect to development problems. Within the international community, the 1982 Convention on the Law of the Sea provided a definition of insularity and guaranteed archipelago states a special status, which consolidates their national integrity.

Socio-economic context and education

The educational plan of a country generally presents a rather strong dependence on the conditions of the socio-economic environment. The economies of small countries are characterised by far-reaching openness, marked specialisation of production, and by the important place occupied by the civil service. Applying the principle of structural correspondence between economic sectors and education, this context suggests an education system with little diversification and heavily oriented towards tertiary training.

Island states are often situated at the confluence of industrialised and developing zones. The South Pacific and Caribbean regions are good examples of the hinge position occupied by islands. For historical and geopolitical reasons, they potentially find themselves in the position of fulfilling a crossroads function, at the centre of international economic, technological and financial redeployment. Adding value to these inputs from outside naturally has an impact on internal development strategy choices.

To get a better sense of the factors determining labour and qualifications demand in small countries, it is possible to distinguish among different strata that reflect the segmentation of the labour market (Atchoarena, 1989a). Conditions of access to employment and degree of vulnerability constitute some of the segmentation criteria. This approach leads us to disaggregate small economies into three distinct spaces:

- the export sector (agricultural products, raw materials, manufactured goods, tourism, other services). These activities are the foci of attraction of foreign investment, either because of the existence of a protected market (Lomé Convention, CBI, SPARTECA) for certain agricultural products or for international subcontracting, or because of the existence of comparative advantages (tourism and other market services). They are characterised by high labour intensity and by a structure of relatively poorly qualified jobs;
- the 'modern' domestic space consists of the commercial sector, of certain services (financial), of a productive sector dominated by construction and monopoly activities (water, electricity, telecommunications), and of a vast public sector largely financed by external aid. Within this space, the employment structure does not differ substantively from that observed in other countries. The labour demand is heavily conditioned by international funding;
- the traditional sector is essentially made up of a weakly monetarised rural system engaging in subsistence agriculture. It ensures both absorption of a significant part of surplus manpower, and the reproduction of the work force through the cultivation of staples that make up the basis of the traditional diet. This sector benefits from transfers and services provided by external aid and by emigrants. Work is in abundance, productivity is low and qualifications are based on experience and on the application and improvement of traditional know-how.

It is sometimes possible to identify a fourth space including various illicit activities (smuggling between islands, drug traffic, etc.).

Within this framework, the functioning of the economy occurs through flows of merchandise, of currency and of labour. The economic structure of each small country then varies as a function of the place occupied by the state, the degree of openness, and the type of international specialisation.

This kind of socio-economic context has important implications for education. The objectives of manpower training could be formulated as follows:

- promoting the improvement of qualifications in the export sector, especially in services, in order to encourage foreign investment;
- supporting the development of employment in the modern domestic segment;
- finally, contributing to labour productivity growth in the traditional rural sector.

Because of their vulnerability and their high degree of openness, small countries must, more than others, develop labour force flexibility and adaptability. This requires training structures with considerable plasticity. They must be able both to guarantee basic education and to convert themselves in a relatively short period, given the moderate level of demand for specialised personnel.

In the face of these specific requirements, small states must show themselves to be creative, imagining new models and new structures. However, there is still a strong tendency to consider small systems as simple miniature reproductions of larger systems. It is this representation that results in external models being applied to small countries. It is all the more difficult to break with this approach because smallness means a small number of officials, which can limit the ability to innovate. In order to conceive solutions adapted to their problems, small countries must enhance those advantages that their size affords.

Small size generates a proximity effect, which is expressed through greater permeability among different socio-professional categories and at different hierarchical levels, thereby allowing for better communication within the community. This quality allows for easier adjustments among political decision-makers, planners and teachers. To this we should add the phenomenon of cumulated functions, which means that some individuals are simultaneously involved in different stages of the planning process. For these reasons, it is easier to promote participation in the formulation and monitoring of policies.

Finally, the institutional flexibility of small systems is a propitious factor for rapid implementation and dissemination of innovations and reforms.

II. The implications of smallness for education

Educational profile of small states

The great heterogeneity of small states makes it difficult to sketch out a typical educational profile. Nevertheless, it is clear that small size, associated with other vulnerability factors, has implications for the development of an education system. Apart from general trends that can be identified for all small states, there are also regional influences. Within the three regions of the world with a high density of small states, namely the Caribbean, the South Pacific and the Indian Ocean, it is sometimes difficult to dissociate the effects of the regional variable from those due solely to smallness and insularity.

1. General education trends in small states

One of the important achievements of most small states has been the generalisation of primary education. There is no doubt that small size provides an advantage in this respect. The speed with which many small countries managed to enrol all children in primary school then contributed to instilling cultural habits favourable to the development of education.

At the secondary level small states have to deal with high unit costs, due to small enrolments, which are an obstacle to differentiating learning streams.

But there is no doubt that small states run into the greatest difficulties at the level of post-secondary education. The number of potential students is often incompatible with the creation of a

university. This amputation of the schooling system encourages emigration by young people wanting to pursue studies.

Initial and continuing education of teachers is also a source of problems. When the population is limited to a few tens of thousands, it is quite simply impossible to organise teacher training locally. Training abroad is expensive and difficult to co-ordinate. And yet teacher skills are all the more important in a small country, where the size of the system does not justify creating specific structures for pedagogical research. It is the teachers themselves who must participate directly in the design and renewal of curricula and school textbooks.

For all these reasons, building higher education structures in small states must be based on regional co-operation, whenever possible.

2. A statistical approach to the problem

Beyond these considerations of a general nature, an analysis of the education situation in small states, on the basis of several indicators, should make it possible to shed light on the analogies, but also the contrasts, and perhaps to sketch out a sort of typical profile. For this purpose five aspects have been chosen for examination:

- the rate of illiteracy;
- the level of instruction of the population;
- the enrolment situation;
- the situation of higher education;
- finally, the share of education in public expenditure.

(1) The rate of illiteracy (Table 2.1)

Illiteracy data generally come from population censuses. The fact that figures are not available everywhere for the same year means that comparisons are approximative. Even with this precaution in mind, it is clear that the distribution of rates is highly dispersed. This analysis, albeit rather a superficial one, shows that small size is not a determining factor for illiteracy.

Table 2.1 Percentage of illiteracy in certain small states (Population of 15 years of age and over)

Country	Year	Percentage of illiteracy
Cape Verde	1989	33.5
Comoros	1980	52.1
Equatorial Guinea	1990	49.8
Guinea-Bissau	1990	63.5
Sao Tome and Principe	1981	42.6
Seychelles	1971	42.3
Swaziland	1976	44.8
Barbados	1970	0.7
Belize	1970	8.8
Dominica	1970	5.9
Grenada	1970	2.2
Saint Kitts-Nevis	1970	2.4
Saint Lucia	1970	18.3
St. Vincent and the Grenadines	1970	4.4
Trinidad and Tobago	1980	5.1
Guyana	1990	3.6
Suriname	1990	5.1
Bahrain	1990	22.6
Brunei	1981	22.2
Cyprus	1987	6.0
Maldives	1985	8.7
Qatar	1986	24.3
Fiji	1985	14.5
Tonga	1976	0.4
Samoa	1971	2.2
Vanuatu	1979	47.1
World total	**1990**	**26.9**
Africa	1990	52.7
Latin America and the Caribbean	1990	15.2
Developing countries	1990	35.1

Sources: UNESCO. *Statistical Yearbook*. 1990. UNESCO.
Basic Education and Literacy: World Statistical Indicators. 1990.

Depending on the country under consideration, we in fact observe both very low rates (Barbados, Tonga, Samoa) and rates higher than the average for developing countries taken all together (Comoros, Guinea-Bissau, Vanuatu, etc.). It would seem in fact that the regional variable is more significant than size. In particular, the percentage of illiterates is low or very low in the Caribbean and Pacific states (except Vanuatu), while the small countries of Africa record higher rates, often even higher than the average for developing countries as a whole.

(ii) The level of instruction of the population

The structure of the population by level of instruction varies greatly as a function of the country and its degree of development. The disparities are so great that it is difficult to establish any sort of relationship between a country's small size and the level of education of its population. It should also be noted that the differences are substantial even within the same region.

(iii) The enrolment situation (Table 2.2)

Most countries post a gross enrolment rate in primary of more than 100 per cent, and hence at the average calculated for the group of developing countries. However, among the countries for which data are available, there are three that find themselves below 100 per cent, which corresponds to marked under-enrolment.

In six of the thirteen countries for which information is available, gross enrolment rates in secondary vary between 80 per cent and 93 per cent, which is substantially higher than the average calculated for all developing countries.

Our analysis of enrolment rates in tertiary education does not make it possible, because of the magnitude of observed differences, to draw any conclusions.

Table 2.2 Enrolment rate by level of education in certain small states

		1st level		2nd level		1st + 2nd level	3rd level
Country	Year	Gross	Net	Gross	Net	Gross	Gross
Cape Verde	1987	109	92	16	11	70	-
Comoros	1987	80	-	-	-	-	-
Equatorial Guinea	1983	108	-	-	-	-	-
Guinea-Bissau	1987	53	40	6	-	35	-
Mauritius	1988	105	95	53	-	78	1.8
Swaziland	1988	105	82	44	-	83	-
Barbados	1984	110	-	93	90	101	19.4
Trinidad and Tobago	1987	100	88	82	70	93	4.7
Guyana	1986	79	-	60	-	70	3.4
Suriname	1986	125	96	53	40	84	7.7
Bahrain	1987	110	96	85	72	98	12.3
Cyprus	1988	104	100	87	83	96	11.0
Qatar	1988	117	100	80	66	101	21.7
Malta	1988	108	97	80	75	93	6.8
Fiji	1986	129	100	56	-	96	3.2
World total	**1990**	**100.1**	**-**	**52.8**	**-**	**-**	**13.5**
Africa	1990	79.7	-	32.4	-	-	4.9
Latin America and the Caribbean	1990	109.3	-	57.6	-	-	18.7
Oceania	1990	110.3	-	81.4	-	-	26.5
Developing countries	1990	99.8	-	44.9	-	-	8.3

Source: UNESCO. *Statistical Yearbook*. 1990.

