

Education in Developing Asia

Volume 2

**Management and Efficiency in Education:
Goals and Strategies**

David Chapman



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Comparative Education Research Centre
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Contents

List of Tables	iii
Figure	iii
List of Boxes	iii
List of Abbreviations	iv
Foreword	v
Introduction	1
Education Management in Asia	3
The Management of Education	3
Indicators of Effective Education Management	4
Central-Level Management: Growth and Elaboration	5
Ministry of Education Intermediate Levels	10
Head Teachers	11
Summary	13
Issues by Level of Education	16
Primary Education	16
Secondary Education	17
Vocational/Technical Education	17
Higher Education	17
Dominant Issues of the Next Decade	19
A Push for Better School Quality	19
Increased Pressure for Efficiency	20
Decentralization	23
Privatization	26
Education Management Information Systems	27
Teacher Unionization	29
Gender Diversity among Education Administrators	29
The Search for Effective Teacher Incentives	30
Why Does Weak Management Capacity Persist?	30
Professional Development of Education Managers	35
Climbing a Steep Hierarchy: Career Paths	35
What Training is Needed?	37
The Delivery of Administrator Training: What Works?	38
The Role of International Assistance Agencies	38

Promising Directions	42
Training for School-Level Administrators	42
Use of Information in Planning	43
Use of Technology	44
Conduct of Comprehensive Education Analyses	45
Participation in National Development	45
Conclusion	47
Note on the Author	49
References	50
Appendixes	53
Index	58

List of Tables

Table 1: Indicators of Effective Management of an Education System	5
Table 2: Public Expenditures on Education	6
Table 3: Kazakhstan: Overlap of Major Policy Functions between Ministry of Education and Other Government Agencies	8
Table 4: Who is Responsible? Vocational/Technical Education in Lao PDR	9
Table 5: Mongolia: Number of Primary and Secondary School Employees, 1992/93	13
Table 6: PRC: Number of Teachers and Administrators in Primary Schools, 1997	14
Table 7: PRC: Number of Teachers and Administrators in General Secondary Schools, 1997	14
Table 8: Relative Role of the Private Sector in Education	27
Table 9: PRC: Female School Administrators in General Secondary Schools, 1997	30
Table 10 Types of Teacher Incentives	31
Table 11: Anticipated Impact of Major Trends in Asian Education on Education Management	33
Table 12: Cambodia: Characteristics of School Principals, 1996/97	36

Figure

Figure: Flow Diagram of the Education Process	21
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List of Boxes

Box 1: Overlapping Responsibilities Among Offices within an Education Ministry – Cambodia	8
Box 2: Only One in a Thousand: Whose Problem is it?	11
Box 3: Quantity and Quality: The Case of Lao PDR	20
Box 4: Management Constraints on the Disbursement of International Assistance in Viet Nam	40

List of Abbreviations

ADB	—	Asian Development Bank
DMC	—	Developing Member Country
EMIS	—	Education Management Information System
GNP	—	Gross National Product
INNOTECH	—	Regional Center for Innovational Technology
JICA	—	Japan International Cooperation Agency
Lao PDR	—	Lao People's Democratic Republic
MoE	—	Ministry of Education
NGO	—	Nongovernment Organization
PNG	—	Papua New Guinea
PRC	—	People's Republic of China
PROAP	—	Principal Regional Office for Asia and the Pacific (UNESCO)
SEdC	—	State Education Commission
UNESCO	—	United Nations Educational, Scientific and Cultural Organization
UNICEF	—	United Nations Children's Fund
USAID	—	United States Agency for International Development

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Currency Unit	—	Peso (P)
P1.00	=	\$0.02448
\$1.00	=	P40.8500

Note

In this booklet, "\$" refers to US dollars, unless otherwise specified.

Foreword

The Asian Development Bank (ADB) is a major source of funds and technical advice for the education sector in the Asian and Pacific region. ADB has provided nearly \$3.5 billion for education since 1990, representing an average of about 6 percent of total ADB lending per year during that period. ADB recognizes that human development is the basis for national and economic development, and that education – particularly basic education – is a fundamental element of human development. ADB seeks to ensure that its education investment is effectively targeted and efficiently utilized. It further recognizes that a clear policy framework based on careful analysis of the status and development needs of the education sector is necessary for effective investment.

ADB has therefore committed itself to a comprehensive process of review and analysis as the basis for preparing a new education sector policy paper. The policy paper will guide ADB in its support for education in the first years of the 21st century. It will be based on a series of activities, all designed to ensure that the education policy adequately reflects the rapidly evolving circumstances of the region.

ADB commissioned eight country case studies and five technical working papers as inputs to the policy formulation process. The case studies, undertaken by leading education research institutes in the countries concerned, analyzed the issues in education and the policies that had been developed to address the issues. The technical working papers examined selected cross-cutting issues in education development in the region. The case studies and the technical working papers were discussed at a major regional seminar involving representatives of government ministries of education, finance, and planning. Later, the case studies and working papers were integrated into a single publication *Education and National Development in Asia: Trends, Issues, Policies, and Strategies*. This study in turn was an input into ADB's education sector policy paper.

The five technical working papers contain a great deal of useful data and analysis, and it is important to ensure that they are fully available to education policymakers, practitioners, and scholars in the region and elsewhere. Consequently, revised versions are being published separately in their entirety jointly by ADB and the Comparative Education Research Centre of the University of Hong Kong as part of this series entitled *Education in Developing Asia*. ADB hopes that the papers and their wider availability will contribute to a

better understanding of the emerging challenges of education development in the region. ADB is pleased to have the partnership of a well-known academic institution in this publication, and thanks the authors and their associates for their contribution.

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Introduction

Over the coming decade, the developing member countries (DMCs) of the Asian Development Bank (ADB) will have an unprecedented opportunity to redirect energy and resources from rapid expansion of education systems to improvement of quality. This opportunity is a by-product of the progress that many countries have made in achieving widespread (verging on universal) access and of the booming regional economy that can help finance quality improvement (ADB 1997; Lewin 1998). The bad news is that not all countries in the region have shared in this Asian miracle and, among those that have, strong competing forces are making compelling demands on the resources needed for continued system improvement. Whether the enormous success of the last 20 years will continue or will erode in the face of these new pressures will depend largely on the quality and wisdom of those who administer, manage, and guide the system at all levels – from senior ministry officials to rural school principals. Yet many countries of the region consider the management of their education systems to be weak. Virtually all shortfalls in education systems are attributed, at least in part, to weak management capacity. The need to improve school administration has been one of the most widely advocated and least examined elements in the effort to strengthen education.

This booklet examines trends and issues in education management and efficiency across DMCs, and suggests ways through which governments can strengthen the administration of their education systems.

It offers five generalizations about the administrative and managerial challenges facing education leaders in Asia, and then highlights particular management issues that affect the major subsectors of education (primary, secondary, vocational, and higher). The next section lays out nine issues that can be expected to dominate the education landscape over the next decade, and the implications of each for education managers. The booklet then looks at the recruitment and professional development of education managers. The key question in this section is, given the widespread recognition of the problems of education and all the training that has occurred, why does management capacity remain so weak? The last section discusses the role of international assistance agencies in strengthening education management and administration in the region.

Throughout the booklet, special attention is given to two sets of questions:

- (i) Given that weak management capacity has been so often identified as a problem, why do such serious deficiencies in management persist? Have previous studies misunderstood the problem, offered the wrong solution, or both?

- (ii) If education in the region is to continue making the progress that has marked the last two decades, how will the management and administration of education need to change over the next decade?

In this booklet, *management* and *administration* are used synonymously to include such activities as planning, program implementation, coordination, personnel supervision, monitoring, and evaluation. *Leadership* refers to an individual's ability to articulate a vision and move an idea or program forward in ways that encourage others to participate and support the idea. Ideally, a good administrator is both a competent manager and an effective leader. But the connection is loose at best. Managers who are able to handle the technical aspects of planning, program implementation, and monitoring may lack the ability to excite or mobilize those around them. Charismatic leaders may have a dismal record in following through with the detail. Both sets of skills are necessary if education in DMCs is to continue to develop within the vortex of pressures it already faces.

One of the notable findings of this study is the sparseness of information and analysis about education management across the region. While weak management is frequently cited as a major impediment to improving education quality and delivery, few studies actually report on the personal characteristics, career development, or professional problems of administrators at any level. The lack of data may reflect a low regard for administrators. Or, it may be because many of the studies were commissioned by the very administrators who might be embarrassed by a critical analysis of administrators' skills.

Education Management in Asia

The Management of Education

The extraordinary success of many Asian countries in expanding access and improving education quality is strong evidence of success in education management. While recognizing the remarkable achievements in the region, this booklet necessarily focuses on the challenges and problems that remain. Five generalizations about education management in Asia are supported by recent literature and country experience, and provide a framework for discussion:

- (i) *The management of education across Asia has improved greatly over the last 10 years, but remains one of the weakest links in quality and efficiency of schooling in the region. In part, this is because management issues have become more complex, but also because the context, philosophy, and goals of education management are changing. Also, the education sector has not been competitive for the best managers: in the booming economy of the region, strong managers have had attractive alternative employment opportunities.*
- (ii) *Many of the most serious problems facing education managers across Asia are not themselves education problems, but stem from factors within the larger environment that constrain the range of options available to education leaders. These factors include competition for resources, lack of attention from senior government officials, and lack of public support for the education sector. Even excellent managers may not be able to command the attention and resources they need to do their jobs well. In addition, many advocates of education acknowledge the threats posed by:*
 - degradation of the environment (pollution, deforestation);
 - rise in HIV/AIDS and other health threats;
 - persisting poverty; and
 - rapid population growth.

Within the political process of most countries, national budget priorities are formulated with attention to *immediacy of impact* and *severity of consequences*. The most immediate and catastrophic threats are generally given priority. In this situation, education tends to lose. The pressures on national development posed by poverty, epidemics, and pollution are commanding because they threaten highly probable short-term catastrophe if ignored, while education offers less certain promises of long-term gain. Education managers will need to become increasingly articulate about the payoff from continued investment in education, increasingly knowledgeable

about strategies that are effective in producing those outcomes, and skilled at moving the system toward those ends with even fewer resources than in the past.

- (iii) *The judged adequacy of education management depends, in part, on what problems we lay at the feet of school and system administrators.* The tendency is to hold administrators responsible for fixing virtually all the problems that beset the education system. An easy assumption is that, since management problems keep cropping up, administration must need improvement. Good management does not necessarily mute criticism of administrators. The resolution of high profile management problems may only allow administrators to move on to the next set of problems that need their attention.
- (iv) The present weaknesses in education management are essentially the same ones identified in virtually every previous study of education administration in the region. *The curious issue is not that weaknesses persist, but that previous efforts to strengthen education management have not been more successful.* This suggests that previous analyses have been wrong, that proposed solutions were inadequate, or that other factors have operated to limit the effectiveness of central, intermediate, and school-level management in ways that have not yet been addressed. Better management probably depends on careful analysis and new thinking.
- (v) Given the issues that are likely to dominate education development agendas over the next decade, *the school head teacher is the level of management that will experience the greatest change in role and responsibility, and the level least prepared to do so.*

Education management in virtually all DMCs follows a pyramid model, in which national policy, programs, and logistics are formulated by a central ministry of education organized into a set of divisions, bureaus, and units. This central ministry then works through a network of provincial, regional, and district education offices that largely duplicate the structure of the central Ministry of Education (MoE) and are responsible for ensuring that central policies are communicated and implemented in the schools. Individual schools are managed by head teachers, whose authority and responsibilities differ by country, but usually involve some combination of school management, school-ministry communications, school-community relations, and instructional supervision. The administrative and management issues at the various levels of the pyramid differ, and, given the new pressures for decentralization and community participation, are changing substantially.

Indicators of Effective Education Management

Across Asia, authorities are reasonably clear about what constitutes good education management, regardless of the strengths or weaknesses encountered in any particular country. While Table 1 is not comprehensive, it presents a sound picture of what effective management looks like. In general, good management is indicated when resource needs are correctly anticipated, resources are

Table 1: Indicators of Effective Management of an Education System

<p><i>Indicators of effective system level management (central ministry level):</i></p> <ul style="list-style-type: none"> • textbooks are produced in sufficient numbers and distributed to schools on time • instructional supplies are delivered to schools on time • supply of qualified teachers meets demand • teachers are appropriately assigned/deployed to schools • teachers' salaries are paid on time • schools have copies of syllabuses • the ministry knows the location of schools throughout country • schools are appropriately located across the country • a national plan is available which provides vision and focus for education activities <p><i>Indicators of effective intermediate level management (regional and district levels):</i></p> <ul style="list-style-type: none"> • teachers are appropriately assigned/deployed to schools • school inspection occurs on an appropriate and regular basis • teachers receive instructional supervision • questions from head teachers and teachers receive timely responses • ministry information flows to schools in a timely way • school information is conveyed to the ministry in a timely way • staff development activities for school personnel are well designed and implemented <p><i>Indicators of effective school-level management:</i></p> <ul style="list-style-type: none"> • instructional supplies are ordered on time • teachers come to school on time • teacher absenteeism is low • school facilities are in good repair • teachers have copies of syllabuses • teachers receive instructional supervision • each school has a functioning parent-teacher association • parents know how their children are progressing in their studies
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allocated when and where they are required, and effective instructional practices occur in the classroom. Despite widespread agreement, these conditions often are difficult to achieve, due to resource constraints and the complex social and political context in which education operates. To provide a framework for understanding these indicators better, the next section examines the management challenges facing the different levels of the system.

Central-Level Management: Growth and Elaboration

The countries of Asia are rightly proud of the extraordinary growth of their education systems over the last two decades. So dramatic has it been that, across much of Asia, education is the largest public sector employer after

the military, and in many cases commands one of the largest shares of government resources (Table 2).

The rapid growth has exacted a cost. In many countries, the education system expanded faster than qualified teachers and administrators could be recruited or trained. This led to larger proportions of unqualified teachers trying to teach without adequate textbooks or understanding their subject matter, led by school and system administrators with limited management skills working within poorly organized ministry structures. With the increasing size of education systems came greater elaboration and compartmentalization (though not necessarily greater clarity) of functions. Instead of solving the problem, this only drove up costs and further reduced effectiveness.

