

Multigrade schools: improving access in rural Africa?

Étienne Brunswic
Jean Valérien

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Fundamentals of educational planning

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

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

The scope of educational planning has been broadened. In addition to the formal system of education, it is now applied to all other important educational efforts in non-formal settings. Attention to the growth and expansion of educational systems is being complemented and sometimes even replaced by a growing concern for the quality of the entire educational process and for the control of its results. Finally, planners and administrators have become more and more aware of the importance of implementation strategies and of the role of different regulatory mechanisms in this respect: the choice of financing methods, the examination and certification procedures or various other regulation and incentive structures. The concern of planners is twofold: to reach a better understanding of the validity of education in its own empirically observed specific dimensions and to help in defining appropriate strategies for change.

Fundamentals of educational planning

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

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

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

One or two associate editors correspond to each heading.

The series has been carefully planned but no attempt has been made to avoid differences or even contradictions in the views expressed by the authors. The Institute itself does not wish to impose any official doctrine. Thus, while the views are the responsibility of the authors and may not always be shared by UNESCO or the IIEP, they warrant attention in the international forum of ideas. Indeed, one of the purposes of this series is to reflect a diversity of experience and opinions by giving different authors from a wide range of backgrounds and disciplines the opportunity to express their views on changing theories and practices in educational planning.

This study is concerned with the organization of education in rural areas and the advantages of a strategy based on multigrade classes, i.e. classes having a single teacher but pupils of several grade levels studying different curricula.

This strategy made a substantial contribution to the achievement of universal primary education at reasonable cost in Europe and North America. But what about in the south, particularly in countries that are materially less well-off and are still far from achieving education for all, such as the French-speaking African countries?

What are the minimum conditions under which the strategy of multigrade classes can help bring quality education to rural areas? What kind of training and support should be given to teachers working in conditions that can be extremely difficult? These are the kinds of questions raised and addressed in this work, with a particular focus on French-speaking Africa. Drawing on the experience of many countries, the authors offer practical, useful lessons for educational planners.

Gudmund Hernes
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Preface

The Education for All (EFA) goals, adopted first at Jomtien and subsequently at Dakar, call for solutions to the problem of providing schooling for children in sparsely populated rural areas, children of nomadic peoples, and children who cannot attend school under 'traditional' conditions of instruction. Multigrade classes and one-teacher schools – where a single teacher is responsible for pupils of various ages spread over several grades and who study different curricula – offer an answer.

Such classes, which have existed for a great many years in developed countries, made it possible to provide universal primary education in good conditions even for the most isolated rural populations. Since the end of the second world war, the flight to the cities and slowing population growth have caused a considerable reduction in the educational services provided in the rural areas of Western Europe, and without multigrade classes it would have been impossible to maintain a local school in many villages. Educational quality has been maintained through the use of specific teaching methods, based on self-directed learning and peer coaching. In fact, quality has been maintained so well that multigrade classes are now being established in some urban schools for purely pedagogical reasons. Similar experiences are found in Latin America; indeed, a previous volume in the Fundamentals of Educational Planning series is devoted to the *Escuela Nueva* (new school) programme in Colombia and Guatemala. One of the conditions for the success of such programmes is the availability of suitable learning materials and teacher training that is specific to the multigrade context.

Multigrade classes are not always well perceived, however. In Central Europe, the modernization of school systems is leading to the closure of many rural schools: people prefer to send their children to urban schools rather than place them in the multigrade classes of the village school. In Africa, similarly, such classes are often in disrepute,

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as they are far from enjoying the material circumstances that prevail in developed countries; for example, one often finds an inexperienced teacher facing a very large class comprising several grades.

This volume reviews the role of multigrade and one-teacher classes in the history of primary schooling, noting the factors that determine their success or failure. Such an examination of the specific features of multigrade education is vital as it enables us to identify the conditions required to make such classes a success.

In many developing countries, small schools and multigrade classes are essential in order to provide schooling at a reasonable cost to all children living in rural areas. What do planners need to know before recommending large-scale use of such schools and classes? What advantages does this strategy offer compared to others, such as satellite schools offering an incomplete programme, or schools that recruit pupils in alternating years? What minimum requirements must be met, in terms of teacher training and support, to provide education of good quality? These points should receive the undivided attention of educational administrators.

This study was prepared by Étienne Brunswic and Jean Valérien on the basis of a research project conducted by the IIEP and the African Network for Distance Learning (Résafad) in French-speaking Africa. It is an important contribution to the implementation of Education for All in the least advanced countries, particularly those of French-speaking Africa. The Institute extends its thanks to the authors, as well as to all those who participated in the research project, for a monograph that will prove useful to many educational planners.

Françoise Caillods
Co-General Editor

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The IIEP and the African Network for Distance Learning (Résafad) programme of the French Cooperation Agency provided us with invaluable logistical support, and in particular the services of their documentation centres. Our special thanks go to the IIEP Documentation Centre, which always responded knowledgeably and patiently to our requests for highly specialized documentation.

We have borrowed heavily from Tania Catz's review of the existing literature on the subject, from 1950 to present, and we benefited from the informed comments of Muriel Poisson and Susan D'Antoni, programme specialists at the Institute.

Thanks are due as well to the participants in the IIEP/Résafad seminar in April 2002, and more especially to the directors of the planning departments of Benin, Burkina Faso, Guinea, Equatorial Guinea, Mali, Senegal and Togo.