(iv) The situation of higher education (Table 2.3)

The density criterion, or the number of students per 100,000 inhabitants, confirms the observation of enrolment rates. Juxtaposition of the two tables reveals Barbados, Bahrain and Qatar as the states with the strongest development of higher education, among the small countries for which data are available. The other countries are far behind this small group, forming a very dispersed configuration.

Table 2.3 Level of development of higher education in certain small states

Country	Year	Number of students per 100,000 inhabitants
Mauritius	1988	196
Swaziland	1987	316
Barbados	1985	2,065
Trinidad and Tobago	1987	498
Guyana	1987	374
Suriname	1987	890
Bahrain	1988	1,176
Cyprus	1988	748
Qatar	1988	1,763
Malta	1988	482
Fiji	1988	413

Source: UNESCO, *Statistical Yearbook*, 1990.

(v) The share of education in public expenditure

In terms of the share of GNP that is devoted to education, the priorities vary greatly from country to country. An examination

of education's share of the national budget leads to the same conclusion. The undeniable supplementary costs that small systems have to bear do not affect the national accounts or the government's budget in a homogeneous way. It is important to be careful of any form of determinism. Small size is no predictor of the relative burden represented by education for the economy or for public finances. By way of example, Cap Verde devoted 2.7 per cent of its GNP to education in 1987, while in the Seychelles in 1988 the corresponding figure amounted to 8.5 per cent (UNESCO, 1990).

Our examination of these tables brings some nuances into the a priori that are generally pronounced about education in small countries. In fact, situations within the group of small states are very diverse. Other variables, such as historical and cultural heritage or level of development, seem to be at least as important as the dimension variable for explaining the situation of education in small countries.

This observation should not, however, result in negation of the specificities of small states. The handicaps and advantages of small size are very real, but rather than ascribing predictive value to them, it is more appropriate to see them as constituting a particular environment, and to concentrate on formulating suitable strategies.

Problems specific to small states in the field of education

The specificity of educational management and planning in small states is due to the combination of a range of vulnerability factors, of which the following seven can be considered:

- the absence of economies of scale;
- the narrowness of the labour market;
- the significance of emigration;
- extreme dependence on the outside world;
- remoteness;
- territorial fragmentation (the case of archipelagos);
- finally, vulnerability to natural disasters.

(i) The absence of economies of scale

It is not easy to demonstrate, and even more difficult to verify, the existence of true economies of scale in the production of educational services resulting from the country's size. The first works on the economic consequences of the size of nations (Robinson, 1960) concluded for education that, on the one hand, population density is a more significant variable than size, and on the other, costs are more sensitive to teacher qualifications and to quality of schools than to the dimension of the system. Nevertheless, there are factors that determine an effective additional production cost for small systems. This phenomenon is connected with the indivisibility of certain expenditure items, such as personnel or equipment. This applies to the cost of administration, whether centrally or at the school level, and to the equipment cost of technological and scientific streams. The distribution of investment or fixed costs over a small enrolment inevitably leads to an increase in unit costs. Diversification of streams, to meet a demand for qualifications but also to promote success at school, is therefore all the more costly a strategy when enrolment is low.

More generally, it can be said that small size reduces the range of economically viable pedagogical strategies, and therefore potentially affects the quality of education. Similarly, it is very difficult to develop special education in a small country. The planner will often have to rely on non-governmental organisations, or even on families, to meet the educational needs of handicapped children. The production of school textbooks and other teaching materials is another area in which small size represents a handicap. The development within the Ministry of Education of a unit responsible for design runs into the problems of lack of skills and financing. Moreover, it is difficult for a publishing house to survive in a micro-market.

(ii) The narrowness of the labour market

Another series of problems result from the small size of the labour market. Taking into account other things being equal, and in particular at comparable income levels, small size is reflected in

less differentiation of the economic fabric. Professional structures are also less well developed. As the rate of utilisation of very specialised skills is low, it is more economical to bring in manpower from abroad as needed. Moreover, the preponderant role played by the public sector encourages a move towards tertiary type training, and thereby discourages private initiative and employment. For the individual, this situation can result in frustration. Young people suffer from the small number of possible academic orientations. Adults find themselves penalised by the insufficient variety of jobs on offer, and by meagre prospects for a professional career.

(iii) The significance of emigration

The demography of small states, and especially of islands, is characterised by a high rate of emigration. Among the factors leading to this strong propensity to emigrate there are the maintenance of special links with the previous coloniser, demographic and economic imbalances, the attraction of higher income, and the development of transport and other means of communication. In certain small states, political instability has also contributed to swelling the ranks of emigrants (Tonga, Fiji, Grenada). The scope of the phenomenon is such that the emigrant population is often equal to or greater than the number of residents (Saint Kitts-Nevis, Dominica, Cap Verde, etc.). For some authors the tendency to emigrate actually constitutes one of the characteristics of the mentality of small country populations ('visa mentality').

The implications of migratory movements for the economy and for education are numerous, and can be considered from different points of view. The issue of the relationship between international migration and development has often been posed in terms of net loss for the original communities or countries (the 'brain drain' theory). However, emigration from small countries also results in gains. Remittances made by emigrant workers actually represent a considerable source of income, with a value sometimes exceeding that of export revenue (Cap Verde, Samoa, Tonga, etc.). Migration can then be analysed as a sort of inter-spatial investment, with redistribution and inter-generation effects, carried out at the level of

the individual, or even at the level of the family. As developed for certain island micro-states in the South Pacific, the MIRAB (Migration/Remittances/Aid/Bureaucracy) model has shown how migration constitutes a key component of economic viability (Bertram, Watters, 1985).

Within this framework, emigration becomes a strategic variable for the education planner, whose utilisation modifies the management of the system. In terms of manpower planning, emigration represents an extension of the labour market, which training objectives must take into account. Some small states go so far as to create teaching structures designed to meet a demand for qualifications abroad (the case of maritime training in Kiribati).

Another approach consists in viewing emigration as a factor that increases the direct economic yield of the investment. It is then logical to contribute to raising the level of qualifications of potential migrants, so as to have an impact on their expected income, and thereby indirectly to increase remittances from emigrants. Finally, a last strategy consists in training students or placing trainees in foreign institutions, with a view to reducing expenses. Emigration is then a substitute for the development of a national training infrastructure.

While more limited, immigration flows must also be taken into consideration, because they participate in the equation linking qualifications' demand and supply. Mention has already been made of recourse to temporary immigration of specialists, in order to meet specific needs. It is also necessary to consider return migration, whose structure by educational level modifies the equilibrium conditions of the labour market. Various return incentive measures can contribute to absorption of shortages or promote the creation of enterprises.

(iv) Extreme dependence on the outside world

In some small countries the amount of aid reaches extreme proportions. In Tuvalu or Kiribati, for instance, the total amount of aid is close to the value of the gross domestic product, which means that the value of this transfer is comparable to the locally produced wealth. In 1985 small island economies received average *per capita*

aid of 112 dollars, which is ten times the amount received by developing countries taken together.

The generic term aid in fact covers transfer payments of various kinds, of which officially defined Public Development Aid covers only a part. The degree of dependence can be appreciated by looking at the proportion of aid to the economy or the national budget, but also on the basis of other criteria, such as the diversity of sources or the proportion of bilateral aid. The financing of education in small countries does not escape the predominance of external aid.

But dependence is not measured only in financial terms; it is also expressed through the structure of the education system and the content of curricula and examinations. Education in Eastern Caribbean countries is a good illustration of this phenomenon; the organisation of the system, the teaching and the diplomas still bear the strong imprint of the British model and institutions. Having recourse to foreign universities for higher education or for teacher training also constitutes a form of dependence. Finally, extensive use in certain cases of foreign teachers, especially for technological education and at the post-secondary level, accentuates the dependent nature of education. Apart from the vulnerability induced by this situation, it promotes the persistence of a dual displacement, on the one hand between the structure of offered training and that of employment, and on the other hand between the national culture and the models disseminated by education.

(v) Remoteness

The question of remoteness, or even isolation, is related to the problem of communication costs for small island or enclave economies. In education, as in other sectors, territorial discontinuity is reflected in higher costs. The degree of remoteness also determines the modalities and conditions of relations with the outside world, whether these be links with the previous coloniser or regional co-operation networks. In this respect, Kiribati and Nauru are in a much more unfavourable situation than the micro-states of the East Caribbean.

(vi) Territorial fragmentation

Archipelago states have to deal with particular difficulties in the organisation of their public services, and especially education.These problems are all the more serious when the islands are numerous and at considerable distances from one another. Dispersion makes it necessary to duplicate infrastructures and affects yield on investments. Moreover, fragmentation of the national territory is generally accompanied by cultural and linguistic differences, which result in more difficulties for determination of curricula and choice of languages of instruction. Pedagogical inspection, continuing education of teachers and information for teachers in archipelago states are frequently characterised by marked inter-island disparities. These disparities contribute in extreme cases to depopulation and under-development of peripheral islands.

By way of example, Vanuatu consists of a dozen main islands, on which more than a hundred languages are spoken, for a total population of less than 150,000. As another illustration of territorial dispersion, Kiribati is made up of 33 islands, which are separated not only by considerable distances, but even by the international date line. This means that the time difference within a single state is as much as 23 hours, the greatest such difference in the world. This fragmentation of space, and even of time, has inspired some authors to speak of insular scissiparity (Antheaume, Bonnemaison, 1988).

(vii) Vulnerability to natural disasters

Natural disaster risk prevention policies constitute an important dimension of vulnerability reduction strategies of small states. It is also a privileged area of co-operation, particularly through the activities of the United Nations Disaster Relief Office (UNDRO).

Education is a sector highly exposed to natural disasters, since it operates a relatively dense network of buildings that shelter a large population. Building schools that are protected against natural disasters is therefore a non-negligible concern for decision-makers. It is a matter not only of guaranteeing the safety of users (pupils,

staff) and buildings, but also of sheltering vulnerable or homeless people. For schools are often used as refugee shelters.