Table 2: Public Expenditures on Education

<i>Economy</i>	<i>Years of compulsory education</i>	<i>Education, as % of GNP (1993-1994)</i>	<i>Education, as % of government expenditures (1992-1994)</i>	<i>Primary & secondary education, as % of all levels</i>	<i>Higher education as % of all levels</i>
Bangladesh	5	2.3	8.7	88	8
Cambodia	6	—	—	—	—
PRC	9	2.6	—	67	17
Fiji Islands	—	5.4	18.6	88	9
Hong Kong, China	9	—	17.0	66	30
India	8	3.8	11.5	64	14
Indonesia	6	1.3	—	47	18
Korea, Dem. People's Rep. of	10	—	—	—	—
Korea, Rep. of	9	4.5	16.0	80	8
Lao PDR	5	2.3	—	83	4
Malaysia	11	5.3	15.5	71	17
Maldives	—	8.1	13.6	99	—
Mongolia	8	5.2	—	59	18
Myanmar	5	—	14.4	88	12
Nepal	5	2.9	13.2	62	28
Pakistan	—	2.7	—	67	18
Philippines	6	2.4	—	—	—
Papua New Guinea	—	—	—	—	—
Samoa	—	4.2	10.7	78	—
Singapore	0	3.3	24.2	62	33
Solomon Islands	—	4.2	7.9	86	14
Sri Lanka	11	3.2	9.4	72	11
Thailand	6	3.8	18.9	73	17
Vanuatu	6	4.8	—	87	3
Viet Nam	5	—	—	—	—
All developing countries		3.6			
Least developed countries		2.8			
Sub-Saharan Africa		5.5			
Industrial countries		5.4			
World		5.1			

— Data not available.

Sources: UNESCO 1995, 1998; various national sources.

That elaboration resulted in a proliferation of administration. For example, in Cambodia, 75,000 employees, *half of all public employees*, work in the education sector. Within that, administration consumes a high proportion of the positions. Over one fifth of the education service consists of administrators (ADB 1995c). In the Lao People's Democratic Republic (Lao PDR), the number of staff in nonteaching positions in 1994/95 was equivalent to over 20 percent of the number of teachers (Mingat 1996).

Clarity was often the victim of growth. In Cambodia, the Ministry of Education, Youth and Sports was until recently organized into 16 departments, averaging 58 staff members per department. One study estimated that there were nearly 1,300 staff across the 13 provincial headquarters, and 1,750 to 2,000 staff in district bureaus (ADB 1995c). The delineation of functions between the provincial and district headquarters was unclear: both largely performed the same kind of tasks.

This Cambodian example reflects a larger problem: the most common and persistent criticism of education management in Asia is that linkages across and among units of government are weak. There often is little communication either vertically (across levels of the ministry) or horizontally (between units at the same level). Ministry organization is characterized by a multiplicity of departments, some with alternative titles and very few staff, in which responsibilities assigned to the departments do not match department titles. Operations suffer from frequent mismatches between organizational charts and unit activities, jurisdictional ambiguities, redundant operations, slow or absent coordination, and conflicts between units over control of programs and resources. This is not news: it is widely recognized by the governments involved. However, as inefficient as the structures might be, there are constituencies that benefit from them and resist streamlining, fearing that their special advantages might disappear. Nonetheless, serious attempts are now under way in some countries to reduce the size of central ministry bureaucracies, sometimes prompted by pressures toward decentralization, sometimes by the push toward greater efficiency. For example, in 1995, the Kazakhstan authorities reduced the size of public sector employment by 40 percent across all ministries and regional offices, down to 160 staff in the central MoE.

A further problem is that responsibility for education is commonly distributed across several ministries. This multi-ministry oversight of education complicates effective coordination. Examples from Cambodia, Indonesia, Kazakhstan, and Lao PDR illustrate the point. Table 3 shows the multiple groups that have partial (or overlapping) responsibility for policy development and operational control of the education system in Kazakhstan. Given the overlapping responsibilities of the Cabinet of Ministers, the central Department of Education, and the oblast (regional) departments of education, the opportunities for confusion and conflict are enormous.

In Lao PDR, the administration of different subsectors, levels of education, and institutions rests with different ministries. The administrative functions are divided between different levels of government (e.g., national, provincial, district, and village) with the absence of essential linkages and coordinating mechanisms. Table 4 illustrates this just for one subsector – vocational/technical education. Yet conflict and confusion are not just between ministries, but also between units of the same ministry, as seen in Cambodia (Box 1).

Table 3: Kazakhstan: Overlap of Major Policy Functions between Ministry of Education and Other Government Agencies

Function	Education Ministry	Overlaps with
Education Policy	Drafts policies and regulations.	Cabinet of Ministers
Curriculum policy	Develops "conceptions," elaborates standards, develops humanities curriculum.	Cabinet of Ministers, Institute of Educational Problems
Higher education policy	Development of regulations, policy issues regarding private institutions.	Cabinet of Ministers
Teacher education policy	Projects teacher staffing needs.	Oblast (regional) department of education
School staffing levels	Ensures that staffing meets government norms.	Oblast department of education
Education finance	Monitors expenditures and payments to institutions.	Ministry of Finance, oblast department of education
Quality assurance	Operates the Department of Inspection (mainly for higher education institutions and republican institutions).	Oblasts and raions with responsibility for schools
Other functions	Statistics, health.	Oblasts

Source: ADB 1995b, Annex 1.

Box 1: Overlapping Responsibilities Among Offices within an Education Ministry – Cambodia

During 1994-1996, demands for planning, policy analysis, and coordination of burgeoning donor assistance programs increased substantially. The Planning and Aid Coordination Unit (PACU) grew to 22 staff; but no officers in the unit had a background or training in policy analysis, and few had first-hand work experience in schools. The limited staff capacity, heavy demands on the Director, and some internal personnel difficulties all contributed to PACU's inability to respond effectively to the rapidly growing needs for planning and policy within the Ministry.

Under pressure to be ready for an ADB appraisal mission, and faced with limited capacity in PACU, in 1995 the Ministry of Education, Youth and Sports accelerated the creation of a Program Management and Monitoring Unit (PMMU). Once established, the Minister increasingly drew on its services for a widening circle of tasks, and the PMMU role expanded.

PMMU began with a small mandate, but expanded its role and functions. PACU began with a broader mandate but, lacking resources and the capacity to produce needed results, played a smaller role than had been expected. The problem started when the two offices drifted into competition and confusion arose over delineation of authority.

Source: Wheeler, Calavan, and Taylor 1997.

Table 4: Who is Responsible? Vocational/Technical Education in Lao PDR

Level of education	Who is responsible
Preschool and kindergarten	<ul style="list-style-type: none"> • Run by factories, state enterprises, cooperatives, etc., under administrative control of District Education and Sports Division
Primary education	<ul style="list-style-type: none"> • District Education and Sports Division • Local community
Lower secondary education	<ul style="list-style-type: none"> • District Education and Sports Division (financing) • Provincial Education and Sports Service (planning, financing, administration) • Local community • Ministry of Education and Sports
Upper secondary education	<ul style="list-style-type: none"> • Provincial Education and Sports Service (planning, financing, administration) • Individual schools • Department of Education and Sports
Vocational/ technical education	<ul style="list-style-type: none"> • Ministry of Education and Sports • Ministry of Communications, Transport, Post, and Construction • Ministry of Culture • Ministry of Industry • Ministry of Public Health • Ministry of Justice • Ministry of Agriculture and Forestry • Ministry of Economy, Planning and Finance • Provincial Education and Sports Service
Teacher education	<ul style="list-style-type: none"> • Ministry of Education and Sports • Provincial Education and Sports Service

Source: ADB 1993a.

The distribution of responsibility across different levels and among different groups at the same level results in ambiguities, leading to nonperformance in some areas and duplication of functions in others. This has caused delays and inefficiency in such management processes as teacher assignment, textbook distribution, and curriculum reviews (ADB 1993a).

The Bright Side

While some DMCs have encountered serious problems in their central-level management of education, the story is not all bleak. Other countries in the region have been in the forefront in experimenting with administrative practices and programs through which central governments can influence what happens at the school and classroom levels, *many with considerable success*. In general, central managers can try to change school and classroom activities *by changing the level or mix of inputs* that go to the schools, e.g., curriculum or textbooks; or *the organization of the delivery system*, e.g., multigrade classes. They can try to change the instructional process *directly*, through such instruments as teacher training, or *indirectly*, through such instruments as national examinations or

community involvement (Chapman, Mählck, and Smulders 1997). Strategies that have most often been employed in the region include:

- curriculum revision;
- textbook revision;
- national testing;
- teacher training;
- teacher incentives;
- resource allocation to schools;
- multigrade classes;
- improved management information systems;
- increased community participation;
- decentralization of decision making; and
- decentralization of an information system to provincial, district, or local levels.

While many of these centrally initiated efforts, which aim to improve education quality and efficiency, have worked well, the Asian experience also highlights the complexity and unanticipated cross-impacts of these efforts. That experience suggests that the real challenge is not in the options for central-level intervention (though that is important), but in formulating a workable plan for implementing these strategies in some combination that recognizes the loose relationship among levels of the system and the probability that interventions to address one problem will likely have unforeseen impacts in other areas.

Ministry of Education Intermediate Levels

The importance of intermediate levels of administration varies across DMCs, with influence generally increasing with size of countries. For example, provincial education offices in the People's Republic of China (PRC) and India tend to be powerful relative to their counterparts in Cambodia or the Pacific DMCs. Organizationally, provincial, regional, and district education bureaucracies tend to duplicate the structure of the central ministry – each has offices for curriculum, testing, facilities, etc. This redundancy often results in duplication of effort, and unclear lines of authority and responsibility. Much of the analysis of education effectiveness and managerial efficiency has focused on these blurred lines.

The main responsibilities of the intermediate levels of ministry management are (i) to convey policy and program information from the central ministry to the schools; (ii) to convey data (e.g., school enrollment) and other information (e.g., book orders) from the schools to the central ministry; (iii) to ensure that schools are abiding by government policies; and (iv) occasionally, to provide instructional leadership and supervision (though this often defaults only to ensuring that schools are abiding by government policies).

The main bottleneck to effective intermediate-level administration is that provincial, regional, and district offices lack the authority to do their jobs effectively – or the resources necessary to do their jobs at all (Philippines 1992).

Box 2: Only One in a Thousand: Whose Problem is it?

Which level or unit of an education ministry is responsible for addressing a problem often depends on how the problem is defined. When various units of the ministry define a problem differently, it can lead to confusion and inattention to the problem. For example:

In 1996/97, for every 100 children who started Grade 1 in Cambodia, only 15 were expected to graduate from Grade 4 four years later, and only two were likely to finish Grade 8 in eight years. Of every 100 children who survived the first eight grades and enrolled in Grade 9, only 23 could expect to complete Grade 11 three years later. Overall, only five in 1,000 would finish Grade 11 in 11 years. In remote areas, only one child in 1,000 would complete Grade 8 in eight years.

This is a *problem of instruction*, a *problem in teacher assessment of student abilities*, and a *management problem* (to the degree that school or system administrators have a responsibility to identify low promotion rates as a national [or school] problem and do something about it). Who, then, should take the leadership to fix it?

Source: Computed from data provided by the Ministry of Education, Phnom Penh, 1997.

Because of insufficient delegation, many mid-level administrators do not have authority to make decisions or to act on information available to them. All too frequently, provincial education administrators are expected to implement programs and projects that they know do not meet the needs of their particular areas. For example, in many countries, district and regional education officials cannot fire nonperforming teachers or school administrators without lengthy consultation with central authorities. They cannot redirect resource flows to particularly needy schools without considerable time delays. Because of inadequate budgets, even minimal oversight of the schools may not occur. For example, officers in Cambodia, Nepal, and Philippines all report that provincial, regional, and district education officers do not have adequate transportation to allow them to get to the schools. Decentralization is not an automatic solution, unless decision making reflects a clearly defined division of authority and responsibility between different levels of the system.

Head Teachers

School head teachers are on the cutting edge between the administration of education and the actual delivery of instruction to children. Yet few have adequate preparation for their jobs or authority to change the way their schools operate. They have difficult tasks that will only become more difficult over the next decade. *One of the ironies of education development is that the push toward decentralization now under way to varying degrees in virtually all countries in the region shifts more responsibility to the group of education administrators least ready to accept it.*

School head teachers generally have responsibility in four areas:

- (i) *School Management*. This includes ordering supplies, ensuring that teachers are hired and assigned, information gathering, and basic record keeping. In many DMCs, it is viewed as the chief set of responsibilities.
- (ii) *School-Ministry Communications*. Completing reports required by the central ministry is a major task for head teachers in some countries. For instance, until only a few years ago, head teachers in Nepal had to complete a 52-page form for the School Administration Section of MoE and a four-page survey, collecting much the same information, for the Manpower and Statistics Section of the same Ministry (Chapman and Dunghana 1991). In another DMC, head teachers until recently were required to complete a 46-page survey about their schools three times a year. Head teachers also share responsibility with district education officers for ensuring that ministry policies and programs are conveyed to teachers and parents.
- (iii) *School-Community Relations*. The demands of school-community relations involve working with community councils, community development associations, parent-teacher associations, and other local organizations that have an interest in the schools (Bray 2000). The goal is usually to encourage community support for the school (e.g., for teacher subsidies, facilities construction, maintenance) or for the schooling process (encouraging parents to ensure that their children do homework, send their daughters to school, etc.).
- (iv) *Instructional Supervision*. The extent to which school-level administrators regard instructional supervision as part of their responsibility varies across countries. However, one common by-product of decentralization is an increased expectation that head teachers rather than inspectors will play this role. As will be discussed later, this shift toward head teachers taking more responsibility for instructional supervision has major implications for their selection and training.

With few exceptions, instructional supervision is the function least well served by the typical allocation of responsibilities across the administrative structure of the education ministry. Teacher supervision in most DMCs is the responsibility of officials operating from the provincial or (more often) district level. This removes it from the administrator most aware of a teacher's pedagogical skill (e.g., the head teacher) and assigns it to individuals removed from the school context, who visit the school only intermittently or not at all, and who often view their main role more as one of enforcing rules than of demonstrating to teachers how they could improve their teaching. For example, in the 1980s in the Philippines, district supervisors were commonly responsible for up to 600 teachers; some supervisors had no transportation to get to the schools; and some schools were not on transportation routes, making them largely inaccessible even when supervisors had vehicles (Philippines 1992, 88-9). In Nepal, district inspectors may have to walk for three days to reach remote schools, and it is not uncommon for such schools to go without supervisory visits for four years at a time. The experience of the Philippines in the 1980s and Nepal in the 1990s is typical of many countries in the region.