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List of abbreviations

ADEA	Association for the Development of Education in Africa
APEID	Asia-Pacific Programme of Educational Innovation for Development
CEA	Canadian Education Association
CIEP	<i>Centre international d'études pédagogiques</i> (International Centre for Educational Studies)
CNRS	<i>Centre national de la recherche scientifique</i> (French National Centre for Scientific Research)
CONFEMEN	<i>Conférence des ministres de l'Éducation des pays ayant le français en partage</i> (Conference of Ministers of Education in French-speaking Countries)
EFA	Education for All
FAPE	<i>Fédération africaine des associations nationales de parents d'élèves et d'étudiants</i> (African Federation of Parents' Associations)
IBE	International Bureau of Education (UNESCO)
ICE	International Conference on Education (called the International Conference on Public Education until 1978)
INRAP	<i>Institut national de recherche et d'action pédagogique</i> (Guinea's National Institute for Educational Research and Action)
IREDU	<i>Institut de recherche sur l'économie de l'éducation</i> (French Educational Economics Research Institute)

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NASUWT	National Association of Schoolmasters Union of Women Teachers
NGO	non-governmental organization
NIEPA	National Institute of Educational Planning and Administration (India)
OECD	Organization for Economic Co-operation and Development
OREALC	<i>Oficina Regional de Educación de la UNESCO para América Latina y el Caribe</i> (UNESCO Regional Education Bureau for Latin America and the Caribbean)
PASEC	<i>Programme d'analyse des systèmes éducatifs de la CONFEMEN</i> (CONFEMEN Programme to Analyze Education Systems)
PIPSE	<i>Programa Interministerial de Promoção do Sucesso Educativo</i> (Interministerial Programme for the Promotion of Educational Success)
PTAs	parent-teacher associations
Résafad	<i>Réseau africain de formation à distance</i> (African Network for Distance Learning)
SEAMES	Southeast Asian Ministers of Education Organization (SEAMEO) Secretariat
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
USSR	Union of Soviet Socialist Republics

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Introduction

A tool for planning educational development in rural areas

Implementation of the Education for All (EFA) programme adopted at Jomtien in 1990, and assessed and confirmed by the World Education Forum in Dakar in 2000, entails, among other things, finding appropriate solutions for the provision of primary education in rural areas, areas where the population is thin and scattered, and areas that are not easily accessible.

In such areas, provision of schooling can be an important feature of a regional development policy aimed at combating the flight to the cities and reducing the urban/rural divide. ‘Multigrade’ classes are currently at the heart of the debate over how to obtain both significant growth in enrolment rates and improved educational quality in these areas.

For both of these reasons, multigrade classes are of very special interest to educational planners. Unlike traditional ‘monograde’ classes, several grades or divisions are taught simultaneously in the same classroom by a single teacher. The teacher is thus responsible for pupils of different ages, capabilities and levels of attainment.

In developing countries, however, multigrade classes generally have a poor image; not because of their pedagogical structure, but because they are under-endowed with physical and human resources, and because no consideration has been given to their specific nature.

The aim of this study is to explain in what conditions multigrade teaching could contribute to increasing educational provision in rural areas with sparse or dispersed populations. With educational planners

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in mind, it places the emphasis on administrative and organizational aspects, as well as the issues of human and financial resource management that arise in one-teacher schools and schools with multigrade classes.

It examines, in particular, the problems involved in taking a multigrade approach to implementing EFA in developing countries, especially in those where the demographic transition is not complete and where the number of children to be provided with schooling is still on the increase.

Sources and references

Our data have been extracted from recent publications that form a relatively varied set of documents, whose form and content are not always comparable. Some of them are research studies focusing on a given theme or original analytic studies, while others are compilations of the findings and conclusions of other researchers.

There are few really persuasive efficiency studies of multigrade education in developing countries. In reality, such studies would be meaningful only if they compared what is truly comparable; i.e. if multigrade classes that are actually allocated the resources they need to function are compared to monograde classes having equivalent resources. This is not the case for the major programmes funded by international aid. What does emerge clearly from all of the studies, however, is that a lack of resources leads to failure.

This volume refers repeatedly to research conducted by UNESCO from 1950 to 2002: first of all, the studies conducted by the International Bureau of Education (IBE), which were reflected in the highly important Recommendation No. 52 of the International Conference on Education (1961) on the organization of one-teacher primary schools, a recommendation that has lost none of its value today. It also refers to the case studies and conclusions of three more recent seminars: one held in Bangkok, Thailand, in 1995 (UNESCO/UNICEF workshop on multigrade classes), a second in Lillehammer,

Norway, in 1996 (workshop on the functioning of one-teacher schools with multigrade classes), and a third organized by the IIEP in partnership with the French Ministry of Foreign Affairs in Paris in 2002 (on the challenges raised by the development of multigrade classes from the standpoint of EFA).

The first chapter offers an overview of multigrade classes throughout the world. Despite the very great variety of situations observed, multigrade teaching remains an inescapable feature of schooling in sparsely inhabited rural environments.

The second chapter summarizes the factors that determine the success or failure of multigrade teaching in rural areas. This part also sets forth the main lessons that should be kept in mind.

The third chapter is primarily addressed to educational planners, and more especially to those involved in implementation of the EFA programme. Taking a systemic approach, it recommends a number of measures and mechanisms in favour of schooling in rural areas, broken down into three options: minimal, medium and maximal.

I. Overview of multigrade classes

A long history

At the end of the nineteenth century, the majority of elementary schools had only one class. In the twentieth century, this model was gradually replaced by what has now become the conventional model: a school with five or six homogeneous levels or grades. Attempts were made in the late 1960s to eliminate small schools for reasons of increased educational efficiency and better management of resources, but as from the 1980s this trend was reversed, and we are seeing a revival of small schools all over the world.

In the second half of the nineteenth century, in both Europe and North America, the school with a single teacher or with multigrade classes was still the dominant organizational model in primary education. With the advent of the industrial revolution and urbanization, this model was gradually replaced by the education system that has become the norm, with enrolments by age and by homogeneous grades. However, the model of the one-teacher school and the school with multigrade classes persisted in rural areas.

France, for example, instituted universal primary education in the late nineteenth century. Compulsory primary education was established by the Act of 16 June 1881, which laid down the principle of free public education. Of the near total of 52,000 public schools in existence at the turn of the century, 45,000 (nearly 90 per cent) were one-teacher schools. This percentage dropped only slowly: in 1939, it was still close to 60 per cent in France. In 1940, the one-teacher school contained all the levels from kindergarten to the division of pupils reaching completion of their elementary education. By 1990, such schools accounted for about 22 per cent of French schools.