Recognition of risks and taking them into consideration in school construction projects constitute the two pillars of any prevention programme. The origin of the risk varies depending on the zone, with a distinction generally being made between seismic causes (earthquakes, volcanic eruptions, etc.) and causes due to differences in atmospheric pressure (cyclones, flooding as a result of heavy rainfall, etc.). Cyclones represent a particularly threatening risk, given their high frequency and the large number of small states they affect, especially tropical islands.

But to equip small countries with school buildings protected against natural disasters means to make an additional financial effort, first for the preliminary studies, and then for carrying out and supervising the works. It is up to the educational planner, with the support of the entity responsible for school buildings, to evaluate the costs and the advantages of protecting schools against natural disasters. In so far as new buildings are concerned, it is estimated that the cost amounts to 2 per cent to 10 per cent more than an ordinary building (Vickery, 1982). The evaluation of work to consolidate existing infrastructure is trickier. The final decision has to be based on savings achieved by extending the lifetime of school structures, and by reducing recurrent expenses (repairs).

* * *

In the final analysis, and despite very unequal situations from country to country, analysis of the implications of small size for education reveals problems and features in common. These points of convergence make it possible to sketch out a strategic approach aimed at attenuating the handicaps of smallness, and enhancing its potential.

III. Strategies for action

Inspired by analysis of the constraints that encumber the education system, the strategies for action are grouped around four main axes:

- the organisation of supply;
- the economy;
- pedagogy;
- management;
- and openness to the outside world.

Taking into account the specificities of archipelago states fleshes out this strategic perspective. By way of a synthesis, the components of a planning approach suggest several principles of action that could serve as a guide for the educational planner's work.

Structuring the system

1. The development of basic education

An examination of the education profile of small states shows that, in most cases, education for all remains an objective to be achieved. Even though this prospect is the same for all countries, whatever their size, smallness does call for suitable formulae. Definition of the teaching curriculum constitutes the very first difficulty that Ministry of Education officials have to confront (Bacchus and Brock, 1987). The investment and the skills needed for drawing up curricula are very largely independent of the size of the system. In most cases Ministries of Education of small states do not have enough resources to accomplish this task in the usual way.

Setting aside the approach that consists in using curricula designed for other systems, one of the solutions is to involve teachers, in addition to specialists from the Ministry, in curriculum design. Apart from mobilising additional skills, this solution has the advantage of associating teachers more closely with the functioning of the system, and hence of strengthening their motivation. The results of an analysis of the trend in favour of designing curricula at the school level are therefore of great interest to small countries (on this point the reader can usefully refer to the work of A. Lewy, 1991). The participation of other categories of staff, and especially inspectors, when there are any, also tends to reinforce the national curriculum definition capacity. The university, whether regional or national, can also make a valuable contribution.

In many small countries the choice of language or languages of instruction represents an additional difficulty. Small size is not always synonymous with linguistic unity. In this respect Vanuatu (152,000 inhabitants), which currently uses two international languages (English and French) and has several dozen of its own languages, is a good illustration of the complexity, and also the richness, of the linguistic reality that certain small states have to confront. Unfortunately, there is no obvious answer to this question, and very often paucity of financial resources and specialised skills forces a national curriculum that does not reflect this linguistic variety. Here again the teacher often has the difficult task of re-introducing the use of local languages into the learning process at school level.

The prevailing certification system has a very strong influence on the development of national curricula. When diplomas marking the end of a level of education are awarded by external institutions, the degree of freedom available to national authorities to define the content of education is relatively small. The introduction of national certification is therefore a necessary prerequisite to the adoption of local curricula. Putting in place a system of certification for primary education can be envisaged all the more easily in that it does not raise any problem of recognition or equivalence with foreign diplomas.

In certain configurations of extreme isolation, the participation of communities in the functioning of schools is of greater importance for effectiveness than elsewhere. Apart from direct contributions in the form of participation in construction or the maintenance of school equipment, a school can open up to its environment through participation by members of the community in certain parts of the education process. Another formula consists in reinforcing traditional education structures, when they already exist. This can pertain to Koranic schools, such as the 'Edhuruge' in the Maldives.

The promotion of community participation in the development of basic education is normally facilitated by small size. This effect of scale can be explained by the small number of interested parties and their proximity to one another. Thus the density of relational networks that characterises small communities can be put at the service of consolidation of basic education.

2. The technical and vocational training supply

Most small countries consider technical and vocational training to be a strategic sector for meeting the economy's manpower needs. As a result, they are tempted to extend their education structures by including this type of instruction. As in other areas, there is no specific strategy for developing technical and vocational training in small states. Nevertheless, small size does have strong implications for the way this question is tackled (Bennell and Oxenham, 1983).

The weak differentiation of functions that characterises the employment structures of small economies is reflected in less varied requirements in terms of qualifications. This characteristic has the consequence of making it inappropriate to use international employment nomenclature to circumscribe qualification needs.

The training categories that the country needs are less numerous. For a whole series of very specialised professions, the needs are only occasional, and can therefore be met by temporary immigration of specialists. Moreover, even when the need is constant, it is numerically very small, so it is more economical and hence preferable to send people for training abroad, especially in the case of very expensive streams.

The issue of whether training should be provided by the state, by private institutions or by enterprises arises in small countries in very special terms. The small size of the private enterprise sector makes it difficult for it to be involved directly in training. The economic fabric is unable to absorb a large number of apprentices, and usually does not have the equipment and skills required to provide training. Thus the state is in most cases forced to become directly involved, either by organising technical and vocational training streams within the education system, or by creating a training centre. Only a few economic sectors are sufficiently developed and structured to take responsibility for training. Depending on the country, these may include plantations, mining or the hotel business.

For exactly the same reasons, private concerns have little interest in investing in training. The computer science and office automation sectors, given their transverse nature and the small investment required to organise courses, are those in which the development of a private training sector is most easily imaginable.

Financing is therefore reduced to two variables, public funding and possibly contributions by the beneficiaries in the form of enrolment and course fees.

In so far as strategies for limiting unit costs of vocational training are concerned, there are four possibilities that deserve to be explored:

- regional co-operation, also for teacher training; this strategy will be analysed further on;
- concentration of training institutions at the post-secondary level, possibly by merging general training and technical instruction within a single centre, which makes it possible to reduce structural costs by eliminating duplication (this reasoning has led to the creation of several post-secondary colleges, such as: the technical college of Morne Fortune in Saint Lucia, the Tarawa technical institute in Kiribati, and the Samuel Jackman Prescod polytechnical school in Barbados);

- use of the same equipment and possibly the same staff for both technical and vocational training during the day and adult training by evening courses;
- making programmes more modular can also be a source of savings by introducing greater flexibility into the training system (this strategy will be developed later on).

Whatever the size of country, implementing a vocational training policy pre-supposes co-ordination between a mechanism for monitoring employment and qualifications, and a system for co-ordinating and guiding actions. The small size of the economy and the population (labour force and school population) can in fact facilitate the collection of information about the condition and short-term evolution of the labour market, in particular through regular surveys.

Since small size is synonymous with a narrow social field, it also facilitates consultation procedures, since the interested parties are relatively few in number. A national entity for vocational training co-ordination can fairly easily bring together all the organisations interested in this theme:

- ministries (especially those responsible for planning, education and employment);
- non-governmental organisations involved in training programmes;
- representatives of the private sector, and even representatives of the country's main enterprises;
- representatives of trade unions.

Several small countries have already moved towards a mechanism of this type (notably Barbados and Mauritius). Taking this approach further, the anglophone Caribbean states committed themselves in 1990, under the aegis of CARICOM, to a regional vocational training strategy. This initiative is based on a combined mechanism for monitoring the labour market ('Labour Market Information System') and for co-ordinating training at the national ('National Training Agency') and regional ('Regional Advisory Committee') levels.

3. The organisation of education at the post-secondary level

Post-secondary education is certainly the area in which small states have to exhibit the most capacity for innovation (Bray, 1990; Packer, 1990; Atchoarena, 1991). Developing education beyond the secondary level requires having a sufficient demographic base. There is a threshold, albeit difficult to define, below which the recruitment pool is not enough to feed a post-secondary process. These factors related to demography and to regulating enrolment flows within the system are supplemented by qualitative conditions, especially for universities (opportunities for recruiting teachers at a satisfactory level, quality of the scientific environment and resources allocated to research, etc.). It is not easy for small countries to overcome these handicaps.

Despite these difficulties, more and more small states are creating post-secondary education structures, and even universities. Within a zone that enjoys relative cultural and economic homogeneity, as well as some political similarities, a regional university seems particularly appropriate. It was in this context that the sixties witnessed the creation of the University of the West Indies (1962) and the University of the South Pacific (1968).

The University of the West Indies has 14 members, which also belong to CARICOM (Bird, 1984). Its main infrastructures are distributed over three campuses located in Jamaica, in Barbados and in Trinidad. These centres are supplemented by secondary institutions, located in states without a campus, that provide undergraduate education.

The University of the South Pacific has opted for a more centralised structure, based on the campus located in Fiji, the most populous and most developed state of the university's eleven members. There are, however, specialised peripheral structures spread over several other countries (Western Samoa, Vanuatu, Kiribati). Unlike the University of the West Indies, the University of the South Pacific brings together countries that are very different in cultural and linguistic terms, and extremely dispersed geographically.

While permitting economies of scale and rationalisation of resource allocation, the regional solution is certainly not a panacea. The polarisation effect to the benefit of countries having a campus, conflicts about funding distribution, the battle for power sharing and political instability are all factors that have deeply shaken these regional universities in both the Caribbean and the Pacific.

If the political is viewed as an exogenous variable, three factors determine the solidity of these institutions:

- equitable distribution of services among the different members, in terms of both access to training and research opportunities;
- maintenance of an 'adjusted' balance between the utilisation of the university by each state and its financial contribution, it being understood that the latter must be weighted on the basis of the members' economic standing (the countries with a campus are the most developed ones, and enjoy positive employment and income spin-offs from the presence of the university);
- establishment of a viable arbitrage between the will of host states to exert more control over their campus and the preservation of regional interests.