Table 5: Mongolia: Number of Primary and Secondary School Employees, 1992/93

<i>Administrators and teachers</i>	<i>Number</i>
<i>Total</i>	21,762
Principals	617
Vice principals	1,019
Teachers	19,441
Teachers/Psychologists	53
Chairs of departments	28
Department specialists	72
Heads, research/training methods centers	22
State inspectors	116
Assistants	22
<i>Other employees – Subtotal</i>	
(including accountants, physicians, librarians, managers, secretaries, office cleaners, janitors, cooks, locksmiths, etc.)	12,437
<i>Overall</i>	34,199

Source: ADB 1993b.

The supervision of teachers is complicated by the difficult conditions under which many teachers have to live and work. The Philippines Congressional Committee found that their teachers in the 1980s generally lived below the poverty line, had low aspirations, and were dissatisfied with their working conditions. The Congressional Committee estimated the average family monthly income of teachers at P3,205, which was well below the poverty line of P5,821 for Metro Manila and P3,864 in other regions. Moreover, salaries were not always paid on time. Under these conditions, it was difficult for head teachers and higher-level administrators to exercise much effective leadership or supervision of teachers. And administrators do not necessarily see it as within their own power to remedy the situation.

Head teachers' ability to meet these responsibilities is partly determined by the size and complexity of the schools they oversee. The head teacher/teacher ratio is one indicator of this. The ratio of school administrators to teachers varies considerably by country. For instance, in the Philippines the overall administrator/teacher ratio is estimated at 1:17, while in Mongolia, it is about 1:12 (Table 5).

Equally important, the administrator/teacher ratio within countries, e.g., the PRC, commonly differs widely by level of school (primary, secondary), type of school (government, community-run, private), and location (urban, rural) (Tables 6 and 7).

Summary

While there is considerable agreement on the indicators of effective education management, the majority of DMCs still suffer from weak management. This is most often because (i) lines of authority and responsibility for education management are confusing, and (ii) education managers do not have the knowledge or skills to do their jobs. Both problems must be solved if education management is to improve, and the solutions need to be synchronized.

Training is wasted if managers, once trained, do not have the authority, responsibility, or motivation to act. Structural reform is wasted if managers still do not know how to do their jobs. Some central-level interventions to improve school-level practice have been successful but, across the region, the movement is toward more decentralized management. Ironically, this movement to improve local management of education may only exacerbate the problem. Decentralization may shift more responsibility to the group of education administrators least prepared to handle it.

Table 6: PRC: Number of Teachers and Administrators in Primary Schools, 1997

School run by	Total			Urban		
	Teachers	Administrators	T/A	Teachers	Administrators	T/A
State Education						
Commission (SEdC)	3,983,522	397,702	1:10	639,104	78,353	1:8.2
Non-SEdC	327,980	34,621	1:9.5	190,156	20,974	1:9.1
Community	1,402,148	23,536	1:59.6	35,146	1,119	1:31.4
Private and other social sources	22,140	1,860	1:11.9	6,743	1,396	1:4.8
Overall total	5,735,790	457,719	1:11.9	871,149	101,842	1:8.6
Number of females	2,718,842	102,599				
Percentage of females	47%	22%				

Table 6: (cont'd)

School run by	County seat and towns			Rural		
	Teachers	Administrators	T/A	Teachers	Administrators	T/A
State Education						
Commission (SEdC)	875,705	80,723	1:10.8	2,468,71	238,626	1:10.3
Non-SEdC	51,331	5,400	1:9.5	86,493	8,247	1:10.5
Community	124,552	1,738	1:71.7	1,242,45	20,697	1:59.0
Private and other social sources	2,958	253	1:11.7	12,439	211	1:6.0
Overall total	1,054,546	88,114	1:12.0			

T/A = Teacher/Administrator ratio.

Note: Data do not include part-time or substitute teachers or workers in school-run factories.

Source: PRC, Department of Planning and Construction 1997.

Table 7: PRC: Number of Teachers and Administrators in General Secondary Schools, 1997

School run by	Total				Urban			
	Junior secondary	Senior secondary	Administrators	T/A	Junior secondary	Senior secondary	Administrators	T/A
State Education								
Commission (SEdC)	2,530,156	507,600	430,529	1:7.1	457,340	167,884	141,266	1:4.4
Non-SEdC	215,432	59,817	53,623	1:5.1	138,927	38,841	36,617	1:4.9
Community	134,793	614	5,288	1:25.6	3,065	22	262	1:12.0
Private and other social sources	12,307	4,040	4,083	1:4.0	6,604	2,831	2,863	1:3.3
Overall total	2,892,688	572,071	493,523	1:7.0	605,936	209,578	181,008	1:4.5
Number of females	1,107,288	173,032	120,573					

Table 7: (cont'd)

School run by	County seat and towns				Rural			
	<i>Junior secondary</i>	<i>Senior secondary</i>	<i>Adminis- trators</i>	<i>T/A</i>	<i>Junior secondary</i>	<i>Senior secondary</i>	<i>Adminis- trators</i>	<i>T/A</i>
State Education								
Commission (SEdC)	691,512	255,233	138,084	1:6.9	1,381,304	84,483	151,179	1:9.7
Non-SEdC	35,506	11,755	8,321	1:5.7	40,999	9,221	8,685	1:5.8
Community	17,319	291	1,043	1:16.9	114,409	301	3,983	1:28.8
Private and other social sources	3,005	969	805	1:4.9	2,698	240	415	1:7.1
Overall total	747,342	268,248	148,253	1:6.9	1,539,410	94,245	164,262	1:9.9

T/A = Teacher/Administrator ratio.

Note: Data do not include part-time or substitute teachers or workers in school-run factories.

Source: PRC, Department of Planning and Construction 1997.

Issues by Level of Education

To this point, the analysis has focused largely on system-wide concerns. This section discusses special issues that affect subsectors of the education system. Administrators at different levels of the education system may not be natural enemies, but they are not necessarily allies either. The issues faced by those representing different levels of the education system are different from each other and different from the past. Education managers not only have to be able to work effectively with teachers and communities, they have to work effectively with those managing other parts of the education enterprise.

Primary Education

- (i) The substantial gains in expanded primary education enrollments already achieved in East Asia will also occur in South Asia (ADB 1997).
- (ii) The changing demographics will put new pressures on the education system. As fewer people are working in agriculture and more seek employment in urban areas and in industrial and service sectors, in which literacy and numeracy play a more important part, their need for literacy and numeracy skills will increase.
- (iii) As a result of the near universalization of primary education in many parts of Asia, national education goals are already shifting from emphasis on access and continued expansion to quality improvement. *This will change the day-to-day work of education managers, particularly those at the school level.* The emphasis over the next decade will be to work with the existing teaching force to institute new methods and pedagogical practices in the classroom. Right now, head teachers are poorly equipped to do this.
- (iv) Greater decentralization will place demands on school head teachers that many will be unable to meet. Head teachers in DMCs typically have little or no formal preparation to understand the trade-offs (in terms of learning outcomes) associated with the resource allocation decisions that many are being asked to make. Nor do they necessarily have the political skills needed to build the community participation and support that decentralization is supposed to foster.
- (v) DMCs' efforts to reduce the size of their bureaucracies may reduce the number of opportunities for managers to move up the administrative pyramid. The leveling-off of demand in some countries will reduce the number of opportunities for teachers to move into school administration. The convergence of these two trends may contribute to "administrator stagnation" as opportunities for promotion within the system are relatively few.

Secondary Education

- (i) The success in achieving high rates of primary education will fuel a corresponding government-led expansion of secondary education (ADB 1996). *One potential implication is a reallocation of resources to accommodate this surge.* Primary education, which has been the centerpiece of considerable government support and international assistance, will see its resource base level off as the focus of capital and recurrent expenditures shifts to the next level up the system.
- (ii) As secondary education becomes the sector of rapid growth, there will be a new window of demand for administrators at this level. Ministries need to develop clear criteria for the selection of these administrators, lest those positions go to candidates with the greatest seniority in the system rather than those best qualified. Preparation needs to start now to ensure an adequate supply of well-trained administrators over the next decade.

Vocational/Technical Education

- (i) Vocational training has most often been used to reduce enrollment pressures on academic secondary school tracks. It has been widely regarded as a low-cost alternative for weaker students, and has not necessarily prepared students for the skill demands of modern sector work. International evidence points to weak alignment of skill preparation with labor market needs, limited effectiveness of training, and high costs. The time spent on vocational and technical education is sometimes criticized for diverting time from language and computational skill development that might position graduates better for employment in the modern sector (ADB 1995a; Chapman and Windham 1985).
- (ii) One reason for low quality in vocational/technical instruction is that skilled staff can command higher prices in the private sector. For example, in the early 1990s, only 3 percent of the top vocational/technical teachers in the Philippines had the required industrial training or experience, and most of those recruited by the Bureau of Technical/Vocational Education stayed for only a year or two. The turnover was attributed to the higher salaries, better incentives, and better working conditions in private companies (Philippines 1992).

Higher Education

- (i) Four higher education management issues will command special attention over the next decade: (a) development of new/alternative funding streams; (b) student transfer and the transfer of credits across institutions; (c) formulation and imposition of standards, and the implementation of accreditation systems; and (d) capturing creative talent of faculty to create an income stream for the institution (as opposed to faculty consulting privately).

- (ii) Access to higher education in some DMCs favors children from upper and upper-middle class families. As more students complete secondary education, there will be increasing pressure for improved equity in student access to higher education, particularly for children from low-income families and ethnic minorities.
- (iii) In parts of East Asia, 50 to 60 percent of higher education expenses are privately funded. In Asia overall, about 33 percent are privately funded. Governments will need to allow and encourage the development of private higher education. One reason is that the unit costs of privately funded higher education are considerably lower than the unit costs of publicly funded institutions (Mingat 1996).
- (iv) The increased pressure for private financing of higher education can be expected to spark conflict with citizens who have come to view free (or low cost) public higher education as an entitlement.
- (v) Historically, low faculty salaries in many DMCs were offset by the expectation that faculty would generate additional incomes through personal consulting. The university became a platform for individual entrepreneurial activity. Teaching loads were light as faculty sought their main incomes elsewhere. One consequence was higher faculty/student ratios than would seem necessary. As institutions have come under pressure to generate more of their own revenues, some are looking for ways to recapture this talent and convert it into income for the institutions. This encounters three types of resistance: (a) lack of infrastructure for handling external funds in an accountable manner, (b) a lack of clients willing to trust the institution to conduct their work in a diligent and timely way, and (c) resistance from faculty who see it as a tax on their consulting incomes. Future financial viability of some institutions may require that proper procedures, public confidence, and faculty participation in institution-based research and development activities be established.

Dominant Issues of the Next Decade

Nine issues can be expected to dominate the education landscape over the next decade. They provide a backdrop against which to examine issues that education managers must be prepared to address. These issues are:

- a new emphasis on quality improvement;
- increased pressure for efficiency;
- a continued push toward decentralization;
- the evolution of a new balance between public and private responsibility for delivery of education;
- the effective use of information systems in decision making;
- teacher unionization;
- gender diversity in the leadership of the education system;
- securing and allocating resources; and
- the search for effective teacher incentives.

These issues have implications at every level of education management, from the central ministry down to the school. This section will concentrate on eight of these issues, since financing is addressed in a separate booklet in the series (Bray 2002). The section concludes by asking why weak management capacity persists despite the efforts to improve the situation.

A Push for Better School Quality

The rapid influx of students over the last two decades put considerable pressure on school quality. As enrollments shot up, teachers and administrators were hired faster than they could be adequately trained. The leveling of enrollment growth at the primary level across many countries provides an opportunity to reallocate resources to quality improvement (see Box 3). Offsetting this is the possibility that the attention *to improving the quality of primary education and to the growth of secondary education* may clash in a competition for resources.

Implications for Education Managers

Even when resources are available, the problem that administrators face in improving school quality is knowing what inputs and actions will lead to the results they seek. There is little understanding of how to convert these additional resources into improved learning experiences for students. That conversion

Box 3: Quantity and Quality: The Case of Lao PDR

The reduced population growth rates in the region now present an opportunity to reallocate attention and resources to improving quality. Consider the case of Lao PDR, where upper secondary enrollments increased by 1,267 percent between 1975/76 and 1987/88.

Lao PDR: Growth in enrollment in general education
between 1975/76 and 1987/88 (percent)

Kindergarten	12,246
Primary	178
Lower secondary	352
Upper secondary	1,267

Source: ADB 1993a.

depends largely on the reasons for the low performance in the first place. If low performance is due to inadequate inputs (e.g., insufficient textbooks or instructional supplies), raising performance might be relatively straightforward. However, low achievement often stems from a more complex constellation of problems. For example, if low student performance reflects some combination of poor teacher performance, low student motivation, poor instructional supervision at the school level, and lack of parental encouragement, it may not be clear how the money can be best spent to resolve the problem – fixing any one weakness may not be sufficient to resolve the multi-source problem.

Increased Pressure for Efficiency

One of the main pressures on education managers throughout Asia (and the world) is to improve the *efficiency* of the education system in which they work. Their efforts encounter two problems. First, many front-line education administrators do not really understand efficiency or how it can be improved: the notion is fraught with confusion. Second, many administrators do not have the authority to make the changes that would be needed to seriously improve efficiency. This section provides an overview of the meaning of education efficiency, how education managers will need to operate to improve efficiency, and the implications for the preparation of those individuals.

What is Education Efficiency?