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The IBE's comparative research on access to education in rural areas, conducted from 1958 to 1960, confirmed the worldwide importance of small schools in the 1950s. This research, based on questionnaires sent to ministries of education in 69 countries, showed that 58 countries used the one-teacher school system – a very high proportion.

The International Conference on Education, held in Geneva under the aegis of the IBE, has made a number of recommendations on this subject to ministries of education, notably including Recommendation No. 47 (1958) on facilities for education in rural areas, and Recommendation No. 52 (1961) on the organization of one-teacher schools (see *Appendix I*).

Beginning in the 1960s, in a context of universal primary education and with an eye to improving efficiency and quality, countries sought to reduce the number of single-teacher schools and to make schools with monograde classes the general rule by expanding the practice of transporting pupils by school buses. This movement began in Sweden and quickly spread to all the industrialized countries of the north. The aim, at the time, was to answer the question: 'How can we provide better education?'

At that time, the developing countries faced an entirely different problem – what is the best way to provide education? – and needed to solve it in a context in which many children were not in school. Whereas the single class had previously been the normal mode of education in developing countries, poor rural schools were gradually abandoned under the pressure of growing social demand in urban centres.

In the northern countries, the pendulum began to swing back in the 1980s, for educational, demographic, economic and social reasons, and under the impetus of a movement to revitalize rural areas: schools with a single teacher or multigrade classes were gaining ground again and were even being pushed into the limelight. In Australia, for geographical reasons, one- and two-teacher schools had always remained very active. Several European countries, the United States and Canada rehabilitated multigrade classes, recognizing them as an

efficient mode of educational organization in areas of low population density.

In keeping with this movement, these classes received renewed attention from organizations that provide aid to education in certain developing countries. Over the last 20 years, many projects involving one-teacher schools and multigrade classes have been undertaken in Latin America and subsequently in Asia. In Africa, however, multigrade classes are less common. In particular, for a number of countries in French-speaking sub-Saharan Africa that have not yet completed their demographic transition, the authorities are giving priority to transform existing incomplete schools into schools offering a complete elementary curriculum, instead of establishing new schools in thinly populated rural areas. Some single-class schools have been created in areas where the population is the most scattered, but this has been the result of grassroots initiatives.

The Jomtien summit gave fresh impetus to multigrade education, and schools with a single teacher or multigrade classes now account for a growing proportion of the total number of classes – if not the number of pupils – in a good many countries. It is widely considered that multigrade education, despite its sometimes negative image, can become an effective means of providing educational services in rural or underprivileged areas. In many countries, it is already playing a crucial role in expanding access to education in a context of budget cuts and limited human resources.

Multigrade classes in the world today

The prevalence of multigrade classes

Global statistics are not easily obtained. In many countries, multigrade classes have a low profile and do not appear as such in school censuses, which give greater priority to the number of sections than to the school structure. Even when they do appear in the statistics, it is not always easy to distinguish between schools and multigrade classes. Generally speaking, the prevalence of multigrade teaching is underestimated.

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Recent research by UNESCO aimed at producing an analysis and assessment of schools having a single class or multigrade classes, in order to develop effective strategies for provision of schooling for all, has given rise to a series of case studies published from 1988 onwards. These case studies, conducted in Australia, Bolivia, Burkina Faso, China, France, Greece, Korea, Lesotho, Mali, the Philippines, Tanzania, the former USSR and the former Zaire, were considered in an inter-regional workshop. The final report (UNESCO, 1996a) indicates that this type of school and class remains a widespread educational mode for scattered populations in both developed and developing countries.

Today, at the beginning of the twenty-first century, small schools with fewer than three classes still account for a significant share (about 30 per cent) of all school classes in a great many countries. In most cases, the classes in these small schools are multigrade classes.

A recent overview (Little, 2001) of multigrade classes throughout the world assembles a variety of data from different sources. The data concern the presence of schools with multigrade classes in various countries in Europe and North America as well as the Asia-Pacific region, Africa and Latin America. This work shows that the percentage of schools having multigrade classes, and the number of pupils enrolled in such classes, have significantly increased over the last 10 years, particularly since the World Declaration on Education for All at Jomtien in 1990 (*Box 1*).

Small schools with a single teacher or multigrade classes are thus a significant form of educational provision, and special attention from planners and administrators is entirely justified.

Box 1. Research on multigrade teaching

Professor Angela Little of the University of London's Institute of Education, served as co-ordinator for the special number of the *International Journal of Educational Development* on multigrade teaching. The number examines the conditions in which multigrade teaching appears, the problems faced by teachers, and the prospects for this type of instruction. Multigrade

classes are very common in poor developing countries, but are also found in wealthy northern countries. However, most education systems neglect multigrade classes and the needs of both pupils and teachers. The single-grade class, which came to be widely regarded as the ideal model in the twentieth century, governs the organization of schools, classes and programmes, obscuring the fact that millions of children worldwide are educated in multigrade classes. The author argues in favour of a global research programme on this topic.

To date, researchers have primarily studied the impact of multigrade classes on learning. The contexts in which the research is undertaken, which vary from one country to another, influence the research programmes, the questions asked, the analysis of the results and the conclusions drawn. In the developed countries, where universal primary education has been attained, researchers primarily studied the effectiveness of multigrade teaching in comparison to monograde teaching in a context of declining numbers of pupils in rural areas. The problem is often economic in nature: multigrade teaching costs more per pupil, and hence the issue is whether to close the school.

In the developing countries as well, multigrade teaching concerns thinly populated rural areas, but in this case the populations of such areas are trending up, not down. In this context, where universal primary education has yet to be achieved, population growth and increased demand for schooling are leading to the establishment of schools with multigrade classes in locations where the nearest school is quite distant; however, these schools are short of resources, and teachers do not wish to work in them. The issue is no longer one of closing these schools and sending pupils into monograde classes; rather, it is one of supporting multigrade teaching in order to provide schooling in all situations where the alternative would be no schooling whatsoever. Understandably, research on multigrade classes in developing countries is primarily conducted by educational aid agencies.