The development of distance teaching represents a powerful means of reducing disparities of access to higher education. In the Caribbean region, the outlying university centres are linked to the campuses by a satellite communication system (the UWIDITE programme). The dispersion of the Pacific zone and the large number of archipelago states justifies using such a system even more. Since 1971, modern means of telecommunication, through the ATS-1 and INTELSAT satellite links, have allowed the University of the South Pacific to reach extremely dispersed and isolated communities.

This facility is also extremely useful for managing the university structure as a whole. Apart from its main installation in Fiji and the eleven annexes spread around member states, the University of the South Pacific also has an agricultural centre in Western Samoa, a languages unit and a law unit in Vanuatu, a

maritime research unit (Atoll Research Unit) in Kiribati, and a rural development institute in Tonga.

The regional solution is not the only way for small states to create university structures. Numerous small countries, such as Botswana, Brunei, Guam, Guyana, Lesotho, Macao, Malta, Mauritius, Swaziland and Samoa, have their own university.

Different strategies can in fact be envisaged for the development of higher education in small territories (see *Table 3.1*). A country may also choose to adopt different approaches by discipline. But in all cases, the creation of a university is not really meaningful unless at least three criteria are met:

- quality of teaching and research;
- relevance of the training for the country's needs and development strategy;
- a specific identity.

Given the problems connected with developing higher education, small states have progressively taken on a parallel and original approach, which aims to consolidate short post-secondary education capacities. This strategy consists in a process of concentration, and then of integrated development, of all post-secondary, general and technical education institutions within a single structure. Specialising in a small number of areas and limited to an intermediate level, these national institutions allow for economy of means and promote capitalisation of skills. This broadening of scale is also propitious for better management of relations with external organisations. In the Eastern Caribbean, this approach is going to lead to specialisation at each of the institutions, with a view to greater inter-island complementarity. An evolution of the same kind is under way within the 'Consortium on Pacific Education' (American Samoa, Western Samoa, Tonga, Hawaii).

Table 3.1 Strategies for the development of higher education in small states

Objectives	Means	Advantages	Disadvantages
1. Finding students in sufficient numbers	Offering study fellowships to foreigners, opening recruitment to students from neighbouring countries where the training supply is deficient.	Strong incentive power. Relatively low cost.	High cost. Strong heterogeneity of profiles and needs.
	Constituting regional structures.	Reinforcement of national identity, stage towards definition of regional human resources development policies.	Unequal distribution of benefits among different members, difficult to maintain overall cohesion.
	Developing distance teaching.	Reduction of structural costs, possibility of reaching an extremely dispersed population.	Complexity and high cost of teaching material preparation, difficult to evaluate learning achievements, weak effect on the environment.
2. Attracting teachers	Offering high salaries or particularly favourable working and living conditions.	Strong incentive power.	No guarantee of competence of candidates, strong mobility of teaching staff, lack of specific identity, no capitalisation, high cost.
	Constituting regional structures.	Opportunity to combine quality, coherence and stability.	Risk of conflict between scientific (university level) and political (nationality) recruitment criteria.

Table 3.1 (cont'd)

3. Developing scientific activity	Integration with international scientific networks (participation in seminars, organisation of colloquia, student and professor exchanges, participation in inter-university research projects.	Promotes international contacts and makes research and teaching more dynamic.	Risk of dispersion and/or dependence.
	Provide access to information by modern means (consultation of databases by computer and telecommunications).	Systems well suited for countries poor in documentary resources and relatively isolated (land-locked or island states).	Relatively high cost.
4. Choosing a certification system	Negotiate equivalences with foreign diplomas.	Contributes to mobility of graduates.	Risk of unsuitability for national requirements and strong dependence.
	Opt for a specific system.	Corresponds to national context.	Increases the risk of graduate unemployment.

The unusual character of these institutions permits greater flexibility and facilitates the introduction of innovations, such as making training modular and developing programmes for adults. Being closer to national (or regional) needs, they can more easily free themselves from the stewardship of external certification organisations.

Post-secondary education is expensive, especially for small states. The stage of development of their education system that small countries can claim varies according to the national context. But in all cases, a prudent post-secondary education planning approach requires:

- comparing the policy of development of national means to the option of training abroad, especially when basic education is far from universal;
- evaluating the long-term risks involved in an ambitious policy of post-secondary education development, when a narrow labour market is still a fundamental characteristic of the economy.

Mastering economic parameters and the instruments of planning

1. School mapping and cost reduction strategies

The impact of small size on costs and the fact that small enrolment size translates into high unit costs have already been analysed. The problem of cost reduction consists mainly in seeking ways of sharing fixed costs over a larger population. The specific problems arising from territorial fragmentation are discussed later, in the section devoted to archipelago states. The implications of the spatial variable and the notion of isolation will be integrated into the examination of regional co-operation strategies, even though they also relate to the logic of cost reduction.

School distribution can be approached from the perspective of cost reduction, for it in fact has a direct impact on the key variables of the teaching process:

- the pupils;
- the teachers;
- the institutions.

(i) Managing enrolment

Different measures can be envisaged to bring down the costs generated by small enrolment size. When the catchment area is too small, one solution consists in grouping several levels of education within the same class. In the extreme, this approach can result in a school with only one class. Application of this formula is however limited by its occasionally negative impact on education quality. Special skills are required to teach groups at different levels simultaneously. In the absence of suitable teacher training, this solution runs the risk of deterioration of teaching conditions. Moreover, it is applicable only to primary education.

The enrolment rotation system, with 'multiple shifts', that is, taking in several groups of pupils at different times of the day, can also contribute to reducing unit costs. This mode of functioning essentially aims to distribute over a greater number of pupils (two or even three times more) expenditure resulting from capital investment and amortisation and the work of teachers and other staff. But here again, limitations to this strategy result from its virtually negative impact on education quality.

Problems arising from sub-optimal enrolment size are even more acute in technical and vocational education, both because fixed costs are higher and such training is of interest to only a relatively small number of pupils. When the pedagogical ratio turns out to be far below the legal or theoretical maximum, it is possible to organise biannual recruitment. This type of operation greatly reduces the need for teachers and equipment. It may also be of interest from the employment opportunity point of view, since production at a slower

rhythm may better correspond to the absorption capacity of a small labour market.

(ii) The management of teachers

When enrolment is small, giving preference to universality over specialisation is one way of achieving better utilisation of personnel resources in secondary education. Extending the field of competence of teachers to two or three subjects allows for their working time to be distributed over a greater number of classes. Thus it is possible to reduce the number of teachers for an equivalent service. While advantageous in terms of costs, this strategy runs into the problem of quality. At a certain level of teaching and for certain subjects, specialisation is necessary for education quality.

(iii) The network of institutions

Small populations are rarely distributed in a homogeneous manner, and not without their circulation being hampered by physical barriers (underdevelopment of transportation networks, irregular topography, territorial discontinuity). Thus it is common to find that small countries have relatively isolated communities of minuscule size. In such cases the installation or maintenance of school infrastructures is very costly indeed. One solution consists in closing institutions considered to be too small, and opting for enrolment of those children in a more central location. This type of measure must be accompanied by improvements in transportation networks, in order to guarantee that pupils are actually shifted from the periphery to the centre. While advantageous from the cost point of view, this strategy of concentration can nevertheless present numerous disadvantages (accentuation of polarisation and urban migration phenomena, aggravation of regional disparities to the detriment of rural zones or peripheral islands in the case of an archipelago).

Another approach consists in opening up schools to adult training. It is then possible, provided additional training is given, to have recourse to the same teachers for these adult activities. This option has the merit of increasing the rate of utilisation of facilities

as well as teachers. But its feasibility depends on the location of the institution and its ease of access (especially at night).

2. Adapting simulation models

Simulation models presently constitute virtually indispensable education planning tools. There are numerous such models, some specific to a given education system, and others more generic. The objective is not so much to develop a tool valid for all small countries, as rather to allow them to adapt and to use models or software currently prevailing in educational planning. International co-operation is contributing greatly to this effort. Without pretending to be exhaustive, attention should be drawn to programmes implemented in this respect by UNESCO and the Organization of American States (OAS).

UNESCO has developed for Papua New Guinea a simulation model that could be adapted and applied to other states in the Pacific region. The projections provided by this tool have contributed to making choices clearer, by providing information about sensitive issues of planning, in particular:

- the amount of operating and investment expenditure induced by maintaining the present policy;
- the budgetary implications of a change in policy;
- the interactions among key variables of the system (enrolment rate, drop-out rate, number of teachers, classroom occupation rates, teacher remuneration, etc.);
- the implications of budgetary cuts (salary decreases, lay-offs, decline in enrolment capacity and enrolment rates);
- the inter-relationships among years and levels of education and their impact on enrolment capacity, the number of teachers and the budget;
- the possible options in the event of budgetary restrictions.

In the Caribbean, a project of the Organization of American States, aimed at improving educational planning ('Improvement of educational planning functions and facilities'), has sought to adapt

simulation models to the needs of the region's small states (Antigua, Barbados, Dominica, Grenada, Jamaica, Suriname, Saint Kitts-Nevis, Saint Lucia, Saint Vincent, Trinidad and Tobago).

This type of co-operation has demonstrated the usefulness of a computerised tool for small countries of the region, in particular for the following tasks:

- constituting a database for examinations;
- collecting and centralising information about staff;
- collecting and processing statistical data;
- analysing the results of pupils;
- drawing up the yearbook of educational institutions;
- making projections and measuring changes in the quality of education.

Given the importance that simulation now has in the exercise of planning, and the non-existence in most small countries of staff specialised in this area, international co-operation has an important role to play in supporting the development of national capacities.

3. Adapting manpower planning models

The small size of an economy has great implications for the characteristics and functioning of the labour market:

- training needs for specialised personnel are very limited;
- the number of graduates of the education system is relatively low;
- the modern non-agricultural economic fabric consists of a small number of units, concentrated in few sectors;
- the public sector occupies a decisive place in total employment;
- the dependent nature of economic growth is reflected in great vulnerability of employment;
- structural rigidity, resulting from the small size of the labour market, leads to sclerosis of employment structures, which is not very propitious for the integration of new members;

- the impact of emigration is considerable, especially with respect to qualified manpower;
- and finally, the tertiary education system is not very well developed, or even non-existent.