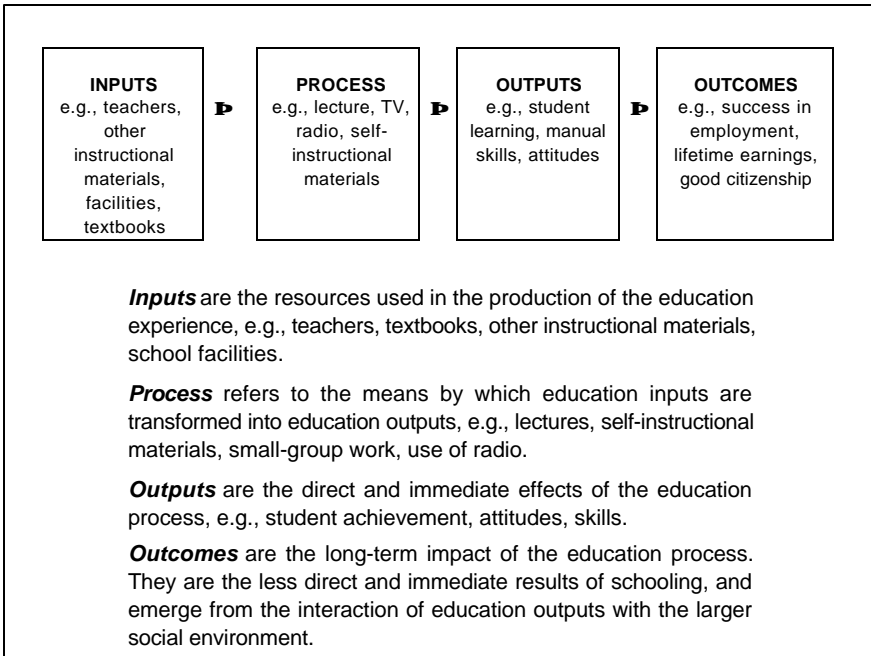
In its simplest terms, efficiency means achieving the desired goals of education at lower cost, or achieving more of those goals without increasing costs. But in reality it is not that simple. Understanding efficiency requires that education leaders work from a model of the education process. One widely used approach

is to think about the education process as consisting of four major parts (as illustrated in the Figure).

Many aspects of efficiency can be understood in terms of the relationships among the components of this model (Windham and Chapman 1990). For example:

- *The interaction of inputs and processes determines education costs.* Presumably, costs can be lowered either by reducing the level of inputs (e.g., fewer teachers, classrooms, textbooks) or by selecting a delivery technology that has a lower cost (e.g., use of programmed instructional materials instead of radio, radio instead of teachers). However, in some countries, serious limitations exist on the availability and quality of inputs and on the range of practical and affordable technologies.
- While education is undertaken primarily to attain desired outcomes, an *education system is typically only held responsible for the outputs of education*, since the outcomes of education are long term and depend heavily on concomitant economic, social, and political conditions.
- *An activity is effective when it leads to the output (or mix of outputs) that should be achieved.* The desired outputs of an education system include academic achievement, positive attitudes, and the development of job skills.
- *Efficiency compares effectiveness to cost.* The concept of efficiency already includes the concept of effectiveness. Hence, it is not necessary

Figure: Flow Diagram of the Education Process



to talk about the effectiveness and efficiency of a program because, if we say a program is efficient, we are already asserting that it is effective.

- *A program cannot be efficient unless it is effective.* To improve efficiency, we cannot only consider the cost of an activity: we must also consider the quality and effectiveness of the activity. Efficiency can be improved by raising quality, by reducing cost, or through a combination of the two.

Efficiency is commonly confused with lower cost. *It is a mistake to believe that a lower-cost activity is necessarily more efficient.* Similarly, it is a mistake to believe that just lowering the cost of education improves efficiency without considering the quality of the activity. Sometimes lower cost leads to higher efficiency, but not always. Where there are excessive expenditures and waste, greater efficiency and lower costs can happen at the same time. However, where more costly inputs lead to proportionately greater productivity, efficiency may involve higher costs. The key point is that the efficiency of an activity can only be determined by considering the quality of the output, not just the cost of the input.

Throughout Asia, education managers are under enormous pressure to increase efficiency. Unfortunately, this is more often interpreted as a mandate to cut costs than to improve quality. Three reasons help explain this preference for reducing expenditures:

- (i) Expenditures tend to be more directly under the control of administrators, while changes to instructional quality require administrators to work indirectly, through teachers.
- (ii) Cuts in cost are more quickly obvious than increases in quality.
- (iii) Increasing efficiency by improving quality requires a far fuller understanding of the teaching and learning processes than many education administrators have.

The Drive for Efficiency - Implications for Education Management

Education managers mediate education efficiency in the manner in which they allocate expenditures, in the programs they introduce, and in the trade-offs they make between them. If the move toward greater efficiency is to mean anything more than crude cost slashing (with its concomitant threat to quality), administrators need to operate from a clear understanding of (i) *which inputs and processes of instructional delivery contribute to greater student learning*, and (ii) *which inputs and instructional processes can be reduced without serious drops in student learning*. More than that, administrators must be articulate about what they know in order to explain it to the multiple constituent groups with which they work. The temptation is to trade off an effective method of instruction for a lower cost but “promising” one, or to yield to conventional wisdom about what works rather than to rely on more systematic means of assuring that the mix of inputs and instructional strategies being used actually results in the desired outputs. Education managers need to know a great deal about education process as well as about management.

Disincentives for Efficiency

One of the most compelling incentives for greater efficiency in management at *the ministry level* is the belief that resources saved can be reallocated to higher priority needs. This is not always the case. Teacher salaries in some countries amount to over 90 percent of the recurrent budget of MoE, making a reduction in personnel the single most attractive way to recover funds. However, there is usually no assurance that the funds freed up will remain available to MoE to reprogram. In the tight fiscal climate of the last decade, many government savings have been reabsorbed by the central government to reduce budget deficits. This has created an incentive within the education sector to hold on to whatever personnel and resources it has. A reduction does not necessarily lead to greater efficiency, just more work for those who remain.

Increased efficiency *at the school level* is generally less an issue of reducing resources. At the school level, it is more often sought through the introduction of practices aimed at improving instructional quality without a concomitant rise in costs. Increasing efficiency, then, requires education managers to have a substantial knowledge of the instructional process.

Decentralization

Virtually every country in Asia has formulated official policies endorsing some level of decentralization. Although there is considerable variation in the form that action takes, two important forms are: (i) the devolution of authority and responsibility for schools from central-level administration to intermediate-level organization and ultimately to schools, often relying more on local communities for school financing; and (ii) the removal of barriers to private education. These have been widely discussed elsewhere (e.g., Bray 1996b, 1999a; Hannaway 1995; Hannaway and Carnoy 1993; Rondinelli and Puma 1995).

Despite being one of the most heavily researched topics in the education management literature, the merits of decentralization are strongly contested. Advocates argue that decentralization shifts decision making to those closer to the community and school, which in turn leads to decisions more responsive to local conditions and needs. They believe that it is a way to encourage greater community participation and financial support for schools. Opponents suggest that decentralizing authority and responsibility may only shift the same old problems to levels of the system that are less well prepared to cope with them, and that decentralizing management invites corruption and inefficiency. They point out that since communities do not necessarily speak with a single voice, decentralization has sometimes increased tension at the local level. Both groups are probably right to some degree. Whether decentralization is a force for more relevance or an invitation to confusion, it will be determined largely by the leadership at the district, community, and school levels.

Even in the most enthusiastic settings, not all functions are decentralized. Curriculum and testing remain central functions virtually everywhere. However, districts, communities, and schools are taking more responsibility for such activities as teacher selection and deployment, selection of textbooks and other

instructional materials, facilities construction and maintenance and, most importantly, financing.

It is not yet clear that decentralization can legitimately be regarded as an *education* innovation. That is, it is not clear that it results in different experiences for students in classrooms or in how much students learn. Similarly, the impact of greater community financing depends on whether the new funds are in addition to current levels of government funding or are merely displacing it. Much of the value *to education* of greater decentralization will be determined by how communities and schools use their greater autonomy. The wise use of resources to improve the quality of schooling will demand school managers who understand the elements of good instruction and who are not drawn off by pressures to spend money on show rather than substance.

From the literature and international experience with decentralization, four generalizations stand out:

- (i) The motives for decentralization are not necessarily related to education. It is often undertaken to increase community financial contribution as a means of easing the financial burden on central government (hidden taxation). In Papua New Guinea (PNG) and Solomon Islands, for example, it has been undertaken as a way of diffusing regional political tensions. There is relatively little evidence to suggest that decentralizing an education system changes the experience of children in classrooms. This is not to suggest that decentralization is not a desirable goal, but only to suggest it may not address education outcomes.
- (ii) Many countries have had *de facto decentralization* for a long time due to weak management at the central level or poor communication across all levels. In these settings, local schools have always had to rely on their communities to provide what central government has been unwilling or unable to provide.
- (iii) Rather than feeling empowered by decentralization, some communities feel exploited. They are asked to contribute more resources but do not see a corresponding improvement in the quality of education.
- (iv) Decentralization places quite different demands on administrators at all levels – at the top, because they have to relinquish authority, and at the local level, because they have to assume greater authority and responsibility.

Implications for Education Managers

In the move toward decentralization, head teachers face three issues. First, in only a few countries do head teachers have the training or background to meet this challenge. Across much of Asia, massive support and training will be needed if decentralized school management is to lead to positive outcomes. Ironically, one of the most widely touted reform efforts shifts enormous new responsibilities to the group of education managers probably least equipped to handle them. Whatever education value decentralization may hold is largely lost if head teachers cannot translate it into concrete actions within their school.

Second, decentralization may lead to greater community pressure for transparency and accountability on the part of school and system managers.

These administrators may have limited experience in understanding what this means or in knowing how to comply.

Third, to the extent that decentralization shifts decision making back to the community, it may stifle education reform. Communities tend to be conservative. Even well-intentioned changes to instructional materials, teaching methods or tests can arouse considerable opposition. Opponents are often unwilling to risk their children's futures on new ideas about what students should study, how teachers should teach, or how learning should be measured. Parents and teachers may perceive it as threatening the balance of advantage. Those who do well under the existing system may resist changes that put their advantage in doubt. Parents are generally interested in seeing the quality of education improve, but they are often *more* interested in protecting whatever comparative advantage their own children might already have gained from their schooling. They want to make sure that their own children do not lose their positioning for whatever benefits may accrue from their education. A corollary of this observation is that *parents, teachers, and head teachers may not always be natural allies in efforts to raise education quality, at least if there is perceived short-term risk to their children.*

The experience of the Philippines was that centrally planned decentralization did not necessarily produce either local-level control or greater resources at the school level (Laya 1987). Lockheed and Zhao (1992) found that locally sponsored (and financed) schools were not managed in the same manner as either government or private schools. Per-student expenditures in local schools were significantly lower than those in government or private schools, with the result that few resources were available about which to make decisions. Local schools reported little local control over either teaching or school management (much less than private schools reported). By comparison, administrators in private schools had significant resources over which to exercise control and significant control over decisions regarding teaching and school management. Administrators of undersupplied schools cannot easily compensate for absence of material and nonmaterial inputs by managerial sleights of hand. They need the basic inputs with which to manage. These results suggest that policies for decentralization alone do not necessarily change what goes on in schools.

Decentralization (and the closely related elements of increased community participation and increased community financing of education) has profound implications for education management. Administrators at lower levels of the system need greater skills in strategic planning and the ability to integrate program elements. As decisions shift to the community and schools, head teachers will assume greater responsibility for financial and program management and consensus building.

Decentralization also can bring unintended problems that education managers at levels above the school need to anticipate. For example, decentralization fosters inequities. One reason that countries centralize some education functions is to ensure an equitable distribution of resources across communities of different economic means. Decentralizing and pushing local communities to take more financial responsibility for their own schools can lead to greater inequities within a country as richer communities are able to finance their schools at a much higher level than poorer communities. It will fall to district,

regional, and central administrators to ensure that decentralization does not undermine equity.

Privatization

Privatization is a form of decentralization, but significant enough in the region to deserve special attention. DMCs are showing new interest in allowing (in some cases encouraging) private schooling, partly in response to the push for decentralization, partly to reduce demand on public education, and occasionally because of evidence that private schools may offer a better education for less money (see Bajracharya, Thapa, and Chitrakar 1997; Research Institute for Higher Education Problems 1997). As Table 8 indicates, private education is more prevalent at the secondary than the primary level of schooling. In Indonesia, for instance, private schooling accounts for 60 percent of secondary school enrollment countrywide.

The dominant arguments for private schooling are that it:

- is of higher quality,
- increases the number of school places,
- is more efficient, and
- encourages additional private moneys in support of education.

However, these arguments are not equally strong. Whether private schools offer better quality instruction or operate more efficiently depends on the type of private school. Bray (1998) distinguishes four types: (i) the elite private schools that generally provide good-quality education at a high price; (ii) schools run by religious or other not-for-profit organizations that provide an alternative to the public system and that may be superior, comparable, or inferior in quality; (iii) low-quality, low-cost institutions that cater to excess demand and give a second chance to those who are unable to get into (or stay in) the public system; and (iv) low-cost institutions that cater to students who could go to public schools but are discouraged from doing so by financial levies or other obstacles.

While private schools usually do increase the number of school places, the impact of those places depends on whether they serve children who would otherwise not be enrolled in public schools or merely provide an alternative opportunity for children who would be enrolled anyway. The evidence supporting their greater efficiency, however, is mixed. Some studies have found private schools to be more efficient than public ones, partly because managers of private schools have more incentives to be efficient and because they are able to employ part-time and other less costly teachers (Bray 1998). The efficiency of elite private schools is subject to question because, while they provide high-quality education, it is typically at a substantially higher price than public schools. In the PRC, for example, private schools are more richly staffed than the public schools. Private schools average one administrator for every four teachers, compared with 1:25 in community schools and 1:7 (overall) in public schools (PRC 1997). The quality of instruction in the low-cost private schools varies widely, but often is

Table 8: Relative Role of the Private Sector in Education
(percent)

Country	Private primary	Private secondary
India	25	52
Indonesia	13	60
Japan	1	15
Philippines	5	38
Singapore	35	1
Thailand	11	32

Source: James 1993.

poor. Nonetheless, in comparing price against quality, the family contribution for public schooling may be higher than is generally realized, in which case private education might have the advantage. Recent analysis of parent contributions to their children's public education in several East Asian countries found high levels of private funding (Bray 1996a, 1999b). This research suggests that there is more de facto privatization in education than is widely recognized.