According to Little, if education for all is to be achieved, it is vital to promote the creation and maintenance of schools with multigrade classes.

Source: Little, 2001.

Multigrade classes in the countries of the north

In the northern countries, universal schooling has, in general, been achieved, and multigrade classes, in both urban and rural areas,

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often receive preferential treatment as regards not only the teacher-pupil ratio, but also teaching resources and community support.

Outside the large population centres, the current network of elementary schools in northern countries was formed on the basis of small rural schools, many of which initially had only one class. Although urbanization and school bus transportation have rolled back multigrade teaching to some extent, they have not caused it to disappear. Innovative solutions have been found to address the problems involved in maintaining it.

In the OECD countries, an effort is made to overcome the isolation of small schools: in some cases, specialized teachers travel from one such school to the next; in others, pupils travel to a so-called central school; and sometimes these two options co-exist. The distances covered can be fairly large, and teachers or pupils may use all sorts of means of transport.

In North Dakota in the United States, for example, Spanish is taught by a travelling teacher. In Belgium, in the Flemish-speaking community of Burgenland, French is taught by teachers who work in several schools.

In the mountainous areas of France, where gatherings of pupils and teachers from different schools are not possible, a 'mobile liaison and action team' attached to the regional education authority travels from town to town to provide isolated schools with teaching and learning materials. The aim is to end the isolation of teachers and pupils by providing linkages between schools.

Elsewhere, gatherings are scheduled periodically (e.g. every two weeks), bringing together the teachers and pupils from various dispersed small schools in the school of the most centrally located town. During these days, the multigrade classes are broken up and reformed as single-grade classes, in which the teachers, sometimes in collaboration with a specialized teacher, engage in teaching activities specific to a single grade.

In the United Kingdom, small schools have responded to the challenges by instituting collaboration on a geographical basis. In support of this clustering process, the local education authorities provide administrative assistance, counselling and in-service teacher training. Debates over the educational, administrative and economic efficiency of such schools have identified three priorities:

- providing small schools with a larger number of specialized teachers and ensuring that they receive co-operation from experts, advisers and consultants;
- giving teachers additional training in teaching methods that address their own specific needs; and,
- improving their practice and their expertise.

In Canada, the situation is particularly clear: the number of multigrade classes has skyrocketed in recent decades throughout the country, particularly in school districts having fewer than 200 classes in all (urban, rural and mixed rural/urban areas taken together).

An extensive survey (Gayfer, 1991) conducted by the education faculty of the University of Saskatchewan at the request of the Canadian Education Association (CEA), obtained a great deal of statistical, administrative and pedagogical information from the school districts. Out of a total of some 33,000 classes and 650,000 pupils, 5,600 are multigrade classes admitting 105,000 pupils; of these, 735 classes containing 15,000 pupils are in rural areas, and 3,440 with 57,000 pupils are in urban areas. The rest of the multigrade classes are located in mixed rural/urban districts.

The survey also shows a strong correlation between the size of the school district and the presence of multigrade classes.

In France, in the year 2000, out of a total of nearly 52,000 public pre-primary and primary schools, there were about 800 single-class schools and 17,000 small schools comprising two or three classes, each of which included several grades (7,000 nursery schools/ kindergartens and 10,000 primary schools). Educational clusters make it possible for each village to maintain a school offering an incomplete

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curriculum, often consisting of from one to three grades, with each of these grades admitting pupils from all of the villages involved.

In Russia, owing to the drop in rural population density, 'schools with small student bodies' admit up to 100 pupils, with a minimum of 20 pupils. In addition, there are so-called 'schools on wheels' that, through a school bus system, bring together up to 10 children from neighbouring villages.

The effectiveness of such schools in terms of pupils' performance does not seem to raise any particular problems. A review by the World Bank (Thomas and Shaw, 1992) indicates that, according to studies conducted in North America and Europe to assess the impact of multigrade teaching on performance, there is generally no difference between pupils from multigrade classes and pupils from monograde classes. In the United Kingdom, Germany, the Netherlands, Switzerland and the United States, pupils from multigrade classes obtained comparable results in all of their main subjects. Their results were even better in some cases: in France, pupils from multigrade classes often display a higher pass rate, which is attributed to their being better prepared for working on their own (Mingat and Ogier, 1994).

The effectiveness of multigrade classes observed in northern countries may be attributable to the additional resources allocated to them by the educational authorities, in most cases supplemented by local government. However, the cost of such provision for children of primary school age is not significantly higher than that of sending them to clustered schools, once the cost of transport is added to the operating cost of schools (Mingat and Ogier, 1994).

Multigrade classes in Latin America

The first large-scale projects using multigrade teaching as a solution to the problem of expanding educational provision in rural areas were launched in Latin America by education aid agencies.

In the context of the first major project for the extension and improvement of primary education in Latin America, undertaken by

UNESCO from 1957 to 1966, the administrative consolidation of small, geographically close schools (to form the *nucleo*) proved a particularly effective solution. Such consolidation served a number of objectives at once: facilitating co-operation among several neighbouring schools in under-served rural areas; rationalizing the use of scarce, dispersed resources; enhancing the participation of rural communities in school management and development; and extending the school's scope of action to cover the entire community, according to the principles and methods of basic education. The *nucleo* was initiated in Bolivia and quickly became the spearhead of the major project (*Box 2*).

Box 2. The *nucleo* in Latin America

Miguel Soler Roca, then a rural schoolteacher in Uruguay, tells the story of rural education in Latin America and recounts his experience as principal of the first experimental scholastic *nucleo* in Uruguay, located at La Mina, near the Brazilian border.