All these specificities change the equation of manpower planning. Taking them into consideration does not, to be sure, result in the design of a new planning model, but it does suggest some basic principles:

- promote polyvalency, both because of the uncertainty surrounding economic developments, and given the profile of existing jobs (less specialisation of functions);
- profit from the advantages afforded by small size, from a statistical point of view, to extend recourse to surveys (employer-employee surveys, tracer studies), with a view to grasping better the functioning of the labour market and changes in qualifications (the small size of the reference population makes it possible to carry out exhaustive surveys, an option rarely possible in larger populations, and thus to avoid the uncertainties of sampling);
- develop an ability to anticipate by keeping abreast of technological changes abroad, and of their possible consequences for qualification needs;
- dissociate qualified manpower shortages due to emigration from those that are the responsibility of the education system, and design skill retention mechanisms;
- compare whenever necessary the cost of developing post-secondary education with the solution consisting in sending people abroad for training. Cost benefit analysis seems to be well suited to making this kind of arbitrage, on an economic basis.

Manpower planning is also an area in which international organisations assist certain small countries in setting up *ad hoc* structures. In the Eastern Caribbean states, since 1987 the ILO, with financial support from the World Bank, has contributed to providing

five countries (Dominica, Grenada, Saint Kitts-Nevis, Saint Lucia and Saint Vincent) with a Labour Market Information System, the LMIS (Caribbean Development Bank, 1990). The approach adopted by this project does not differ fundamentally from that implemented in larger countries, so it is not necessary to specify the details. The objective of the approach is to build a permanent mechanism providing information about employment and qualifications, which can serve to orient technical education and vocational training.

Pedagogical resources and systems

1. The quality of education and the training of teachers

The competence of teachers is a key variable for the quality of education. In small countries, the development of teacher training is limited by their small number, especially for the secondary level. Moreover, it is not conceivable to create a school for training teachers for technical education, when the annual number of pupils involved in such training does not exceed a few dozen.

The constitution of a national teacher training capacity is therefore a function of the stage of development of the education system. Below some minimal volume, initial teacher training must be organised by relying on structures located abroad. When conditions permit, an alternative solution consists in creating structures common to several small countries, within the framework of a regional co-operation programme.

The other aspect of the problem has to do with continuing training of teachers. This involves maintaining and bringing up to date their knowledge and pedagogical skills. But in certain countries, the priority is the qualification of teachers who have already been recruited, even though they did not have the level normally required to teach.

The problems of continuing teacher training are not specific to small countries. It is nevertheless worth discussing, given its importance for the quality of education. The different approaches to the problem can be grouped into two tendencies. The first consists in adopting an overall and systemic approach to continuing

training, and in assessing, at the central level, the needs of the teaching staff on the basis of its initial training and of orientations in the development of the education system. This global and centralised vision is in opposition to a more flexible, participatory and fundamentally decentralised methodology. Training needs are then assessed at the level of the system's basic unit: the school. On the basis of aggregation of these needs, the central level arbitrates to design a consistent training plan. This second approach puts more stress on those directly involved, and in particular the head teachers, who become relay stations in the training process.

It seems that the decentralised or 'bottom up' approach is gradually gaining sway over the global or 'top down' approach. Projects currently under way in the Caribbean and South Pacific regions (Higginson, 1991) illustrate this phenomenon and give witness to efforts by certain small countries to bring working teachers up to an acceptable level of qualifications. Small size favours the introduction of a decentralised approach and active participation by the various interested parties.

An examination of the programme currently being implemented in the Eastern Caribbean states to qualify secondary teachers who do not have degrees ('Teacher Training For Non-Graduate Secondary School Teachers'), and an analysis of the strategy to improve primary education quality in the Pacific Islands (UNESCO's 'Pacific Educational Management') reveal certain principles of intervention that seem to be valid for many small states:

- recognition of the school as the basic unit, both for the analysis of training needs and at the stage of action implementation;
- using resource persons who can constitute relay points for the co-ordination and monitoring of training activities. This relay person can be a teacher chosen for his experience and qualifications (the Caribbean case) or the head teacher of the institution (the Pacific case);
- the production of self-training materials for the teachers, and the use of distance training means (the Caribbean case);

- the integration of teacher training in an overall education improvement strategy, involving pupils' parents and contributing more broadly to the opening of the school to its environment, in accordance with the 'Jomtien spirit' (the Pacific case).

Moreover, these two examples are the expression of a policy of co-operation among several small states within a single region. In this respect, co-ordination and stimulation of the network is based on an ad hoc structure, the University of the West Indies in one case, and the sub-regional office of UNESCO in the other.

2. The use of distance teaching

The principle of distance teaching is highly appropriate for situations where the target population is very dispersed. For this very reason, it is certainly of interest for archipelago states and regional groupings. Its field of application is potentially very broad; in practice, its application is often limited by the availability of resources. The investment and recurrent costs are mainly a function of the technology and of the number and length of programmes broadcast. The development of didactic materials involves quite a heavy financial investment and specialised skills.

But distance teaching does not really constitute an alternative to traditional methods. In particular, its implementation is more limited, and in any event more complex, in the case of technical education and vocational training, which are largely based on the acquisition of know-how. Even for general education, it is beneficial to combine distance teaching with activities that provide direct interaction between the student and the professor.

For small states, distance teaching systems can contribute to the development of education mainly in three areas: post-secondary education, continuing training and extension services.

The regional universities of the South Pacific and the Caribbean already use distance teaching extensively to reach students located in states without a campus. One of the characteristics of these programmes is recourse to a satellite and grouping of the students in reception centres run by tutors. This grouping makes the

phenomenon an urban one, and thereby penalises students located in isolated rural zones or on peripheral islands.

Adult education also benefits, in both regions, from distance teaching services, whether for the purpose of in-service training (of teachers, of health care personnel), or of extension services (agricultural techniques, principles of health and nutrition). These programmes are usually transmitted by radio, which allows for almost complete coverage, rather than by satellite.

The use of distance teaching methods for in-service training is no doubt a promising development, especially for South Pacific archipelago states with a fragmented and dispersed spatial configuration. But the feasibility and quality of such a system require making sure that support mechanisms are put in place. In this respect, the constitution of teams of pedagogical resource persons and tutors, and the design of self-evaluation tools are two key factors.

Setting aside pedagogical aspects, one of the difficulties of setting up a distance teaching system consists in the choice of technology to be used. Given the explosion of techniques in the areas of telecommunication and computer science, education planners and decision-makers are confronted with a difficult puzzle. In this respect, small countries, which do not have a dense technological environment and suffer from isolation (island or landlocked countries), are faced with an additional handicap.

At its outset, distance teaching mainly used the postal network and the radio. Today there are many different networks and terminals on the market, from the simple telephone right through to teleconferencing. Among the constraints that determine the technological choice we find the level of development of telecommunication networks and the funding capacity. The new communication technologies cannot be of any use for islands that do not have the minimal required infrastructure (electricity and telephone networks). Similarly, technologies with prohibitive costs, without forgetting the maintenance cost, will in practice remain beyond the reach of small states.

For these countries, the development of distance teaching systems requires entering into partnerships with external, regional

or international organisations that can provide support both for the choice of technology and for the operation of the system in technical and pedagogical terms. The regional universities in the Pacific and the Caribbean have already taken this direction. Similarly, Botswana, Lesotho and Swaziland have been working together since the beginning of the seventies through their 'Distance Learning Association'. This type of strategy could be consolidated, notably through the 'Commonwealth of Learning' (COL). Created on the initiative of the Commonwealth states, this organisation, which is located in Vancouver (Canada), operates as a resource centre in the field of distance teaching. This is precisely the kind of service that small states especially need.

3. The modularisation of training

In its most common form, training conceives programmes as monolithic entities, leading, at the end of a pre-determined period, to a certain level of qualifications, recognised through the awarding of a diploma. This pedagogical scheme is linear, continuous and rigid. It is quite appropriate for basic education, but presents the disadvantage of being cumbersome when it comes to content of a technical or vocational nature.

In this context, the modularisation of training is a more suitable approach, for it is more flexible and less constraining. The principle of modularisation consists in decomposing training into a set of distinct but connected sequences, each one corresponding to a specific objective of vocational skill acquisition. In practice, the methodology of modularisation can combine two complementary approaches. The first consists in building training with reference to a job type, each module corresponding to a sub-set of dissociable skills. The second is transverse in nature; it aims to bring in to the training skills that are common to several jobs.

Modularisation thereby offers a vast choice of combinations, for the modules can either be rigidly sequential or autonomous, their connection can be imposed or free. This great flexibility offers numerous attractive features for small economies.

The possibility of varying pedagogical assemblies allows for a greater variety of courses, on the basis of the same underlying

structure. The great flexibility that this mechanism confers on the management of intakes contributes to solving the under-enrolment problem that small systems chronically face. For example, it is easy to define common cores for general and basic technological education. The transverse approach also facilitates the constitution of a sufficiently large group. Finally, the possibility of organising discontinuous courses allows for enlargement of the recruitment pool.

This mode of organisation develops the ability of the training system to adapt, because the evolution of jobs can be integrated, to a certain extent, by modifying just some of the modules, without putting into question the entire training programme. Programmes are usually constructed with reference to a job type, but it is also possible to design them so that they correspond to skills considered deficient within an employment sector. As a factor of consistency and potentially a source of savings, the connection between initial and continuing education is almost inherent to modularisation.

But while this methodology presents numerous advantages for small countries, its implementation is relatively complex and requires that a number of minimal conditions be met. The first stage in the construction of modular training consists in drawing up a precise inventory of the skills required for each job type. It is then necessary to translate each of these skills into a pedagogical objective and into training content. Teachers must have absolute mastery of this step, which requires having followed specific training. Finally, modularisation also affects the certification system.

4. Diplomas and certification

Dependence on external certification systems constitutes a key characteristic of education in small states (Packer, 1990). This dependence in terms of diplomas has the consequence of keeping curricula in a mould imported from abroad, and often far removed from the national socio-economic and cultural context. For instance, in the member states of the Commonwealth, British institutions traditionally award the secondary education diplomas (the universities of Cambridge and London for general education, the City and

Guilds of London Institute and the London Chamber of Commerce and Industry for technical education).