There are essentially four ways to increase the proportion of private schools within a country: (i) transfer the ownership of public schools to private individuals or groups; (ii) allow private schools to develop while holding the number of public schools constant; (iii) give direct government support to private schools; and (iv) increase the private financing of schools that remain under government control. The most common strategy across Asia is to loosen regulations on private schools and allow market forces to operate. The education ministry generally still determines the curriculum, but the private schools can implement it in the ways they think best.

Implications for Education Managers

Eventually there could be a loss of administrators and teachers from public schools as private sector alternatives improve. However, the growth of private schools is not yet rapid enough for this to pose a great problem. Perhaps more important is that if private schools are to work effectively, those school administrators need new skills in working with multiple constituent groups – the same skills needed by public school administrators in systems that are encouraging more community-level involvement in schools.

Education Management Information Systems

The quality, availability, and timeliness of information for decision making often has been identified as a key constraint on effective ministry-level management. Only as the dimensions of an education system and the problems that beset it are understood can appropriate planning and management of the education system occur. This has led to a massive attention and resources being devoted to improving national data systems. For example, Cambodia, Indonesia, Malaysia, Nepal, and Philippines have all made substantial efforts to improve their Education Management Information Systems (EMIS) within the last few years

(see Adams and Boediono 1997; Cambodia 1997; Chapman and Dhungana 1991). As a result, many DMCs have made dramatic gains in improving the availability, relevance, and timeliness of data on their education system. The fear now is that the victory may be hollow (Chapman and Mählck 1993). Growing evidence suggests that education managers (and others) do not know how to use the information to improve education processes. The increased ability to collect and analyze information has not necessarily led to improved education practice at the level where it matters most – in the schools and classrooms where the real processes of education occur.

One reason for these shortcomings is that education ministries have collected *too much* information, creating the paradox of EMIS: in too many instances, when senior officials lack data they order that more be collected. The additional data overwhelm the capacity of staff to analyze, interpret, or report, leaving senior officials lacking the information they need. The problem is misunderstood by the senior managers who think the lack of data signals a need to collect yet more, which, when collected, only swamp the system further. The solution is the wiser use of data that is already collected. DMCs have made progress in this direction, but the pace needs to quicken.

Another reason for the disappointing results of EMIS efforts is that advocates have failed to understand the organizational contexts in which education improvement takes place. Education reform is as much a political undertaking as it is an exercise in rational planning. When information systems yield results that do not support the prevailing political views, the data are sometimes suppressed (Chapman and Mählck 1993; Chapman, Mählck, and Smulders 1997).

For all the problems EMIS has encountered in the region, effective planning and management of the education system will require relevant, accurate, and timely data on which to make decisions. The experience of the last decade offers considerable insight into how future information systems might be designed and implemented to support the management of education better.

Implications for Education Managers

Many education administrators lack expertise in interpreting and effectively using data in decision making. At best, projections, trends, unit costs, and cycle costs are a mystery; at worst, they are tools for political opponents. Yet education systems are getting too large and too complex for intuitive management grounded in a network of personal relationships. Administrators will have to learn how to work with data and make data work for them. This is not the stuff of one-week workshops once a year. Because effective use of data is such a fundamental building block in other education improvement efforts, developing a thoughtful strategy for training school and system administrators in the effective use of data for planning and program management has to be one of the highest priorities of the next decade.

Teacher Unionization

Many of the fast growing economies of East Asia have a high degree of unionization. In Taipei, China, for example, 35 percent of the workforce belongs to a union. In the Philippines, unions have special protection under the law. As teachers' unions become stronger, they can be expected to champion members' needs more aggressively for better salaries, benefits, working conditions, and career mobility. While their demands may be appropriate, the pressure brought by unions will constrain the range of options open to education managers.

In particular, unions may object to government initiatives to "reform" education. For example, teachers and their unions have often resisted efforts toward decentralization (Reimers 1997). Teachers fear that communities will place new, greater, and perhaps unreasonable demands on them, and that they will have no recourse or protection. Unions recognize that collective bargaining is easier and more powerful when teacher employment is centralized.

A further issue is that teachers' unions in some DMCs have become highly politicized. They are viewed as partisan in national politics. One consequence is that the needs of teachers (and education more generally) may be either ignored when other political parties are in power or pandered to when their party is in control. Neither situation necessarily benefits the long-term development of education. The needs of teachers as a constituent group, education as an area of national development, and the dynamics of national party politics get confused.

Gender Diversity among Education Administrators

Women are not well represented in administrative ranks, even in countries in which most teachers are female. In Japan, for example, women constitute only 7 percent of primary school principals, 1 percent of lower secondary school principals, and 2 percent of upper secondary school principals. Only 9 percent of the head teachers in Cambodia are female, and most of those are located in major urban areas. In the PRC, though 38 percent of junior secondary teachers are women, only 24 percent of the administrators are female (Table 9).

This underrepresentation of women in administration is a waste of national resources at a time when talented administrators are desperately needed. As the economic development of the region results in increased career options and mobility, efforts to attract and retain qualified education administrators will intensify. Education authorities need to consider the costs of overlooking (or undervaluing) the talent and capacity of women in school and system administration.

Table 9: PRC: Female School Administrators in General Secondary Schools, 1997

	<i>Junior secondary teachers</i>	<i>Senior secondary teachers</i>	<i>Total junior and senior secondary teachers</i>	<i>Administrators</i>
Total	2,892,688	572,071	3,464,759	493,523
Number of women	1,107,288	173,032	1,567,331	120,573
Percentage of women	38	30	37	24

Source: PRC, Department of Planning and Construction 1997.

The Search for Effective Teacher Incentives

The essential task of managers is to allocate resources in ways that move the organization toward its goals. However, given the serious fiscal constraints in many less developed countries, their ability to enhance the most direct incentive, salary, is severely limited. This has led to considerable interest on the part of education policymakers and administrators in identifying nonmonetary, low-cost incentives that would allow them to improve education quality and efficiency with little or no additional monetary cost to government (Kemmerer 1990). Examples of teacher incentives potentially available to education managers to award are presented in Table 10.

Unfortunately, incentive systems have not worked well, for three reasons: First, research in other parts of the world suggests that teacher incentives can increase teachers' job satisfaction and may help reduce teacher attrition as happier teachers choose to remain in teaching. However, there is little evidence to suggest that incentives of the type shown in Table 10 actually lead to changes in teachers' classroom practice, and some evidence suggests that they do not (Chapman, Snyder, and Burchfield 1993). The main reason is that, at the level of a national teacher incentive system, the linkage of incentives to behavior is indirect. Second, the management of incentives has often required a stronger management information system than countries have or can easily create (discussed earlier). For example, the use of a future preferential assignment or training opportunity as an incentive for teacher behavior requires the managers to be able to track teacher assignment and training in ways that allow them to anticipate and plan future assignments. Third, the widespread use of a reward will eventually erode its incentive value. If an incentive becomes standard practice, its reward value will drop. Teachers will come to expect the provision of housing, special allowances, or training opportunities. Withholding something that began as an incentive but became widespread will be a problem for management of education.

Why Does Weak Management Capacity Persist?

Weak management capacity is one of the most widely cited critiques of the education systems of DMCs. Virtually all national and regional studies of education systems in the last decade include a call for more management and

Table 10: Types of Teacher Incentives

<p>Remuneration</p> <p>Salary</p> <ul style="list-style-type: none"> • Beginning salary • Salary scale • Regularity of payment • Merit pay <p>Allowances</p> <ul style="list-style-type: none"> • Materials allowance • Cost of living • Hardship • Travel <p>In-kind salary supplements</p> <ul style="list-style-type: none"> • Free or subsidized housing • Free or subsidized food • Plots of land • Low interest loans • Scholarships for children • Free books <p>Benefits</p> <ul style="list-style-type: none"> • Paid leave • Sick leave • Maternity leave • Health insurance • Medical assistance • Pension • Life insurance • Additional employment 	<p>Benefits (continued)</p> <ul style="list-style-type: none"> • Additional teaching jobs (e.g., adult education) • Examination grading • Textbook writing • Development projects <p>Bonuses</p> <ul style="list-style-type: none"> • Bonus for regular attendance • Bonus for student achievement • Grants for classroom project <p>Instructional Support</p> <p>Instructional materials</p> <ul style="list-style-type: none"> • Teacher guides <ul style="list-style-type: none"> - on time - in all subject areas - in appropriate language • Student Textbooks <ul style="list-style-type: none"> - on time - in all subject areas - in appropriate language - classroom charts • Science equipment • Copy books • Pencils • Chalkboard 	<p>Instructional materials (continued)</p> <ul style="list-style-type: none"> • Safe storage for materials • Pencils • Chalkboard • Safe storage for materials <p>Supervision</p> <ul style="list-style-type: none"> • Observation • Feedback • Coaching <p>Teacher training</p> <ul style="list-style-type: none"> • Classroom management • Materials use • Lesson preparation • Test administration <p>Career opportunities</p> <ul style="list-style-type: none"> • Senior teacher • Principal • Supervisor • Post-service training <p>Working Conditions</p> <ul style="list-style-type: none"> • School facilities • Classroom facilities • Number of students • Age range of students • Collegiality
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Source: Kemmerer 1990.

administrative training as a prerequisite to continued system development. Given that weak management has so often been identified and is so widely recognized as a problem, why do such serious deficiencies in management persist? And why are so little data about education managers and administrators available? While virtually every education sector study in the region calls for more training of school head teachers and system managers, few studies report the numbers of individuals working in system or school administration, the amount or nature of their training, or the particular skills in which they need more training. Moreover, it is not uncommon for national data summaries to lump together all noninstructional staff, making it difficult to distinguish district education officers from gardeners and cooks.

Since virtually every national and regional education study in the last decade cites the need to establish more effective strategic planning, better staff deployment, budgeting, program implementation, and generally strengthen education management, why does effective education management remain such a persistent problem? Three reasons should be considered:

- (i) Management of the education sector has improved over the last decade, but the problems have become more difficult. Such factors as the intensified and compelling competition for resources by other sectors, the move toward decentralization, and the increasing power of unions have placed new demands on education managers.
- (ii) Good management has enemies: some constituents benefit from poor efficiency of an education system; some achieve personal gain. One manifestation is when decision makers do little or nothing to fix redundant or confused lines of responsibility and authority across different units of a ministry. The political costs of deciding (and antagonizing a potential ally) are perceived to be greater than the costs of allowing the confusion to continue.
- (iii) Turnover of trained staff has been a persistent problem. Furthermore, effective training only exacerbates the problem. Training changes the opportunity cost of remaining in education, as administrators develop skills that make them more competitive for better-paying private sector employment. Training is not, then, something that can be delivered once and considered done.

Most studies conclude by calling for more training to solve “the management problem.” But training is the solution only if lack of training was the problem. In many DMCs, relying only on training to improve management represents a misunderstanding of the problem. While undoubtedly more management and leadership training are needed, training tends only to impart technical skills in specific facets of management (e.g., budgeting, analyzing trend data, evaluation). Education decision making, however, is a political process. Managers have not always been able to implement their new knowledge due to the political constraints within which they work. They have not necessarily been given the tools with which to work. If they control no meaningful incentives or disincentives, moving the education system toward greater quality and efficiency is a losing proposition. There is a concern that training is sometimes used as a stall: by offering training, governments appear to be offering a solution, but without committing to fix the underlying problems that beset education management.

Table 11: Anticipated Impact of Major Trends in Asian Education on Education Management

Trend	Impact on central government management of education	Impact on intermediate levels of education ministry management	Impact on school-level management
Quality	<ul style="list-style-type: none"> Requires staff who have considerable technical knowledge about the education process (e.g., what inputs are likely to improve student learning). 	<ul style="list-style-type: none"> Requires staff who have considerable technical knowledge about the education process (e.g., what inputs are likely to improve student learning). 	<ul style="list-style-type: none"> Head teachers may need to get more involved in instructional supervision.
Efficiency	<ul style="list-style-type: none"> May lead to a reduction in central staff. Requires staff who have considerable technical knowledge about the education process (e.g., what inputs are likely to improve student learning). Central staff must find effective ways of working cooperatively with teachers to ensure that new initiatives are implemented at the school level. 	<ul style="list-style-type: none"> May lead to a reduction in staff. Staff need to have stronger technical knowledge about the education process. 	<ul style="list-style-type: none"> Head teachers are pressured to find new local resource streams <i>and</i> to provide more effective teacher supervision. Head teachers need more training in community relations and in the technical aspects of teacher supervision.
Decentralization	<ul style="list-style-type: none"> Threatens incumbents with loss of authority and prestige. May result in central staff being reassigned to regional or district education offices. Requires staff who can negotiate and work effectively with multiple constituent groups. 	<ul style="list-style-type: none"> Could increase workload in some areas of responsibility. May require a shift in relationships with local schools, away from enforcement of rules, toward the provision of advice and assistance. Credibility of intermediate-level officials may shift from being grounded in authority to perceived expertise in being able to assist local schools and communities. 	<ul style="list-style-type: none"> New responsibilities are piled on head teachers. May encounter teacher resistance. Creates conflict with teachers, who want to be able to bargain collectively. Increased conflict among constituents at local level as disagreements with national policy gives way to local debate. Head teachers will have to know more about what actions (and expenditures) improve student learning. Head teachers will have more responsibility for initiating school improvement efforts. They must be able to design programs.

Table 11 (cont'd)

<i>Trend</i>	<i>Impact on central government management of education</i>	<i>Impact on intermediate levels of education ministry management</i>	<i>Impact on school-level management</i>
Increased community financing of schools	<ul style="list-style-type: none"> Central government funding of education may drop if communities are seen to be picking up more financial responsibility. Inequalities among schools and districts increase. 	Not applicable	<ul style="list-style-type: none"> Head teachers need to know how to handle and account for money. Head teachers need to know how to spend money in ways that lead to better student learning.
Unionization	<ul style="list-style-type: none"> Less latitude in mandating policies that affect teachers' conditions of work. 	<ul style="list-style-type: none"> Less latitude in mandating policies that affect teachers' conditions of work. 	<ul style="list-style-type: none"> Head teacher actions are constrained by teacher union rules.
Information	<ul style="list-style-type: none"> Officials at all levels come under more pressure to articulate rationale and justify decisions. Officials have less opportunity to make decisions based on self-interest. Changes power relationships in the ministry, favoring those who know how to interpret and use data. Threatens informal communication system. 	<ul style="list-style-type: none"> Officials at all levels come under more pressure to articulate rationale and justify decisions. Changes power relationships in the ministry, favoring those who know how to interpret and use data. 	<ul style="list-style-type: none"> Requires most head teachers to learn new area of content. More pressure to provide data to central ministry.
Improved communication technology (cellular phones, Internet, etc.)	<ul style="list-style-type: none"> Officials can communicate policies and programs to school more easily; schools can direct questions directly to central ministry staff. 	<ul style="list-style-type: none"> Officials can communicate policies and programs to school more easily; schools can direct questions directly to central ministry staff. 	<ul style="list-style-type: none"> Schools lose some of their independence as central ministry oversight becomes easier.
Push to expand secondary education	<ul style="list-style-type: none"> Growing competition for resources between primary and secondary subsectors. 	Not applicable	<ul style="list-style-type: none"> New career opportunities in management as number of secondary schools expands.
Increasing private cost of higher education	<ul style="list-style-type: none"> More pressure for public subsidy to contain or reduce private costs. 	Not applicable	<ul style="list-style-type: none"> Student protests and conflicts over higher fees and other costs.