He relates his adventure as follows:

“The area covered by the project had a population of about 2,500 and encompassed approximately 250 square kilometres, with some fairly densely populated communities and others with rather scattered populations. [...] The population earned its livelihood from agriculture and livestock raising [...] The seven associated primary schools had about 20 teachers in all [...] Five years later [...] the people had come to feel that they were members of a community and had organized four types of new entities: sports teams, women's working groups, a health co-operative (with periodic visits by a doctor and a dentist) and an agricultural co-operative for purchasing seed” (p. 11).

His account testifies to the successful integration of educational development into a context of overall development.

Source: Soler Roca, 2002.

Subsequently, the *nucleo* model gained in popularity in Latin America and was taken up by all the aid agencies.

In Colombia, the *Escuela Nueva* (new school) system is based on multigrade teaching. A similar system, in the form of networks

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with a nucleus, has been set up in Guatemala under the name *Nueva Escuela Unitaria*.

In Peru, the difficulties facing rural education led to the creation of a system of educational *nucleos* for rural areas. In 1998, approximately 78 per cent of the 27,580 public primary schools had multigrade classes (89 per cent in rural areas); 41 per cent of the multigrade schools had a single teacher, and 59 per cent had more than one.

Honduras and Paraguay have clusters of incomplete rural schools with multigrade classes linked to a complete main school offering all six elementary grades. This main school supports its 'satellite' schools at the level of services and facilities management.

In Argentina, an experiment with 'nuclear' school networks is being conducted in Patagonia, a thinly populated sheep-raising region where there are considerable distances between population centres.

Forming clusters of small schools allows, among other things, the demarcation of geographically uniform areas, administrative devolution, the integration and co-ordination of educational activities and support from local communities.

School networks with nuclear schools were designed as an alternative to the construction of schools offering the complete elementary curriculum of six grades. They allow villages to open incomplete schools offering the first three grades, with the higher grades being provided in the most centrally located school in the area.

The positive results obtained led to widespread adoption of such groupings and to the creation of genuine alternative school systems for rural areas, with adapted curricula and systems of promotion from one grade to the next, their own teaching materials, specially trained teachers, etc.

The standard example is that of the 'new school' in Colombia described in *Box 3*.

Box 3. The *Escuela Nueva* in Colombia

The 'new school' programme has been promoted since 1975 through the combined efforts of many academics, United Nations institutions (UNESCO and UNICEF), the World Bank and USAID, and has grown to include approximately 20,000 schools. This programme has been evaluated many times.

The new school teaching methods promote continuity in, and the completion of, primary education: from 1988 to 1996, enrolments grew by 45.6 per cent in rural schools, compared to 7.6 per cent in urban schools. In 1988, 816,360 pupils were enrolled in rural areas, and this figure rose to 1,188,677 in 1991.

The performance of pupils in new schools proved to be significantly better than that of pupils in other schools in the main subjects such as mathematics and Spanish. Better results were also recorded in terms of self-confidence and social and civic behaviour.

According to the research studies performed, the new school satisfies the need for schooling in the rural areas of Colombia: in places where only an incomplete primary education was available, multigrade teaching has made it possible to offer the entire elementary curriculum, with one or two teachers taking responsibility for five consecutive grades in a single school. The recommended methods encourage creative, participatory and responsible learning: the children learn how to behave in a public-spirited, democratic manner, and they study at their own pace using materials designed specifically for self-directed learning.

Absenteeism has dropped because children can help their parents without interrupting their education. Repetition of grades is also down, as scholastic progress is adjusted to the pace of each pupil.

Curriculum content, while adhering to the national programme, has been adapted to the local and regional environment, and the required learning materials have been provided: there is one set for each group of three children, and each set can be used for several consecutive years.

The role of teachers is changing: they are becoming 'facilitators' who guide and direct the learning process. Further training for teachers is provided locally. Administrative personnel and communities are involved in the teaching process.

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Thus, as part of a strategy of forming networks or clusters of schools, which offers an alternative to the traditional system, the multigrade class has proved to be a particularly effective way of extending educational provision in rural areas of Latin America.

On the other hand, in places where innovative strategies have not been employed, and where the required resources, training and regulation have not been provided, the results have, in some cases, been disappointing:

- Mexico has seen an increase in drop-out and repetition rates, which is attributed to the insufficiency of resources and a lack of teacher training;
- assessment of Paraguay's 'nuclear' school network programme revealed some unanticipated problems in implementation, namely:
 - the principals of school clusters were overloaded with administrative work;
 - the central school did not have the resources needed to manage the operation of the entire network satisfactorily; and
 - the costs incurred in providing resources to allow the network to function smoothly were extremely high.

Multigrade classes in Asia

In Asia, multigrade classes are still usually the only means of providing schooling in remote regions inhabited by minority groups. They are the sole alternative to having no education at all. Provision is difficult in such regions, not only because of their geographical conditions, but because their populations are often nomadic, highly dispersed and widely separated. The inhabitants, at a low level of economic development, function as autonomous family units and need their children as a source of additional labour.

Multigrade classes exist in almost all countries in the Asia-Pacific region, but they represent widely varying proportions of the school system, ranging from two-thirds of all primary classes in India to 2 per cent of primary schools in the Republic of Korea.

The UNESCO seminar held in Bangkok in 1995 produced the following findings:

- in China, practically all regions had this type of class, making a total of 355,192 multigrade classes and 182,841 schools containing multigrade classes. The annual rate of increase of these schools is 6.6 per cent. An association formed to conduct research on multigrade teaching had organized about 10 workshops to date. In the northern province of Shanxi, multigrade classes accounted for 36 per cent of all classes, and in 11 provinces out of 30 they accounted for 12.2 per cent of all classes;
- in Laos, 50 per cent of all primary schools and 21 per cent of classes used multigrade teaching. The current strategy aims at increasing the size of classes and schools, so it is planned to increase the number of such classes and at the same time to reduce the number of schools;
- in Mongolia, three provinces, four districts and two administrative units used multigrade teaching as their model, and this model was to be introduced in all 310 of the country's school districts;
- in Papua-New Guinea, the country's four regions had set up 114 multigrade schools and 216 more were to be established in the near future;
- in the Philippines, there were multigrade classes in 14 regions (all except that of the capital city), making a total of 19,411 classes. New schools were being planned and completed so as to double the number of multigrade schools;
- in Viet Nam, the 13 provinces and 108 districts had 1,130 classes, 3,800 teachers and 86,853 pupils involved in multigrade teaching. The government intended to increase these figures substantially in the following years (APEID-UNESCO, 1995).