Initiatives to recover this area of sovereignty have gradually been taken. Regional certification institutions have thus been created, first in West Africa (West African Examinations Council, WAEC), then in the Caribbean (Caribbean Examinations Council, CXC) and the Pacific (South Pacific Board of Educational Assessment, SPBEA). Apart from these regional efforts, several small states have launched this kind of reform on their own, such as Mauritius (Mauritius Examinations Syndicate) or the Solomon Islands.

But these policies are difficult to implement to the extent that they have two conflicting objectives. Propelled by a sort of centripetal reflex, a first priority trend consists in rooting education and diplomas in the national or regional reality. But then, inspired by the concern to stay open to the outside world, a centrifugal tendency strives to maintain systems of equivalence with foreign diplomas.

It is always difficult to strike the right balance between these two orientations. As emigration constitutes one of the key factors in the viability of small states, a policy of radically breaking the links of dependence would amount to self-mutilation. In these countries, the search for a more endogenous education fits in better with an externally consulted approach. In the Pacific, for instance, New Zealand has contributed to the creation of the regional certification institution (SPBEA).

In the area of technical education and vocational training, the external constraints are all the stronger in that these programmes are often terminal in nature. Application of the modularisation principle, described above, would mean re-working the certification procedures. Structuring programmes as connected but autonomous modules supposes being able to split examinations into several test units. Success on all the test units would then be required for the diploma. But the system is meaningful only if it includes a partial certification mechanism, that is, certifying each of the modules separately. This amounts to a complex system that calls for deep reform of present structures and practices, and implies close consultation with professional circles.

5. The production of school textbooks

Small countries do not need to publish school textbooks in large print runs. But for the publishing industry, small printings are synonymous with high costs. Moreover, large publishing houses, with which ministries of education could subcontract in order to limit their investment costs, are rarely interested in micro-markets. These constraints of an industrial and commercial nature are sometimes aggravated by the fact that the school population is not only small, but also split into distinct ethnic and linguistic groups. The problem then arises of reconciling financial considerations with the desire to preserve cultural specificities.

Whenever it is possible, regional co-operation contributes to loosening the constraints connected with school textbook production and marketing. But this does not mean it solves the problem of allowing for cultural specificities. One possible response consists in favouring a modular and evolutionary system of textbook design, with each subject's book containing the national common core as its base, and then blank parts to be used by teachers in each community to illustrate and re-interpret the content, taking into consideration the pupils' environment and culture. This innovative and decentralised approach takes its inspiration from experiments conducted in the United States for teaching native communities, and also in Australia for the education of aboriginal children (Conroy, 1979).

The administration and management of the system

1. The organisation and management of the Ministry of Education

The small size of the state's bureaucracy has important consequences, both for the structure of the administration and for the way it functions. It would only be logical that small size translate into less differentiation of the ministerial structure. The creation of ministries responsible for a relatively large number of areas normally leads, in small countries, to better allocation of both

human and financial resources. In financial terms, grouping functions together allows for fixed costs to be distributed over a larger sphere of activities. In human terms, simplification of the structure can improve work productivity, by limiting the risk of duplication, by simplifying communication channels, and also because it contributes to better utilisation of rare skills.

An examination of the ministerial structure of several small states (Bray (ed.), 1991) does in fact show that the administration is made up of relatively few units. In the sample under consideration, the number of ministries varies from twenty (Guyana) to five (Tuvalu), a four to one ratio that reflects quite a pronounced diversity in modes of organisation. The results also show that the average number of ministries is small in comparison to the governmental structure of larger states. Nevertheless, the average number of ministries (12) remains high given the demographic size of these countries.

The tendency to concentrate multi-sectoral skills within a single ministry should translate into administration of education at the central level. In 1989, the Secretariat of the Commonwealth undertook a vast study project, co-ordinated by Mark Bray, on the organisation and management of ministries of education in small states. The results of this project were published in 1991. They show that of the 39 countries concerned, only 12, or 31 per cent, have a ministry responsible solely for education (Bray, 1991). However, mere analysis of these figures does not lead to the definitive conclusion that there is a link between small size and the way the education sector is handled by the state bureaucracy. For there are many countries, irrespective of size, where the ministry responsible for education is also entrusted with other spheres, such as youth, sports or culture, in particular. The functional complementarity between certain sectors and the search for a synergy effect quite often explain the groupings that occur within a single ministry. There may also be reasons of a political nature. But for small states, extending the spheres of competence of the ministry responsible for education is largely part of a strategy to reduce costs and to utilise resources more effectively.

Within the ministry itself, the effect of small size appears in terms of structuring of functions. Polyvalency and flexibility are

ways of compensating for paucity of resources. An analysis of the organisation charts of ministries of education gives a rough picture of the modes of organisation prevailing in several small states.

Mark Bray (1991) identifies 15 basic functions that are normally entrusted to specialised units within a ministry of education. In the 17 small countries he considered, none of the ministries had a specialised unit for each of these 15 functions. Some units, such as the one for curricula, appear explicitly in almost all the organisation charts. On the other hand, others are absent in virtually all the ministries considered (international aid, specialised education). The fact that the organisation chart does not show a unit specifically identified with a given function does not of course mean that the function is not fulfilled. For instance, the absence of a planning unit (Dominica, Cook Islands, Kiribati) does not necessarily mean there is no planning activity, for it may be done in a co-ordinated manner by different units.

It is not rare for the ministry of education to farm out certain activities. Two strategies are then possible. The first consists in subcontracting one or several tasks to a ministry better equipped for them. This is often the case with school statistics, which are collected and processed by the central statistical office (Botswana) or the ministry of finance (Solomon Islands). Similarly, teachers' salaries may be paid directly by the ministry of finance (Dominica, Brunei, Gambia, Saint Lucia). School construction is another function that is frequently delegated to a different ministry, usually the one responsible for public works (Seychelles, Brunei, Dominica).

The other strategy consists in entrusting to the private sector certain education services normally provided by the state. Pre-primary education (Kiribati) and special education (Saint Lucia) are among the services that can easily be left to the market or to associations. Printing (Guyana, Saint Lucia, Brunei), publication (Guyana, Dominica, Gambia) and school catering (Brunei, Guyana) are some other services that are private in several small states. One may suppose that this is not just due to the application of a principle of economic policy, but is also a strategy motivated by the small size of the education ministry and system.

The internal organisation of the ministry still bears clear traces of the colonial heritage in most small states. Depending on the country, the British or French model strongly inspires the structure of the organisation chart. On the other hand, the consequences of small size are clearly visible at the level of informal links. Accumulation of roles and inter-penetration of professional, personal and familial domains weave circuits of communication that are superimposed on, and sometimes short-circuit, the functional and hierarchical relations among individuals.

2. The management of ministry staff

The small size of the ministry translates at the employment level into less differentiation of tasks and greater polyvalency of individuals. This polyvalency is a way of maximising the utility of rare resources. It operates first within the ministry of education itself, but it is not exceptional for skills to be shared among several ministries.

Flexibility is another characteristic of the organisation of work and the definition of posts in small structures. Their greater sensitivity requires an ability to adapt, in order harmlessly to absorb the consequences of events as banal as the visit of a mission from abroad or the absence of staff members.

The management of absences actually raises real problems. Because of the small size of individual units, it is not easy temporarily to replace a staff member who is absent for holidays, illness or for professional reasons (a mission, training). In this context, absences are potentially a source of disorganisation and tension. The only way of remedying this structural rigidity is to programme foreseeable departures as much as possible, and to introduce a mode of functioning based more on team work.

The management of careers is also a complex exercise in small structures. Promotion opportunities are limited by the very small number of posts at the top of the hierarchy, and because the age pyramid is often very young. This blocked situation runs the risk of generating a sense of frustration among the staff, and ultimately escape to the private sector, or even abroad. There is no absolute protection against this danger; the only remedy consists in

organising careers not within just the ministry of education, but at the level of the entire public sector.

The requirement of polyvalency ideally leads to looking for candidates with profiles including several qualifications (Farrugia and Attard, 1990). But it is difficult to find all the desired qualities in a single person. Polyvalency is acquired through experience and continuing education. Hence it is all the more useful to construct a staff training plan. In practice, ministries of education in small countries that have such a plan are rare. Training opportunities are offered with more or less consistency as a function of scholarships offered abroad or on the occasion of the launching of a project financed by external aid. But the analysis of training needs and the definition of a policy aimed at satisfying them are not very common. The lack of financial resources and of trainers, the burden of the opportunity cost, and the very small size of groups interested in specialised training are all obstacles to the development of continuous training. And yet this is an important way of increasing work productivity, through the mastery of multiple skills. Whenever this is possible, the constitution of groups of staff members from different ministries, or from several small countries, can improve the feasibility and the effectiveness of training courses. But beyond such adjustments, what is really needed is a new state of mind within the administration.

Openness of the system to the outside world

1. Regional co-operation: objectives, scope, modalities and perspectives

Our examination of various aspects of educational planning in small states has already given us the opportunity, on several occasions, to analyse regional co-operation mechanisms. It is especially the economic argument, of lowering unit costs and creating synergies, that speaks in favour of the development and formalisation of inter-state relations within the same geographic region. But the spatial dimension is not sufficient for a rapprochement among nations, and there must also be historical, cultural, even

political proximity. It is for this reason that the island states of the Indian Ocean have not developed a sophisticated regional co-operation mechanism. On the other hand, the anglophone states of the Caribbean, which enjoy close proximity in many respects, have set up dense and active networks of solidarity. The states of the South Pacific are half way between these two models.

The universities (the University of the West Indies and the University of the South Pacific) and the certification bodies (CXC and SPBEA) constitute the spearheads of inter-island co-operation policies in the field of education. It has been seen that the areas of most dynamic co-operation are:

- post-secondary training, in particular university education;
- training for teachers at secondary level;
- the development of distance teaching;
- and finally, the designing of curricula and certification.