Professional Development of Education Managers

In many DMCs, no department is clearly responsible for administrative training. It falls through the cracks or gets grafted onto teacher training, almost as an afterthought.

If education management across Asia is to improve, there will need to be effective training on a massive scale. But training, by itself, is not the solution. Much of the weak education management in the region is due to factors other than deficits in training. The appearance of inept management can often be traced to sources other than a lack of management skills. Too often, training is offered as a remedy for problems that arise from deterioration of political influence or lack of needed funds to make the necessary changes. Planning requires hard choices, which may be difficult to make in unstable political environments. Poor training may contribute to lack of adequate strategic planning, but often is not the biggest factor.

Even when effective training is the answer, it has a downside. As educators develop new management, budgeting, and planning skills, their opportunities for alternative employment, particularly in the private sector, will increase. Hence, as the economies of Asia continue to grow and prosper, retention of qualified education administrators will become increasingly difficult.

Climbing a Steep Hierarchy: Career Paths

The weaknesses evident in education management across DMCs can be traced, in varying degrees, to (i) who enters the field and how they are selected, (ii) the lack of formal programs that prepare administrators for the management tasks they face, and (iii) the lack of career ladders that might provide motivation for continued professional growth. These factors are discussed below.

- (i) *Who Enters the Field.* Becoming a head teacher is one of the few paths of upward mobility for a teacher, and most head teachers are recruited from the teaching force. Principals earn more than teachers, and often have increased status in the community. They move into administration based on their competence as a teacher, longevity, and interest. In some cases, the motivation is more to escape teaching than an interest or commitment to school management. For example, the Philippines Congressional Committee on Education (1992, 82) observed that one consequence of the low salary, poor working conditions, and low self-esteem of teachers is an increase in teachers' aspirations for administrative positions. Thus, their in-service

- training, instead of strengthening teaching, serves as preparation for further administrative assignments which are considered opportunities for promotion.
- (ii) *Formal Preparation.* While some countries offer short in-service training sessions for new head teachers or system administrators, few DMCs offer formal preservice training. Most head teachers and ministry staff learn their jobs by watching their predecessors or by trial and error. Given the relatively low education preparation of education administrators (who typically entered the profession 20 to 30 years ago when requirements were lower), their career options are limited. Moreover, few incentives exist for administrative and managerial personnel to increase productivity or efficiency.
- (iii) *Career Ladder.* Once a head teacher, there is again little upward mobility and not much turnover. Head teachers tend to stay in their jobs for a long time. For instance, in Cambodia head teachers average 45 years of age and have been in their positions for an average of 15 years (Table 12). Only about one in 10 head teachers has completed secondary school plus teacher training. This means that school management is largely in the hands of those trained long ago, often in very different ideological contexts, and who entered administration at a time when entry requirements were lower than they are today. The relatively low level of education required of head teachers at the time they entered the profession now works against them as it constrains their employment alternatives.

The slowed growth in enrollments being experienced in many countries, particularly in East Asia, means fewer opportunities for teachers to move into head teacher slots and fewer opportunities for head teachers to move into intermediate and senior ministry positions. To the extent this pattern becomes pronounced, slowed turnover could lead to "administrator stagnation." This takes on more significance in the light of the genuinely new pressures that await school administrators over the next decade, a topic discussed later.

The middle ranks are generally filled with civil service managers, appointed because they appeared (to senior officials) to be able individuals who wanted government employment. Some might have previously taught in or managed schools, but that is not generally a prerequisite and in some countries it is a rarity. The senior ranks are usually filled by political appointment, chosen to reward

Table 12: Cambodia: Characteristics of School Principals, 1996/97

Area	Number of schools	Average age	Average years of service	Completed upper	
				secondary school plus teacher training	Number and percentage of females
Urban areas	912	45.1	17.2	125 (14%)	188 (21%)
Rural areas	4,531	45.0	15.0	228 (5%)	323 (7%)
Remote areas	725	42.7	13.2	18 (2.5%)	32 (4%)
Total	6,168	44.7	15.1	371 (6%)	543 (9%)

Notes: (1) Figures cover preschools, primary schools, secondary schools, and lycées.

(2) Data for principals by type/level of school were not recorded in the statistical report.

individuals for their political loyalty, their professional standing or, ideally, some combination. Consequently, many school principals in the region have little or no formal training for their jobs. Middle-level managers in the intermediate and central ministry levels often do not have previous on-the-job training or work experience in the schools that would help them understand the practical dimensions of the education issues that they face. *The implication of this profile is that those most responsible for leading the schools into a new era are those most deeply entrenched in the old era.*

What Training is Needed?

Management functions at two levels. At the *strategic level*, managers develop mission statements and a vision for an organization. Managers at this level have to understand the full range of management tools and organizational functions, and how they can be integrated and adapted to changing conditions. At the *functional level*, managers focus on specific production or process-level activities, e.g., inventory control, financial accounting, or personnel assignment. The training for the two levels is quite different. Yet management training is often structured around specific skill acquisition, without sufficient attention to the integration of the skills within any larger strategic framework or to the development of the problem-solving skills needed when individuals encounter situations that do not fall comfortably within the rules.

One window into what senior education officials across Asia see as the greatest training needs of central, intermediate, and school-level administrators was provided by the Regional Seminar on Education Management Issues, Policy, and Information, sponsored by the United Nations Educational, Scientific and Cultural Organization, Principal Regional Office for Asia and the Pacific (UNESCO-PROAP) in 1997. As part of the workshop, senior planning officials from 17 countries ranked the importance of management issues confronting central, intermediate, and school-level administrators in their own countries. Results of this exercise (Appendix 1, Tables A1.1-1.3) suggest, at the national level, more interest in strategic and long-term planning than in narrower issues, techniques, and tools. Managers at intermediate levels of the ministry were thought (by senior-level planners) to be more interested in school-oriented issues (micro-planning, school mapping, staff training) while school-level administrators were thought to be most concerned with developing fairly concrete skills in such areas as financial management, staff development, and community relations.

Most training for education managers has been *skill focused* (e.g., how to budget, analyze data, design an evaluation). Yet much of the need is for strategic thinking, analysis of cross-impacts, and ability to work with constituent groups. Lack of forward planning appears to be the main pitfall in many countries' efforts to operate their education systems. While few studies provide careful analysis of training needs, there is a remarkably common set of areas in which the need for better skills are cited:

- long-term planning;
- more analytic skills in assessing problems;

- anticipating the probable impact of proposed solutions;
- financial management; and
- attention to follow-through.

These are not necessarily amenable to short-term, skills-oriented training. While planning and problem assessment techniques can be shared during short-term training sessions, their successful use requires (i) practice, (ii) an opportunity to seek clarification and additional help in applying the new approaches, and (iii) encouragement and support for having successfully implemented the ideas. Often, none of these is present.

The more profound problem in the preparation of managers is that, even if they have strategic planning skills, they often lack firm understanding of education process. They do not know what inputs and processes can reasonably be expected to contribute to increased student learning. Lacking this, managers are left to react to daily events and political pressures. One implication is that managerial training needs to provide education administrators with some framework for understanding the education process, and information on what interventions have the best chance of yielding promising outputs.

The Delivery of Administrator Training: What Works?

Where training is part of the solution, it typically has been organized in three ways:

- training of entry-level supervisor and managers;
- extended training in fundamental skills for existing managers and technicians; and
- professional development and skill upgrading of existing managers.

Across the region, public sector training has been conducted through four primary mechanisms: *in-house training capability* (e.g., Nepal), *centralized government training facilities* (e.g., the PRC), *nongovernment training facilities* (programs at local universities), and *on-the-job training* (e.g., in virtually all DMCs in the region). These differ in both cost and the type of training they are best able to deliver. More conceptually based training takes longer and is more expensive.

Skills-based training may miss some of the more important training needs, but is less expensive and can be delivered faster. One seemingly unanticipated outcome of the move toward decentralization is the cost of preparing lower-level managers to make choices that were once reserved for top management.

The Role of International Assistance Agencies

Weak management capacity is a major reason for the underutilization of international funds and the underperformance of development projects.

International agencies have an interest in strengthening local government management, if only to protect their own investments in national development. Take the case of Viet Nam, where the government estimated an overall development program requirement of around \$10 billion over the 1994-2000 period. Disbursement rates in 1993 were an indicative \$400 million, or one quarter of the overall requirement (ADB 1996). One reason identified by both the Government and ADB was weakness in the management of the education sector.

Two issues need to be considered in assessing the role of international assistance agencies in strengthening education management. The first is the effectiveness of the administrative and management training provided through internationally funded projects. The second is the extent to which internationally funded projects are designed and operate in ways that reinforce effective local management. For all the eagerness of DMCs to secure external moneys, many are harshly critical of the way that international agencies operate, claiming that it undercuts local prerogatives and good management practices. They are half right.

Effectiveness of Administrative and Management Training

Most management training has been of two types: (i) short-term, skills-oriented training; and (ii) long-term, degree-oriented training. Both have been effective in limited ways, though not always in the ways anticipated. In both cases the training has provided the recipients with the skills and abilities to find higher-paying employment alternatives. This may contribute to the development of the country, but not necessarily to the education system.

There are *serious questions about the long-term impact of short-term training*. Short-term training is widely used because it is easy to design and deliver, reasonably inexpensive, and does not pull managers away from their ongoing responsibilities for long periods of time. However, there is growing doubt that short-term, in-service, skills-based training makes much difference in improving the overall management of the education sector. This is for two reasons. First, the integration of formal training with practice has been weak; the training tends to be too short, and lacks adequate supervised practice and follow-through. Second, trainees find few incentives and little support for implementing their new skills in their work setting.

One reason for the limited impact of training is the way it has been delivered. A common means of short-term, in-service training has been the *cascade model*, which assumes that by training trainers, new supervisory and management skills can be effectively disseminated to successively lower levels of the system. However, ample evidence shows that comprehensive dissemination rarely takes place without consistent follow-up and support. The United Nations Children's Fund (UNICEF) identifies this as a widespread problem (Gillies 1993).

The mistake of many governments and international assistance agencies has been to believe that because short-term in-service training has a lower cost, it is more efficient. The assumption has been that if individuals have defined positions within their hierarchies, the most important training is that which provides them with skills to do their jobs. To the extent that DMCs undertake meaningful decentralization, much of that thinking needs to be re-examined.

Box 4: Management Constraints on the Disbursement of International Assistance in Viet Nam

Five major management constraints on the disbursement of international assistance have been identified in Viet Nam. They are:

- diversity of aid agency programming cycles and procedures;
- need to reappraise outdated project designs;
- delays in completing feasibility studies;
- resolving sensitive project design issues;
- slow start-up of new project implementation systems; and
- slow resolution of grant-aid credit policies.

Source: Consultative Group Meeting Report 1993, reported in ADB 1996.

Middle- and lower-level managers are being asked to take on new responsibilities and make decisions that were not previously in their purview. Skills-based training, while still necessary, needs to be supplemented with stronger training in the substance of education itself. Both skills- and knowledge-based training needs to be more fully integrated with the trainees' work setting.

The Management of Externally Funded Projects

International agencies are accused of not practicing what they preach. They can inadvertently contribute to undercutting the very management capacity they seek to strengthen when differing philosophies and technical approaches clash. They can be sorted into at least three types, based on their philosophy of assistance (Wheeler, Calavan, and Taylor 1997):

- (i) One group is of international aid agencies that have been in a country for a long time, are well established with local nongovernment organizations (NGOs) and other grassroots organizations, and believe that they understand the local issues and needs (e.g., Save the Children). Their power and influence are based on the depth, history, and credibility they enjoy with their local connections and ministry supporters.
- (ii) A second group is of international agencies that have large amounts of funds to spend, operate through central ministries, and seek to support their capacity to guide and control education change. They want a significant role in programming how funds are to be spent, but have a less established network of grassroots contacts (e.g., US Agency for International Development [USAID], ADB, World Bank).
- (iii) The third group is of international agencies that have significant amounts of funds to spend, but want little or no involvement in the programming of those funds and want to avoid involvement in philosophical disputes. Such agencies are often more interested in supporting improvements in infrastructure, such as building new schools or repairing those that can be salvaged (e.g., Japan International Cooperation Agency [JICA]).

In Cambodia, for example, international agencies working during the mid-1990s operated from very different philosophies of what would best accelerate education development. Given the severe situation, one large international assistance group favored a short-term, cost-effective approach that emphasized a centrally controlled strategy to provide textbooks, testing systems, distance education, and teacher training in the use of these tools. Another large international group strongly favored a more grassroots approach that emphasized building the capacity of teachers as curriculum developers, encouraging community participation, stressing the use of local materials in instruction, building up school clusters, and training teachers to do these things (Wheeler 1997).

One manifestation of how this conflict affected practice was in teacher training. Four different programs were developed, each of a different length, training teachers to use different materials, and grounded in different philosophies. In the same time period (1996/97) the European Union offered a two-year teacher training program that emphasized prepared lesson plans and instructional materials and tended to emphasize the teachers' role in delivering content. Another project supported by USAID offered a one-year in-service program delivered over two years (during school breaks, etc.) that placed more emphasis on teachers' ability to develop instructional aids from locally available materials, encourage more student participation in learning activities, and employ a wider range of instructional strategies in the classroom. UNICEF offered an ongoing in-service teacher training program that was similar in philosophy to the USAID approach, but used its own teacher training materials and offered instruction over a different time frame. Also, UNICEF was expanding to offer head teacher training. Finally, MoE operated a network of teacher training colleges that intended to prepare teachers in the use of the national curriculum.