As in Latin America, the networked group of small schools, known as a 'cluster', is an organizational form that has been adopted by many education systems: Bangladesh, Cambodia, China, Laos, Myanmar, Papua-New Guinea, the Philippines and Viet Nam have all adopted the cluster system in primary education.

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Some countries have received support from co-operation agencies. For example, such support allowed Papua-New Guinea (with two clusters and 23 schools in the central province), Cambodia (*Box 4*) and Laos (seven clusters encompassing 45 schools) to launch their first experiments with clusters as early as 1994.

Whereas some small countries have benefited from international aid, others have drawn on their own resources, sometimes to take actions involving a very large number of schools (all primary schools are clustered in Bangladesh, 80 per cent in Myanmar, 60 per cent in Viet Nam, 7,000 in China, and 1,150 in the Philippines).

Box 4. The UNICEF project in Cambodia

In six provinces of Cambodia, UNICEF provided support to a programme of 51 clusters of schools having multigrade classes. Detailed performance assessments were made to serve as a basis for the extension of the programme as from the year 2000.

As regards scholastic performance properly speaking, 1,973 pupils in grades 3, 4 and 5 took a series of tests in Khmer and mathematics. The results by subject and by grade showed a clear improvement in the average scores, in both subjects and for each grade, over those obtained in tests administered in 1993; for the Khmer test, the pass rate rose from 31 per cent to 64 per cent for grade 3, and from 45 per cent to 67 per cent for grade 5.

Rates of repetition fell and enrolments rose, as did the cohort survival rates calculated from 1997/98 over a three-year period, corresponding to the middle years of primary education.

As for enrolment rates, district-by-district comparisons over time have shown that of the 37 districts having clusters supported by UNICEF, 75 per cent saw a rise in gross enrolment rates and 67 per cent a rise in net enrolment rates between 1997/98 and 1998/99.

Concerning the survival rates for cohorts of pupils from the school clusters supported by UNICEF, calculated beginning with grade 1 from 1997/98 to 1999/2000, 69 per cent showed survival rates of 50 per cent or higher, and 29 per cent survival rates of 66 per cent or higher.

These findings also showed that the clusters had a positive impact on schooling for girls. Where survival rates are concerned, 80 per cent of the clusters showed a gender parity index of 0.90 or higher, and 51 per cent had an index of 1.00, which suggests that survival rates are more of a problem for boys than for girls. The repetition rates for girls fell in the majority of clusters in all provinces from 1997/1998 to 1998/1999.

Comparisons between school clusters supported by UNICEF and clusters that receive no support from UNICEF showed that the academic performance of pupils in the former were clearly better, and that 83 per cent of the former had lower repetition rates than the other clusters in the same district.

Source: Bredenberg, 2000.

The results are generally considered to be positive. In India, multigrade schools not only improved pupils' performance, but also brought about a decrease in the drop-out rate. As for other Asian countries, the 1995 UNESCO seminar in Bangkok mentioned above produced a specific, positive summary of the advantages of multigrade teaching (*Table 1.1*).

Table 1.1 The advantages of multigrade teaching in Asia

China	First enrolments have increased, drop-outs have decreased and the level of performance has improved, although, to date, no assessment has been conducted at national level.
Laos	In villages that have multigrade schools, most of the children attend class. Multigrade classes seem to be lowering drop-out rates (in localities where these methods are used, the participation rate of pupils amounts to 80 per cent through grade 3). Pupils taught using multigrade methods experience no particular difficulties in achieving scholastic success. Equipment and materials are used more efficiently. Rural areas manage to make up for the shortage of teachers and the pupil-teacher ratio is rising.

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Mongolia	By explaining multigrade methods to children and their parents, and by locating educational centres close to their places of residence, the authorities have encouraged children to continue their education.
Papua-New Guinea	Parents have realized the importance of multigrade educational methods, and improvements are expected in the near future.
Philippines	Multigrade methods have improved teachers' conditions of service and enabled optimal utilization of classrooms. The use of teaching kits has helped to raise performance levels.
Viet Nam	In regions that have adopted the multigrade school system, pupil participation is 100 per cent, rates of primary school completion have risen and the drop-out and repetition rates have dropped considerably. Performance is better than in traditional classes. Instruction is learner-centred, and pupils spend more time working in groups. Children are more active, more sure of themselves, and know how to react appropriately.

Source: APEID-UNESCO, 1995.

When the required resources, training and regulatory framework are not forthcoming, however, the results can be disappointing. In Pakistan, for example, the performance of pupils in multigrade classes was 30 per cent lower than that of pupils in monograde classes. This result was attributed to the fact that, owing to lack of resources, teachers were able to use neither the teaching methods in effect in schools having a good reputation, nor methods suited to the way schoolwork is organized in multigrade classes.

Multigrade classes in Africa

While multigrade teaching is proving a success in Latin America and Asia, only a slight expansion of multigrade classes is observed in Africa, where enrolment rates remain relatively low in a context of population growth and incomplete demographic transition.

With a few exceptions (Zambia, Lesotho, etc.), data for the English-speaking and Portuguese-speaking regions are not yet available. In French-speaking Africa, the IIEP conducted a study in 2002, in collaboration with the Résafad programme of the French Co-operation Agency, on the “challenges facing educational planners and administrators as a result of the development of multilevel classes, from the standpoint of EFA”¹.

Educational planning departments in seven countries (Benin, Burkina Faso, Equatorial Guinea, Guinea, Mali, Senegal and Togo) participated in this study, whose purpose was to examine in greater depth the implications of the expansion of one-teacher schools and multigrade classes in terms of providing broader access to quality basic education for all.