However, regional co-operation is not based solely on university or inter-governmental relations. The dynamism of the co-operation process is the fruit of a fertile combination of many initiatives, involving not only states or their agencies, but also professional associations, youth movements, charitable organisations and numerous other NGOs. In the Caribbean region, the Caribbean Council for Adult Education (CARCAE) participates actively in the promotion of lifelong learning. Similarly, the creation in 1990 of the Association of Caribbean Tertiary Institutions reflects the diversification and consolidation of post-secondary education networks on a regional basis.

All in all, important achievements have been realised, but the development of other dimensions would give these mechanisms even greater coherence. These would include, in particular:

- harmonising the supply of post-secondary training, between universities and post-secondary colleges, but also among countries within the same region, in order to avoid duplication and to promote complementarities;
- integrating training strategies into a regional manpower planning approach;

- connecting regional training policies with orientations adopted in the area of economic co-operation;
- jointly managing relations with external partners (foreign universities, donors).

In reality, only the Caribbean region, and to a lesser extent that of the South Pacific, are in a position to take this path. In the former, the Caribbean Community (CARICOM) and the Organization of Eastern Caribbean States (OECS) are structures that can serve as a foundation for a regional education development policy, covering post-secondary education and vocational training. In the South Pacific, and despite the existence of the South Pacific Forum, the process of integration among the islands is much less advanced, and does not offer as much opportunity for strengthening regional co-operation mechanisms in the field of education. Such prospects are even more limited for the Indian Ocean states or the small countries of the African continent. In fact, organisations such as the Indian Ocean Commission (Comoros, Madagascar, Mauritius, Réunion, Seychelles) or the Conference for Co-ordination and Development in Southern Africa (Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia, Zimbabwe) group together entities that are far too heterogeneous for co-operation to reach an advanced and truly operational stage.

But beyond the economic or pedagogical aspects, the objective of regional co-operation mechanisms is ideological in nature. The drive is as much to produce qualified manpower as to generate a common identity ('The Caribbean Man') and a specific vision of development ('The Pacific Way').

2. International aid

External aid constitutes a vital component of the development mode of small states. The education sector is no exception, and it consumes large volumes of international financing in the form of loans and grants. The allocation of such aid has two main forms; funds allocated for capital expenditure, particularly for technical training and post-secondary education, and technical assistance.

Awarding scholarships to study abroad also represents a significant item. Even though these areas concentrate a considerable proportion of external aid, in actual fact all types of expenditure and all levels of education are affected, to varying degrees and at different periods.

While indispensable, external aid nevertheless does have its shortcomings. The veritable avalanche of financing to which small states are sometimes subjected generates acute problems, both in the management of funds with multiple origins, and in the co-ordination of the numerous projects they finance. The capacity to absorb this aid, which is both voluminous and fragmented, is all the weaker in that the administrative structure of the ministry of education is not highly developed. This phenomenon is aggravated by the tendency of donors to make fair-sized loans in order to limit their own administrative costs. This desire on the part of donors for accountancy and administrative rationality contributes, in small states, to oversizing of projects. Moreover, relatively easy access to inexpensive funding sources can encourage excessively ambitious, and even dangerous development policies, particularly in the field of higher education. The inappropriateness of aid structures for small states thereby fuels a perverse inflationary pressure. At the other extreme, the small amount of funding required for each project can result in small states being denied access to certain sources.

The very frequent practice of 'tied aid' also reduces the scope of external contributions. Funding granted for capital expenditure is very often spent in the country of origin, thereby depriving small countries of the multiplier effect that injection of currency into the local economy would have. Technical assistance is generally provided by expatriates, which limits opportunities for the development of national skills.

Apart from these aspects of a technical nature, there is no doubt that the vital role of aid places, or maintains small states in a position of dependence with respect to their main donors. This situation is actually a result as much of budgetary constraints as of the presence of numerous expatriates in key posts, where they are involved in the definition, the implementation and the evaluation of education policies.

Improving the mechanisms of aid for small states requires a dual approach, involving the allocation and the form of the aid on

the one hand, and its co-ordination and management on the other (Higginson, 1990).

The decision-making processes that determine education aid to small states would gain in effectiveness if a number of simple measures were adopted, and especially:

- more co-ordination among donors;
- a change in the basis of negotiations, which would be based not on projects, but on overall programmes;
- a recalibration of financing to suit the needs and possibilities of small states.

Some agencies have already moved in these directions. At the multilateral level, attention should be drawn to the efforts made by UNESCO better to meet the expectations of small states. This adjustment was made first through the creation of decentralised means in the island regions of the Caribbean and the Pacific. Apart from its office in Jamaica, the Organisation has created the CARNEID (Caribbean Network for Educational Innovations and Development) in Barbados, as a forum of exchange among innovative projects. In the same spirit, the Pacific region has had a sub-regional office since 1984, in Western Samoa, one of the effects of which has been the joining of the Organisation by new micro-states. Finally, at the central level, the Secretariat has recently set up an entity with specific responsibility for small states within the Office of External Relations.

On the side of beneficiaries as well, more means should be devoted to the management of financing and programmes. Some small countries (Seychelles, Maldives, Solomon Islands, Gambia) have created units with specific external relations responsibility within the ministry of education. This is not a perfect solution, and it is not suitable for all situations, but it is an interesting way of structuring the utilisation and the control of funds flowing in from outside. In the long term, the effects of aid depend in large part on its form and its allocation. Technical assistance should gradually make way for actions aiming to develop and maintain national educational planning and management capacities.

In the Caribbean and the South Pacific, the progress of regional co-operation should motivate an evolution of aid policies towards support for regional bodies (UWI, UPS, CXC, SPBEA). With time, and depending on the progress of regional integration processes, a growing proportion of aid programmes should be negotiated at the regional level, in particular, in the Caribbean, with CARICOM and OECS (the results obtained through negotiation of the Lomé agreements have demonstrated the relevance of this approach, both for beneficiaries and for donors).

The case of archipelago states

Most small island states are archipelagos. The organisation of public service in an archipelago involves numerous problems and a very high per capita cost. The optimal system must, while meeting budgetary constraints, strive simultaneously to guarantee service in all parts of the national territory, to prevent effects of polarisation around the main island, and if possible to attenuate inter-island disparities, and all this while respecting cultural and linguistic particularities.

Within this framework, the management of personnel is of great complexity and of decisive importance (Commonwealth Secretariat, 1987). It is a matter not only of attracting teachers to outlying islands, but also of keeping them there, while maintaining and updating their knowledge.

More than in any other situation, the school on an isolated peripheral island must take on the function of promotion of the community and stimulation of rural development. These broader missions imply different functioning, more open to the local environment, and even an adjustment in curricula. One of the ways of promoting this role is to use the school as a place for training adults, and to co-ordinate the activities of different government services present on the island (education, agriculture, health, police) around mobilising projects that improve living conditions and develop the community.

Strategies of education development in archipelagos are largely based on four types of measures, involving the management of the

system, the determination of school distribution, the choice of teaching means, and the management and training of personnel. The decentralisation of government services and the involvement of communities in decision-making processes are virtually imperative for continuity of public service and its integration into the local environment. Such relay points are all the more necessary the greater the dispersion of the archipelago and the less extensive and more expensive the means of transportation.

Determining school distribution is a delicate exercise under these circumstances. In primary education, for instance, high gross enrolment rates may sometimes hide pockets of under-enrolment on peripheral islands with a dispersed population and difficult access (Vanuatu). Grouping pupils into classes covering several years, or even a single class, is but an imperfect solution (see the section on *School mapping and cost reduction strategies*). Notwithstanding this type of solution, there are still contradictions between education for all and keeping populations on their islands of origin.

At the secondary level, since schools usually cannot be located on all islands, the choice of where to put them must minimise the transportation requirement. When secondary education structures are too far away, there is the risk either of excluding pupils from remote islands, or of provoking migratory movements. The construction of boarding schools can contribute to resolving this difficulty, but in certain cases cultural resistance renders this measure inoperative on a universal basis. The organisation of lodging for pupils through informal structures, by associating communities, is sometimes an effective alternative.

With a view to a strategy of reduction of development disparities, the determination of school distribution gains from being associated with the land use planning policy. This global approach requires the establishment of *ad hoc* links among the various interested ministries.

Distance teaching turns out to be particularly useful for reaching isolated populations. Pupils, members of the community, and even head teachers and teachers all represent a potential audience. In so far as adult training is concerned, having recourse to distance

teaching requires advance preparation of relay persons, able to act as tutors on a part-time basis.

But the heart of the education management problem in archipelago states lies in the recruitment and training of teachers. Given how reticent staff members are to take up posts on isolated islands, the ministry is often forced to design special systems of remuneration, including bonuses for isolation, transportation and lodging, and even accelerated promotion procedures. Despite all these financial incentives, often it is still difficult to attract and especially to keep teachers in place for a long period.

Apart from these mechanisms of a financial nature, it is important to design other complementary measures, both to avoid penalising civil servants posted to peripheral islands, and to preserve the quality of education. The first principle to be applied to prevent marginalisation of staff is to guarantee the maintenance of communication links with the ministry and equal access to promotion and training.

The practice of teaching in peripheral zones has certain specificities for which future teachers should be prepared. For instance, their initial training could include the functioning of classes with multiple levels, which are frequent in isolated communities. It would also be useful to prepare them for taking advantage of distance teaching as a means of self-training. Finally, initial training must also develop the future teacher's capacity to become involved in development strategies.

The modalities of organisation of continuing education also require innovative approaches. Combining centralisation of activities in the capital with a mobile arrangement, moving from island to island, has the advantage of reconciling financial constraints with the need to integrate training into the place of teaching as much as possible.

In closing this discussion of various strategies suited to educational management in archipelagos, it will seem paradoxical to remark that the success of these measures frequently risks contributing to the accentuation of inter-island imbalances. For the generalisation of basic education in isolated islands will probably increase the social demand for education. Given the impossibility of opening secondary schools, followed by post-secondary training

in all places, young people from peripheral islands will move to urban zones. While oversimplified, this analysis shows that education is incapable of combatting development disparities in an archipelago state all on its own. Therefore a global approach is needed to make educational objectives compatible with the aims of land use planning.