These four approaches clashed in three ways. First, there was serious competition for teachers' and head teachers' time. The four programs overlapped in the individuals they wanted to recruit into their programs. Second, conflicts developed when the curricular and instructional approaches on which teachers were trained did not match. For example, MoE did not recognize the curriculum or materials on which some of the teachers were being trained. School inspectors clashed with the cluster system, while head teachers were given different directions by MoE and the agency-sponsored training programs. Third, MoE got caught in the middle. It did not want to antagonize the aid agencies or disrupt the flow of international assistance. Nor did it want to lose control over its schools and have what it regarded as "unauthorized" curricula and teaching methods implemented without its concurrence. This multiplicity of approaches led to competition, confusion, and wasted resources. International efforts that, among other things, sought to strengthen management capacity in the education sector had the opposite effect (Wheeler 1997).

The assistance of international agencies remains a crucial ingredient in the development of many DMCs. However, the experience of the last decade suggests that assistance needs to be managed and coordinated in more effective ways.

Promising Directions

The most promising opportunities for strengthening management and improving efficiency in DMCs will vary by the conditions and needs of each country. As pointed out by Bray and Lee (1997), the countries of developing Asia include the world's largest (PRC, India) and smallest (Nauru, Tuvalu), some of the poorest (Cambodia, Nepal) and richest (Singapore; Hong Kong, China). They also include a range of colonial histories and current styles of government (socialist, capitalist). Yet, a common theme across virtually all countries in the region is the importance assigned to education as an instrument of maintaining current or securing future prosperity. Central to that effort are the people who manage and administer the education system.

While good management alone cannot improve education, it is a necessary prerequisite to the success of other intended fixes. Five opportunities for strengthening education management seem to cut the widest swath across a region marked by such diversity.

Training for School-Level Administrators

Decentralization has raised the stakes for head teacher training. As the preceding analysis suggests, one effect of decentralization is to put greater management responsibility on those least prepared to accept it. The management skills of district education officers and school head teachers will need substantial strengthening if education systems are simultaneously to decentralize and raise quality. The training needs to concentrate on three dimensions:

- (i) *The Technical Skills Associated with Managing a District or School.* To manage a district or school, administrators need skills in such areas as budgeting, monitoring expenditures, planning, program implementation, evaluation, and report writing. While this training is similar to much of what is already offered, the need continues.
- (ii) *Knowledge about the Pedagogical Process.* Decentralization tends to place head teachers in a more pivotal role in making (or shaping) the trade-offs among instructional inputs and classroom practices. As argued earlier, if education quality is to improve in a decentralized environment, head teachers need to operate from a clear understanding of which instructional inputs and processes contribute to greater student learning and what can be reduced without seriously affecting student learning.
- (iii) *Community Relations.* Community relations involve more than tapping additional money from local citizens. One finding from research on school administrators in highly decentralized education systems is that when more

power and authority are shifted to the head teacher and community, powerful local elites exercise enormous influence, often in their own special self-interest (Spring 1998). For instance, local elites may assert pressure for curriculum tracking that benefits their own children at the expense of the less affluent or powerful. There may be pressures toward vocationalization of the curriculum, again in ways that favor the business and industrial interests of the elite. Head teachers often come under the influence of these elites either to curry favor or out of fear for their jobs. For head teachers to exercise meaningful leadership when caught in the turmoil of factional community pressures, considerable skill and good sense are required.

The job of the head teacher is essentially the same in all countries. Likewise, the technical knowledge (budgeting, project implementation, evaluation, etc.) is largely the same. One possibility to be explored is that *training of education managers for these levels could be designed and probably delivered on a cross-national, perhaps regional, basis*. This might be done in conjunction with a twinning arrangement between a regional training site, selected DMC universities, and one or more international universities. The goal is to provide well-designed training to large numbers of “head teacher trainees” at convenient sites. This would not duplicate what is currently available. Indeed at present, administrative training is almost overlooked in all but a few DMCs.

Regional administrator training centers offer an additional advantage. Given the growing ease of communications and importance of regional cooperation, it is imperative that education managers understand organizational structures and operations beyond their own. They need personal experience, seeing how other nations’ systems operate. The content of regional training can offer that experience. While top officials already tend to have regional and international perspectives, it is important that managers farther down the administrative chain also develop those broader perspectives. Old ways will prevail if incumbents cannot gain new perspectives.

Use of Information in Planning

Information collection and use (often discussed as EMIS development) have been a priority of many DMCs and a central feature of international assistance across the region. Many countries are already reaping the rewards of having better information on their education systems to guide their planning and program management. While no longer a “new” initiative, it continues as an important one. The recent economic difficulties in the region increased the competition among sectors for funds. Only as the education sector is able to demonstrate its accomplishments and its continuing needs will it be able to compete successfully for funds. The effective use of information is an essential ingredient in the ability of education officials to make their case.

Education managers across Asia need continued and expanded training in data interpretation, and in the utilization of quantitative data in planning, policy analysis, program management, monitoring, and program evaluation. Much good

training of this type has already been provided in the region. However, the turnover of education officials on the one hand, and the rapid introduction of new techniques (particularly computer-based planning tools) on the other, result in a persistent need for more training. While much of this type of training has been conducted on the job with the assistance of international experts, DMCs might explore other models that would allow more cross-national sharing of expertise and training within the region. Again, this could be developed into a *regional* training program for education planners. Successful models for ways to deliver training on a regional basis already exist, though not in education administration – for example, the Regional Center for Innovation and Technology (INNOTECH) in the Philippines and the Asian Institute of Technology in Thailand. Developing training that can be offered across 20 to 30 countries makes greater sense than developing the same essential training 20 to 30 different times, as each country repeats the process for itself.

Two cautions need to be observed. First, the training must be engaging and effective, resulting in the development of substantive skills in the trainees. This requires training that builds in an opportunity to *practice*. Intermittent training interspersed with opportunities for supervised application is a must. Second, as discussed earlier, training often “fails” because recipients, once trained, re-enter work situations in which they are not rewarded for (or may even be barred from) implementing their training. To be effective, the design of the training needs to go beyond the classroom, to assist the recipients in implementing their new knowledge and skills in their own workplaces.

Use of Technology

The widespread introduction of the Internet and the cellular phone is revolutionizing communications across the region. Such progress cuts two ways: schools can now access information resources that were beyond educators’ dreams only a few years ago. This could contribute to improved learning opportunities for students. However, in countries with large numbers of underqualified teachers, this opportunity will be lost. Poorly qualified teachers are not able to make use of this type of technology even when it is available. The resulting gap between employer needs and graduates’ skills will widen the economic gap between countries in the region.

To be competitive in the labor force, school graduates will need skills in (or at least exposure to) the newer forms of communication and information transfer. Again, this is a type of *teacher* training that can be designed and probably delivered on a region-wide basis, which is more sensible than trying to develop different curricula and training facilities for each DMC. However, if such training is to be successful with teachers, then school and system administrators also need to understand the technology and its demands on the instructional setting.

The wealth of information already available to DMCs through the Internet carries the same risks as the development of education management information systems – the explosion of information can swamp the system, leading to ineffective use or nonuse of the very resource expected to revolutionize education. Carefully structured curricula that show administrators and teachers

how to use information from the Internet to strengthen their management and enrich pedagogical practice are urgently needed. Web sites specifically designed to provide such information to teachers and education managers in developing countries are needed. Similarly, student-to-student electronic mail (e-mail) exchanges between schools in different countries or regions of the same country can do much to make education interesting for children, but establishing such connections and networks needs structure and work. Such web sites could be developed in conjunction with the regional training institutions for education administration, discussed above.

Conduct of Comprehensive Education Analyses

During times of rapid change, it is easy for education managers to focus on individual high-profile problems (textbook distribution, teacher training, etc.) and, in doing so, to lose sight of larger system relationships crucial to the longer-term health of the education system. At regular intervals, system administrators need to step back from the day-to-day issues to examine how the various components of the education system are working together. UNICEF calls these studies *comprehensive education analyses*; USAID refers to them as *sector assessments*. They are not to be confused with the more focused studies conducted by the World Bank, ADB, or other international donors as part of project appraisal missions. These comprehensive education analyses are data-based analyses of education systems, typically conducted by teams composed of both local and international experts, and involving a great deal of local discussion at each stage.

These comprehensive system studies were in vogue during the 1980s but tended to lose favor, in part from criticism that the conclusions from country to country were very similar. This was unfortunate since many of the problems facing education officials across the regions *were* similar and the studies highlighted problems that could only be identified by this type of analysis. Many DMCs (e.g., Indonesia, Nepal) have experience in conducting these comprehensive studies and made effective use of the results in their subsequent national education planning activities. The reason to bring them back into greater prominence now is that (i) many of the dynamics of education in the region are changing, (ii) many countries now have much better data on which to base such studies, and (iii) more education officials within DMCs have the training and experience to participate in this type of study.

Participation in National Development

DMCs need to continue efforts already under way to increase the private financing of higher education in the region. Students can, and often should, be expected to bear a greater share of the cost of their post-secondary education. This is understandably unpopular with students and can be expected to cause protest and some disruption.

Even as this occurs, however, colleges and universities need to give more attention to ways in which they can increase their attractiveness for the continued investment of public funds. Specifically, they need to become more effective partners in the economic and social development of their own countries. As the economic pressures in Asia mount, future support for higher education is likely to be tied to those institutions demonstrating their relevance in new ways. These institutions have the intellectual reserves, the cross-sectoral perspective, and the long-term staying power for the task; but to date these assets have not been well harnessed.

For their part, higher education institutions in DMCs have often harbored a healthy skepticism about becoming closely involved in the applied aspects of national development. Institutions get politicized, governments change, and punishments are exacted. But the risks are changing. The growing danger now is that universities will be judged irrelevant by their own national governments and will have increasing difficulty in competing for public funds. In too many cases, graduates' skills have been poorly matched with labor force needs, faculties have disdained involvement in community outreach activities, and institutional status has been viewed as more important than program relevance.

Long-term institutional strength requires financial self-sufficiency which, in turn, depends on a strong national economy. Helping foster a strong economy is a way of creating a necessary condition for long-term institutional revitalization. In addition, the involvement of educators in key development issues increases the relevance of both the faculty research and instruction they provide. This contributes to a further payoff: attention to development priorities can build political support as the public and the private sectors come to value higher education as a first-line resource in solving the complex national issues they face. This can lead to the political support the institutions need in the competition for both public and private funding.

Conclusion

The developing member countries of ADB have much of which to be proud. The development of education has been rapid and widespread. Both quality and access have increased substantially. But success brings new challenges. The challenges facing developing Asia over the next decade include:

- (i) *A new emphasis on quality improvement.* The particular challenge will be to maintain and extend quality at the primary level while expanding access at the secondary level.
- (ii) *Increased pressure for greater efficiency.* This is never ending; each accomplishment will be followed by a renewed call for yet greater efficiency. Nonetheless, it is one of the central concerns of government, and education leaders cannot ignore it.
- (iii) *A continued push toward decentralization.* The central issue will be how to attend to the training needs of the school-level administrators who are increasingly assigned responsibilities for which they are not prepared.
- (iv) *The evolution of a new balance between public and private responsibility for delivery of education.* While the trade-offs between public and private responsibility for education are complicated, fiscal concerns will force even reluctant partners to find new balances between these alternative ways of providing schooling.
- (v) *Teacher unionization.* The converging pressures for greater community financing of schools, more decentralized control of schools, and well-organized teacher union demands for more attention to the quality of teachers' working lives will result in considerable conflict.
- (vi) *The search for effective teacher incentives.* The growing fiscal pressures on many governments in the region heighten interest in low cost, nonmonetary incentives.
- (vii) *The effective use of information systems in decision making.* Many countries are already reaping the rewards of having better information on their education systems to guide their planning and program management. While no longer a new initiative, it remains an important one.
- (viii) *Greater gender diversity* in the leadership of the education system.
- (ix) *Securing and allocating resources.* The economic troubles in Asia during the late 1990s heralded sharper competition among sectors for public moneys. Education managers will come under even greater pressure to develop alternative funding streams from communities and industry. Education managers will need stronger skills to represent their interests in public forums.

The success of the DMCs in meeting the challenges of the last two decades gives much hope as the countries of the region together and separately face the challenges of the next decade.

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Appendix 1: Tables

Table A1.1: Priority Ranking of National Education Management Issues in DMCs, 1997-2002

Topic	Country																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Macro-planning in education			1				1	1								1	1
Strategic planning in education	2						1				2		1		1		
Building policy research and analysis capacity	2					1				1							
Education finance				1			1	1						2			
Sector analysis in education					1							1	2				
EMIS development for monitoring access, equity, quality, and relevance	1	2						1	2								
Privatizing the education system							2										
Decentralizing the administration of education system			2	1							1						
Assessment of student achievement														1			2
Developing national policies to enhance national values and culture					2												2
EMIS development for policy and program planning								1				2					
Restructuring the education system							2			2							
Universalization of basic education				2													
EMIS development for macro-planning														2			
Quality assurance																	
Developing policies to cope with globalization																	

EMIS = Education Management Information System.

Country: 1. Bangladesh	7. Lao PDR	13. Philippines
2. Cambodia	8. Malaysia	14. Sri Lanka
3. India	9. Maldives	15. Thailand
4. Indonesia	10. Nepal	16. Uzbekistan
5. Kazakhstan	11. Pakistan	17. Viet Nam
6. Kyrgyz Republic	12. Papua New Guinea	

Note: Two country teams assigned top priority (tie votes for first place) to several choices.

Source: UNESCO-PROAP Regional Seminar on Education Management Issues, Policy, and Information, Bangkok, Thailand, May 1997.

Table A1.2: Priority Ranking of Priorities for the Intermediate Levels of Education Management Issues in DMCs, 1997-2002

Topic	Country																
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
Staff training for decentralization					2					1	1						1
Micro-planning in education			1	2				1		2			1			1	1
School mapping		1										1				2	
Supporting community participation in schooling	1							1	1		2						1
Identify and reach unserved groups		2		1								2		2			1
Assessing quality, access, and equity in education	2		2		1									1			
EMIS for monitoring access and equity						2		1									1
Networking (formal & informal sharing)																	1
School clustering									2								
EMIS for micro-planning																	1
EMIS for program monitoring and evaluation																	1
Planning and management of computers in schools						2								1			
Academic and non-academic improvement																	

EMIS = Education Management Information System.