The results vary considerably from one country to the next.

In some countries, such as Benin and Togo, the legislation on primary education permits only classes having two sections, known as ‘twinned classes’ (i.e. classes containing two consecutive grades). Such classes are common in rural areas and constitute a standard model: schools having three classes and six sections. Multigrade classes comprising more than two sections are sometimes observed on a temporary basis, as shown by the example of Benin.

In Benin, of the 4,329 schools documented for the 2000/2001 school year, 268 (6.19 per cent) had only one class and 437 (10.9 per cent) had two classes. These one- and two-class schools are not examples of multigrade classes; in fact, they are incomplete schools that do not yet offer all the primary grades for lack of material and human resources (owing in particular to the shortage of teaching staff, which was maintained by the freeze on civil service hiring in Benin from 1986 to 1995). A newly created school generally takes the initial form of a single class under a single teacher. Thereafter, the school’s development depends on the school-age population in the localities served and on the resources available. For example, it

1. “Défis posés par le développement des classes multigrades dans la perspective de l’EFA, séminaire IIEP/Résafad”, IIEP, April 2002 (Catz, 2002).

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may add a class each year, or every 2 years. The aim is not to create schools with multigrade classes, but rather schools that eventually will provide a complete primary education. Such schools thus constitute a provisional solution, in which no investment is planned.

In Burkina Faso, where multigrade classes were introduced in 1992, the most common structure is a school with three levels and biennial recruitment. From 1985, at the initiative of local communities, 'satellite schools' offering the first 3 primary years began to be established close to a 'parent school' offering all the primary grades (*Box 5*).

Box 5. Multigrade classes in Burkina Faso in 2000

Burkina Faso's 5,131 primary schools comprise:

- 4,517 public and 614 private schools
- 3,923 urban and 1,208 rural schools
- 17,456 classrooms
- 901,291 pupils (792,880 in public education and 108,411 in private education).

Multigrade schools (with classes covering two grades) account for 36.0 per cent of all the schools in the country, 20.4 per cent of the classrooms and 17.7 per cent of the pupils. Most of them (1,689, or 91.4 per cent) are located in rural areas, with only 159 (8.6 per cent) in urban areas.

The northern region is noteworthy, with 58.6 per cent of its schools being multigrade and 41.3 per cent of its classes. The region with the highest percentage of multigrade classes is the Sahel, with 43.5 per cent of multigrade classes compared to 7.2 per cent in the centre. The centre is also the region with the lowest percentage of schools using multigrade methods (only 18.02 per cent).

Since 1992, when the system of multigrade classes was officially implemented, the number of such classes has grown considerably, from 116 to nearly 4,000 in 2000/2001 (more specifically, from 116 in 1992/1993 to 990 in 1995/1996 for public education alone, and from 1,843 in 1996/1997 to 3,931 in 2000/2001 for the public and private education systems combined).

Multigrade classes are primarily concentrated in rural areas, and more specifically in certain regions where provision is difficult.

At the same time as these statistical reports were drawn up, the Institut pédagogique burkinabé (Burkina Educational Institute) conducted studies from 1993 to 1998 on pupils' level of acquisition in comparison with pupils in traditional schools.

In 1993, a first evaluation of the pupils' level of knowledge acquisition showed better results for multigrade classes than for demonstration classes in the 14 experimental provinces:

- in two provinces, multigrade classes and demonstration classes were at the same level;
- in seven provinces, multigrade classes showed better results than demonstration classes;
- in five provinces, the demonstration classes posted better results than the multigrade classes.

The national average was 8.86 (on a scale of 10) for multigrade classes as against 8.23 for demonstration classes, which gives a difference of 0.43 in favour of multigrade classes.

Another evaluation was made in the second year of primary education in 11 provinces, examining performance in French (dictation) and arithmetic (operations, small word problems). In three out of 11 provinces, multigrade classes had a higher average than demonstration classes; in the other eight provinces, it was demonstration classes that posted the better performance.

The national average was calculated on the basis of 12 provinces, yielding two roughly equal averages: 11.48 and 11.84 on a scale of 20 respectively for experimental classes and demonstration classes; the difference is 0.36 in favour of demonstration classes.

In 1997, 1 year before the end of the experiment, a final evaluation was made. Whereas the first evaluations showed an advantage for multigrade classes, those that followed recorded lower performance than in the demonstration classes: in fact, the results show a large drop in performance. Scholastic attainment is low in multigrade classes compared to traditional classes, regardless of the grade considered.

Serious inadequacies were identified, in connection with concerns over the multigrade approach, with teacher dissatisfaction and with insufficient proficiency in multigrade teaching methods.

Source: IIEP/Résafad, 2002.

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In Senegal, multigrade classes have existed since the 1980s under the name 'multiple grade classes'. They are formed when two grades combined have a total of no more than 45 pupils. These classes are often temporary and are held in makeshift shelters. They are granted permanent status if they survive for 3 to 5 years, but the departure of the teacher often means the disappearance of the class.

In Equatorial Guinea, a Spanish-speaking country, multigrade primary schools have existed for a great many years (since before 1940). There are currently 586 one-teacher schools. The instruction provided there is considered to be inefficient, owing to repetitions and drop-outs. Teachers do not have an easy task, as in general they are not highly qualified and must cope with very large groups of pupils of different ages all grouped together in a single class (up to 120 pupils). Schools in rural areas have virtually no resources; some do not even have furniture. In many cases, each sub-group within the class faces a different wall of the classroom.

In the French-speaking countries of sub-Saharan Africa, almost half of the primary schools offer a complete primary curriculum and have at least one class for each of the six primary grades. In the other half – i.e. schools offering an incomplete primary education – multigrade classes are found in some countries (Burkina Faso, Guinea and Senegal), but elsewhere are exceptional or virtually non-existent (Benin, Mali and Togo). The multigrade approach is, in fact, not recognized, apart from twinned classes.

In Zambia, the most important impact of multigrade classes has been to provide a complete primary education in places where there were no schools at all, and to improve the pass rate between the two highest levels.