Components of a planning approach

Here are several principles of action that constitute the components of a guide for the education planner. These principles do not claim to be exhaustive, for they neglect some of the qualitative aspects of planning. They are working orientations that illustrate, on the basis of examples, how some of the characteristics of small island states can lead to favouring particular planning approaches or techniques.

1. Taking advantage of the attributes of small size

The small number of officials, institutions, enterprises and individuals, and the conviviality that characterise small societies must be reflected both at the level of structures and in planning methods.

In so far as structures are concerned, and all other things being equal, small size is particularly propitious for the introduction of a participatory process. Apart from its democratic virtues, this approach has the merit of spreading out the expertise capacity of the ministry of education, by putting a value on all skills. With this in mind, it is important for the educational planner to establish close links:

- with other ministries (especially those responsible for planning, labour and community development);
- with communities;
- with employers (the government and representatives of the main enterprises in the modern sector);

- and, within the education system itself, with the main interested parties (representatives of teachers, of head teachers, of inspectors, of pupils).

When carried out within an *ad hoc* forum, such consultations with various partners can fulfil diverse functions:

- a function of dissemination of information about decisions taken by the ministry;
- a function of consultation about envisaged policies;
- a function of information collection (on the general state of the system, on the labour market situation, on external efficiency elements).

Depending on the case, these missions can be entrusted to a specific structure, created for this purpose, or else be carried out by a pre-existing entity, with an extended mandate. In all cases the search for synergy must not result in pointless encumbering of the bureaucracy.

As far as techniques are concerned, micro-planning occupies a very important position in the provision of basic education for all. The constitution of a database about education and employment must be based on surveys, as elsewhere but more easily. This type of investigation is actually facilitated by the small size of the target population, and by the fact that relational networks are so dense. Three types of surveys should be favoured:

- annual census of pupils, to obtain precise information about the characteristics, the distribution and even the itineraries of pupils;
- surveys of the main employers in the modern sector, in order to identify manpower shortages or surpluses, to monitor trends in recruitment policies and remuneration structures;
- follow-up and tracer studies, aimed at gathering knowledge about the destinies of graduates and other school leavers.

Analysis of labour micro-markets should take advantage of the so called 'key informants' method, developed by the ILO. Regular interviews with resource persons, chosen for their knowledge of a specific sector, including those in the informal economy, provide data of a qualitative nature as well as a rough idea of the numbers involved. This way of detecting labour market signals contributes to revealing the sense of changes and sheds useful light on data of a quantitative nature. This way of planning, 'with an ear close to the ground', seems particularly appropriate in the context of small economies.

The weak differentiation of the productive apparatus also speaks in favour of sectoral planning. Thus the effort is concentrated on the needs of predominant sectors: the public sector and several private modern activities, notably tourism which is a sensitive sector in most island countries in the tropical zone.

2. Combatting paucity of means by developing multiple skills of individuals and institutions

In many small countries the paucity of resources is not the result of poverty as such, but rather of small size. Apart from multi-purpose posts and functions within the ministry of education, small size makes it necessary to build on co-operation, by occasionally bringing together available skills. For instance, for the purpose of surveys and its information base, it is in the education ministry's interest to work with the entity responsible for statistics, and with the national or regional university, if there is one.

Within the education system, the utilisation of both administrative and pedagogical skills must be optimised. By way of example, the mission of inspectors can be broadened in order also to make them:

- collectors of information about teaching conditions in schools;
- pedagogical facilitators responsible, together with head teachers, for identifying teacher training needs and for evaluating the results of courses.

Application of the multi-functionality principle also means looking out for the connection between education and non-formal training. The use of teaching resources, professors, materials and facilities for adult training is something to be promoted.

In the peripheral islands of archipelago states, schools must participate fully in the economic and social life. They have not only a training function, but potentially are also structures for stimulating local development. This dimension of the school must be enhanced, in particular by involving the community in its management, by opening teaching to persons from outside the school, by using the facilities as adult training centres, and even for distance education. Other avenues need to be explored, in order to transform school mapping into a genuine instrument of land use planning policy. It is no longer just a question of participating in the retention of a population, but of contributing to mobilisation and development of the local environment.

3. Preventing certain consequences of natural disasters

The installation of education supply in high natural risk zones requires including in the school distribution design an objective of protection of the network of institutions and their populations. This objective must be reflected in the construction of schools (building to specified standards) and in their utilisation in the event of an alert. In the cyclonic zone (Caribbean, South Pacific, Indian Ocean), the regularity and frequency of risk – virtually every year at the same time – fully justifies taking preventive measures. We note that the strong precipitation that accompanies violent winds frequently causes flooding and landslides, which aggravate the danger. Under these circumstances, the fact that in many communities schools are the only public buildings justifies designing them as shelters, for use during and after disasters. When not all schools can be built in accordance with anti-cyclone standards, as is generally the case, school distribution must take care astutely to distribute the sheltering schools. This unusual function of the school network makes it even more indispensable to design a monitoring mechanism for obtaining periodic information about the condition of buildings. Finally, head teachers should be made aware of this important function, and it

should be integrated into the overall plan of civil defence in the event of a natural disaster (*see Box*).

4. Controlling the effects of openness to the outside world

The openness of islands to the outside world has two main consequences for the planner, and these are migration and aid. The strong propensity to emigrate, which characterises most small island societies, greatly complicates demographic forecasts, and consequently predictions of the future demand for education. Thus the net emigration rate is a key variable in any projection exercise. The reaction consists in drawing up a range of various projections, based on different hypotheses as to the main parameters, including the net emigration rate, and in indicating bounds within which school enrolment projections fall. Particular attention must also be paid to 'return migration', which modifies the equilibrium conditions of the labour market.

Educational planning and natural disasters[1]

"(...) It is education planners who decide about the best use of resources available for the development of education in their countries. Therefore they must be the first involved in any effort aimed at protecting schools in zones threatened by natural disasters."
"(...) The planner who decides about the allocation of credits for facilities must take into consideration the costs of his decisions and the advantages that will result from these expenditures. Should one construct fewer consolidated schools and therefore have a smaller school enrolment, or more simple schools where more children will be taught? The education planner will not be able to determine the best way of putting available resources at the service of final objectives, that is, determine a policy in this respect, until after he has done a cost benefit analysis of these different options, and of other solutions available to him."
"(...) It must be stated that the additional cost of protecting schools against natural disasters (from 2 per cent to 10 per cent of the normal cost) will have to be absorbed over the relatively short period of the plan, namely four to five years. On the other hand, the benefits will spread over a period equal to the expected lifetime of the building, which may be from fifty to sixty years."
"(...) The question that then arises is the following: What is the risk of a natural disaster occurring during these fifty to sixty years?"
"(...) One can calculate the probability of occurrence of a phenomenon resulting in disaster, such as an earthquake, a cyclone or a flood, over the normal period of existence of a building, and on that basis one can determine the two parameters required for a cost benefit analysis, namely the cost of preventing damage and the damage itself."
"(...) With these data available, educational planners should be in a position to choose, among various expenditure hypotheses, the investment that leads to the best possible development of education."
"(...) If they decide to allocate funds to the construction of school buildings able to resist natural disasters, the second stage to achieve this end would be the creation of a technical unit responsible for the design and construction of schools."

1. Vickery, D.J. 1982. *School buildings and natural disasters*, Paris, UNESCO.

Aid management can be viewed as another aspect of openness to the outside world. In technical terms, the allocation of aid to specific operations gives a lot of importance to the elaboration, management and financing of projects. In reality, individuals responsible for educational planning in small countries devote a considerable proportion of their time to the tasks of design, implementation and sometimes evaluation of projects, all financed by external aid.

The technical implications of this situation are of two kinds. First of all, the processing of each project demands a methodical and rigorous approach, as a main condition of success (for a detailed description of this methodology, the reader can usefully refer to the work of A. Magnen, 1990). Then, the steering of the system requires controlling the linkages among different projects, and making sure that they are integrated into a plan, or a global strategy. All too frequently, dependence on the outside world is so great that project preparation corresponds more to a search for funding than to the expression of an education policy.

Conclusion

Small states are not simply reproductions in miniature. The small size of the economy determines a particular mode of development. The small size of the government apparatus also modifies both the decision-making structures and processes. In demographic terms, the high rate of emigration is a result of departure by people already working, but also corresponds to a training demand that cannot be satisfied locally. Finally, the small size of the society impresses upon relations among agents a cumulative tendency that leads to the super-imposition of roles.

The impact of small size on these four functions (production, regulation, migration, socialisation) maintains non-standard structures and mechanisms, thereby transforming the framework within which planning is exercised. This context calls not for the elaboration of a new theory, but for an effort at reformulation, in order to adapt the instruments and procedures of forecasting, management and decision-making. These adjustments are built around four central axes that form the force lines of strategies for action:

(i) structural re-composition:

- of the teaching apparatus (calibration of technical and vocational streams, creation of new types of post-secondary institutions);
- of the administrative apparatus (ministries with extended spheres of competence, multi-functionality of jobs).

(ii) adaptation of planning methodologies and tools:

- school distribution;
- simulation models;
- manpower planning models.

(iii) innovation in pedagogical systems:

- modularisation of training (technical education, vocational training, even higher education);
- *ad hoc* certification procedures;
- close linkage between education and adult training.

(iv) management of external relations:

- at the international level (especially the negotiation and management of aid);
- at the regional level (this possibility gives a relative advantage to the island states of the Pacific and the Caribbean).

The beginning of the nineties marked an important turning point for educational planning. Paralysed for too long by the failures of global, centralised and standard-setting approaches, researchers and practitioners seem to be imbued with a new spirit, characterised by flexibility of approaches, enhancement of participatory processes, and adoption of objectives that are no doubt less ambitious but more pragmatic. The reference to 'strategic piloting' (Lourié in Caillods, 1989), a terminology that sometimes replaces the concept of planning, is a good illustration of this evolution. By their nature stubborn, because of their vulnerability, when it comes to long-term forecasting, but on the other hand very much in favour of participatory processes, small states should profitably accommodate themselves to this new concept of planning.

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