Country: 1. Bangladesh 7. Lao PDR 13. Philippines
 2. Cambodia 8. Malaysia 14. Sri Lanka
 3. India 9. Maldives 15. Thailand
 4. Indonesia 10. Nepal 16. Uzbekistan
 5. Kazakhstan 11. Pakistan 17. Viet Nam
 6. Kyrgyz Republic 12. Papua New Guinea

Note: Two country teams assigned top priority (tie votes for first place) to several choices.

Source: UNESCO-PROAP Regional Seminar on Education Management Issues, Policy, and Information, Bangkok, Thailand, May 1997.

Table A1.3: Priority Ranking of Education Management Issues at the Community and School Level in DMCs, 1997-2002

Topic	Country															
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Stimulating community support and participation	1	2										1				
Financing the school	1				1											
Staff development training				1	1									1		
Developing school improvement program	1				1								2	1		
Creating an effective school		1											1	2		
Student assessment/continuous learning assessment	1				2											
Introduction and use of computers in schools					1											
EMIS for the school					2											
Monitor and evaluate of school process					2											
School management							2									
Student assessment/academic achievement testing																
Classroom management by teachers																
Awareness and advocacy for parents and politicians																
Team management in schools																
Assessing quality factors in learning																

EMIS = Education Management Information System.

Country: 1. Bangladesh 7. Lao PDR 12. Papua New Guinea
 2. Cambodia 8. Malaysia 13. Philippines
 3. India 9. Maldives 14. Sri Lanka
 4. Indonesia 10. Nepal 15. Thailand
 5. Kazakhstan 11. Pakistan 16. Uzbekistan
 6. Kyrgyz Republic

Note: Two country teams assigned top priority (tie votes for first place) to several choices.

Source: UNESCO-PROAP Regional Seminar on Education Management Issues, Policy, and Information, Bangkok, Thailand, May 1997.

Appendix 2: Country Studies

The following is a list of the eight Country Sector Studies referred to in this booklet:

China, People's Republic of:

National Center for Education Development Research. 1997. *Regional Study of Trends, Issues and Policies in Education: Final Report of Country Case Study of the People's Republic of China*. Country Sector Study prepared for ADB.

Indonesia:

Office of Educational and Cultural Research and Development. 1997. *Study of Trends, Issues and Policies in Education (Indonesia Case Study)*. Country Sector Study prepared for ADB. Members of the Research Team included: Sri Hardjoko Wirjomartono (Coordinator); Jiyono; Ace Suryadi; Jahja Umar; Jamil Ibrahim; Arief Sukadi; Suheru Muljoatmodjo; Bambang Indriyanto; Agung Purwadi; Ade Cahyana; Safrudin Chamidi

Kyrgyz Republic:

Kyrgyz Research Institute of Higher Education Problems, Ministry of Education, Science and Culture. Bishkek, Kyrgyz Republic. 1997. *Country Report: Regional Study of Trends, Issues and Policies in Education*. Country Sector Study prepared for ADB. Members of the Research Team included: D.A. Amanaliev; I.B. Becboev; G.M. Belaya; U.N. Brimkulov; N.N. Janaeva; M.T. Imankulova; L.P. Miroshnichenko; V.L. Machnovsky; S.K. Marzaev; A.A. Shaimergenov; V.K. Jantzen.

Nepal:

Research Centre for Educational Innovation and Development, Tribhuvan University. 1997. *Trends, Issues and Policies of Education in Nepal: A Case Study*. Tripureshwor, Kathmandu. Country Sector Study prepared for ADB. Members of the Research Team included: Hridaya Ratna Bajracharya; Bijaya Kumar Thapa; Roshan Chitrakar.

Pakistan:

Pakistan Institute of Development Economics. 1997. *Trends, Issues and Policies in Education: A Case Study of Pakistan*. Islamabad, Pakistan. Country Sector Study prepared for ADB. Researcher: Naushin Mahmood.

Papua New Guinea:

Institute of National Affairs. 1997. *Regional Study of Trends, Issues and Policies in Education: Papua New Guinea Country Case Study*. Country Sector Study prepared for ADB.

Philippines:

Development Academy of the Philippines. 1997. *Policies, Trends and Issues in Philippine Education*. A Case Study Commissioned by UNESCO-Bangkok, Thailand for ADB. The Task Force Members included: Ramon C. Bacani; Napoleon B. Imperial; Juan M. Sabulao; Mario Taguiwalo; Charles C. Villaneuva; Carmencita T. Abella; Alma Bella Z. Generao. Research Team Members included: Elizabeth Y. Manugue - Research Lead; Eduardo T. Gonzalez; Anicetas C. Laquian; Merialda F. Nadunop; Mercedita C. Amar; Shiela D. Valencia.

Viet Nam:

National Institute for Educational Development. 1997. *Regional Study of Trends, Issues and Policies in Education: Viet Nam Case Study*. Hanoi, Viet Nam. Country Sector Study prepared for ADB.

Index

- accreditation system, 17
- administrator stagnation, 36
- administrator/teacher ratio, 13
- Asian Development Bank (ADB), v, 1, 39, 40, 45
- Bangladesh, 6, 53, 54, 55
- basic education, v, 53
- bureaucracy, 7, 10, 16
- Cambodia, 6, 7, 8, 10, 11, 27, 29, 36, 41, 42, 53, 54, 55
 - Ministry of Education, Youth and Sports, 7, 8
 - Planning and Aid Coordination Unit (PACU), 8
 - Program Management and Monitoring Unit (PMMU), 8
- capitalist, 42
- career mobility, 29
- China, People's Republic of (PRC), 6, 10, 14, 26, 29, 30, 38, 42
 - State Education Commission, 14
- community, 9, 14, 15, 23, 25, 35, 46
 - financing, 24, 25, 34, 47
 - involvement, 10, 27
 - participation, 4, 10, 16, 23, 25, 41, 54
 - pressure, 24, 43
 - relations, 33, 37, 42
- community-run school, 13, 26
- corruption, 23
- curriculum, 8, 9, 10, 23, 27, 41, 43, 44
 - vocationalization, 43
- cycle cost, 28
- decentralization, 4, 7, 10, 11, 12, 14, 16, 19, 24, 26, 29, 32, 38, 39, 42, 47
- disbursement, 39, 40
- distance education, 41
- district education, 4, 9, 10, 11, 12, 31, 33, 42
- East Asia, 16, 18, 27, 29, 36
- economic
 - development, v
- education
 - administration, 1, 2, 4, 7, 10, 11, 23, 29, 31, 35, 36, 44, 45
 - cost, 21, 22, 23, 34
 - efficiency, 1, 3, 7, 10, 19, 20–23, 26, 30, 32, 33, 36, 42, 47
 - expenditure, 6, 8, 17, 22, 25, 42
 - finance, 8
 - input, 9, 19, 20, 21, 22, 25, 33, 38, 42
 - investment, v
 - management, 1, 2, 3–15, 17, 22, 25, 31, 33–34, 35, 42, 53, 54, 55
 - manager, 1, 3, 9, 13, 16, 19, 20, 22, 23, 24, 26, 27, 28, 29, 30, 31, 32, 35–41, 43, 45, 47. See also education administrator
 - outcome, 4, 21, 24, 38
 - output, 21, 22, 38
 - quality, 1, 2, 3, 10, 17, 19, 22, 24, 25, 26, 30, 32, 33, 42, 47
 - reform, 28, 29
 - resource, 4, 7, 10, 16, 17, 19, 20, 23, 24, 25, 33, 34, 47
 - system, 1, 4, 5, 6, 7, 16, 19, 20, 21, 24, 27, 28, 30, 32, 37, 39, 42, 43, 45, 47
 - trend, 28, 33–34
- education administrator, 2, 6, 7, 11, 12, 13, 14, 16, 17, 19, 20, 22, 24, 25, 26, 28, 29, 30, 31, 32, 35, 36, 37, 38. See also education manager, school administrator, system administrator
- training, 28, 31, 32, 35, 36, 37–38, 43, 42–43, 44, 47
- Education Management Information Systems (EMIS), 27–28, 43, 53, 54, 55
- employment, 3, 7, 16, 17, 21, 29, 35, 36, 39
- enrollment, 10, 17, 19, 20, 26
- equity, 18, 26, 53, 54

- European Union, 41
- faculty/student ratio, 18
- Fiji Islands, 6
- finance
 - accounting, 37
 - management, 25, 37, 38
- funding
 - government, 24, 34
 - international, 38
 - private, 18, 27, 46
 - public, 46
- government school, 25
- graduate, 11, 17, 44, 46
- Gross National Product (GNP), 6
- head teacher, 4, 5, 16, 24, 25, 29, 33, 35, 36, 41, 42, 43
 - training, 24, 31, 36, 41
- higher education, 6, 8, 17–18, 45, 46.
 - See also post-secondary education
- Hong Kong, China, 6, 42
- incentive system, 30
- India, 6, 10, 27, 42, 53, 54, 55
- Indonesia, 6, 27, 45, 53, 54, 55
- instructional
 - material, 21, 24, 25, 41. See also
 - textbook
 - quality, 22, 23
 - strategy, 22, 41
 - supervision, 4, 5, 10, 12, 20, 33
 - supplies, 5, 20
- international assistance, 1, 17, 38–41, 43
- inventory control, 37
- Japan, 27, 29
- Japan International Cooperation Agency (JICA), 40
- Kazakhstan, 7, 8, 53, 54, 55
 - Cabinet of Ministers, 7
 - Ministry of Education, 8
- kindergarten, 9, 20
- Korea, Democratic People's Republic of, 6
- Korea, Republic of, 6
- Kyrgyz Republic, 53, 54, 55
- labor
 - force, 44, 46
 - market, 17
- Lao People's Democratic Republic (PDR), 6, 7, 9, 20, 53, 54, 55
- literacy, 16
- Malaysia, 6, 27, 53, 54, 55
- Maldives, 6, 53, 54, 55
- management
 - capacity, 1, 19, 30–34, 38, 40, 41
 - constraint, 40
 - information system, 10, 27–28, 30
 - training, 31, 37–38, 39
- Mongolia, 6, 13
- multigrade class, 9, 10
- Myanmar, 6
- Nauru, 42
- Nepal, 6, 11, 12, 27, 38, 42, 45, 53, 54, 55
 - Ministry of Education, 12
- Nongovernment Organization (NGO), 40
- numeracy, 16
- opportunity cost, 32
- Pacific DMCs, 10
- Pakistan, 6, 53, 54, 55
- Papua New Guinea (PNG), 6, 24, 53, 54, 55
- parents, 5, 12, 20, 25, 27
- Parent-Teacher Association, 5, 12
- personnel assignment, 37
- Philippines, 6, 11, 12, 13, 17, 25, 27, 29, 53, 54, 55
 - Manila, 13
 - Regional Center for Innovation and Technology (INNOTECH), 44
- policy analysis, 8, 43
- population growth, 3, 20
- post-secondary education, 45. See also
 - higher education
- pre-school education, 9
- primary
 - education, 1, 6, 9, 17, 19, 20, 26, 27, 34, 47. See also basic education
 - school, 13, 14
- private
 - education, 18, 23, 26, 27
 - financing, 18, 27, 45
 - school, 13, 25, 26, 27
- privatization, 26–27
- program management, 25, 28, 43, 47
- public
 - education, 26, 27
 - school, 26
- quality assurance, 8

- Regional Seminar on Education Management Issues, Policy, and Information, 37
- research, 18, 27, 30, 42, 46
- rural
 - area, 13, 14, 15, 36
 - school, 1
- Samoa, 6
- school
 - administration, 1, 16, 31
 - administrator, 6, 11, 12, 13, 24, 25, 26, 27, 30, 36, 37, 42–43, 47. See also school principal
 - cluster, 41, 54
 - financing, 23
 - inspector, 12, 41
 - management, 4, 12, 24, 25, 35, 36, 55
 - mapping, 37
 - principal, 13, 29, 35, 36, 37. See also school administrator
 - quality, 19–20
 - school-community relations, 12
 - school-ministry communication, 4, 12
 - secondary education, 6, 9, 17, 18, 19, 34
 - sector assessment, 45
 - Singapore, 6, 27, 42
 - socialist, 42
 - Solomon Islands, 6, 24
 - South Asia, 16
 - Sri Lanka, 6, 53, 54, 55
 - student
 - assessment, 11, 53, 55
 - learning, 19, 22, 24, 33, 38, 41, 42
 - motivation, 20
 - performance, 20
 - transfer, 17
 - Sub-Saharan Africa, 6
 - system administrator, 4, 6, 11, 45. See also education administrator
 - Taipei, China, 29
 - teacher
 - assignment, 9, 30, 36
 - deployment, 23
 - education, 8, 9
 - incentive, 10, 17, 19, 30, 47
 - pedagogical skill, 12, 45
 - salary, 30, 35
 - selection, 12, 23
 - supervision, 12, 13, 33
 - training, 41
 - unionization, 19, 29, 34, 47
 - teacher training, 9, 10, 12, 30, 35, 36, 44, 45
 - in-service, 36
 - preservice, 36
 - teacher/administrator ratio, 15
 - technology, 21, 44–45
 - electronic mail, 45
 - Internet, 34, 44
 - textbook, 5, 6, 9, 10, 20, 21, 23, 41, 45. See also instructional material
 - Thailand, 6, 27, 53, 54, 55
 - Asia Institute for Technology (Bangkok), 44
 - Tuvalu, 42
 - unit cost, 18, 28
 - United Nations Children's Fund (UNICEF), 39, 41, 45
 - United Nations Educational, Scientific and Cultural Organization, Principal Regional Office for Asia and the Pacific (UNESCO-PROAP), 37
 - urban area, 16, 29, 36
 - US Agency for International Development (USAID), 40, 41, 45
 - Uzbekistan, 53, 54, 55
 - Vanuatu, 6
 - Viet Nam, 6, 39, 40, 53, 54
 - vocational/technical education, 17
 - World Bank, The, 40, 45