In Lesotho, 50 per cent to 60 per cent of primary schools have a single teacher and multigrade classes.

In the face of rapid population growth, and given the high proportion of rural children who do not attend school, the solution most frequently adopted in Africa is to try to endow incomplete schools with new classrooms and new teachers in order to transform them

into complete schools offering all the primary grades. Responsibility for founding new schools that are, or will be, destined to become multigrade schools is left up to local communities.

Throughout Africa, descriptions of the conditions of one-teacher schools and multigrade classes reveal serious problems: make-shift facilities, lack of teaching materials, and no support for teachers. All of these factors complicate the lives and the task of rural teachers, who are often younger, less experienced and less qualified than their urban counterparts.

It is thus not surprising to find that multigrade classes show unsatisfactory results in evaluations of scholastic attainment.

A mixed impact on scholastic performance in West Africa

The Conference of Ministers of Education in French-Speaking Countries (CONFEMEN), as part of its Programme to Analyze Education Systems (PASEC), conducted systematic assessments of the level of attainment of pupils in nine African countries, with the intention of putting out a study of “factors of efficiency in primary education” (CONFEMEN, 1999).

Among the variables concerning school organization, the PASEC considered multigrade and double-shift classes². It observed that, unlike the double-shift system, multigrade teaching leads to strongly contrasting scores. By comparison with pupils in standard classes, the scores of second-year pupils in multigrade classes were lower by 45 per cent in Burkina Faso and 33 per cent in Côte d’Ivoire, but were higher by 4 per cent in Cameroon, 12 per cent in Senegal, and a maximum of 15 per cent in Madagascar. As an overall average, their scores were 1 per cent lower.

On examining these assessments, the report rejects out of hand the hypothesis that the lower scores are due to distance and remoteness, as most teachers live on the school premises. Instead, the authors

2. In double-shift classes, a single classroom is used by two cohorts of pupils: one in the morning, the other in the afternoon.

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attribute these results to the fact that pupils in the first years of schooling are largely unable to work on their own, and that teachers have little time to spend with each grade. The multigrade approach seems to be suffering from a certain discouragement on the part of teachers, who are overtaxed with work and must use a special methodology with which they are not fully conversant. It is also possible that multigrade classes do not receive enough methodological support.

Despite these mixed results, the study conducted in 2002 led the national teams of planners involved to an awareness of the true nature and the potential of multigrade classes.

“The establishment of multigrade classes, in which a teacher is responsible for several grades simultaneously, can make a decisive contribution to national EFA campaigns, particularly in rural areas or hard-to-reach places, but only when three vital conditions are met:

- the central government’s commitment and the mobilization of local communities must be strong and clearly affirmed, in particular through a systematic policy of positive discrimination on the part of the national, regional and local authorities;
- teacher motivation, maintained through supervision of teaching methods, training and the establishment of a communication mechanism aimed at overcoming the isolation of teachers;
- allotment of educational aids – guides for teachers and textbooks for pupils – and small expendable learning materials for group activities within the class.”³

Contrasting perceptions of multigrade classes

A great variety of contexts

Every education system has its distinguishing characteristics. Around the world, the period of compulsory education varies from 6 to 12 years, while the age of first recruitment ranges from 5 to 7 years, and may even be as high as 8 to 10 years. In some countries,

3. Recommendations of the IIEP/Résafad seminar, April 2002, in *Appendix 2* (Catz, 2002).

primary and lower secondary education are combined in a single school; in others, primary education is divided into two levels (an organizational mode often found in clusters of networked schools). Primary schools may comprise from four to eight grades (in most cases, only five or six). We speak of multigrade teaching whenever a teacher is responsible for two or more grades.

A distinction is drawn between one-teacher schools, where a single teacher is responsible for all levels of instruction, and schools with two or three teachers, which may have one single-grade class and several multigrade classes. In the first case, the multigrade class may offer a complete primary programme of five or six grades, or it may be incomplete, including only the first three or four grades, as is often the case in so called community or local initiative schools. In the second, a school may have more than one multigrade class.

Moreover, one must reckon with special situations, such as that of nomadic peoples, when the teacher travels with the group (a mobile school with a single class), and that of small islands (very small numbers of pupils).

Countries where compulsory schooling is fully established show a correlation between age and grade (generally with a lag of one year) and a low repetition rate, whereas countries where compulsory schooling is not yet universal feature large age differences within a single grade due to the conditions of initial recruitment or to widespread repetition of grades.

A very wide range of situations and status

Multigrade classes are, in most cases, established as a result of necessity, though sometimes owing to a deliberate choice made for political or educational reasons.

When multigrade classes are established for reasons of necessity, the reasons may relate to:

- geographical or demographic constraints (scattered settlements and low population density; falling population density as a result

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of rural-to-urban migration or emigration, entailing a shift from single-grade to multigrade classes; schools having a number of remote sites, etc.); or

- administrative or pedagogical problems (absenteeism, leave or lack of teachers; insufficient numbers of pupils in the higher grades; excessive numbers of pupils in certain grades; competition between schools that are seen by parents as being of unequal quality).

Political reasons for establishing multigrade classes relate to regional development and efforts to stop the flight to the cities (i.e. the desire to maintain a school site in a given locality).

When the choice is made for educational reasons, it is made by teams of innovative teachers.

Multigrade classes are to be found regardless of the status of the school: public, denominational, private or 'community' school (the latter are also known in French as 'spontaneous' schools, 'local initiative' schools, etc.).

Multigrade teaching may be governed by an overall plan adopted by the political and administrative authority and embodied in statutory instruments, or it may be a matter that concerns schools individually, either in a statutory context or on their own initiative.

The means of financing multigrade teaching may vary, and may or may not involve all the partners of the school system (central government, regional and local governments, local communities, parents etc.), with each contributing towards the costs in accordance with a predefined allocation; in some cases, educational aid agencies or non-governmental organizations (NGOs) may also help to finance the initial investments.

The number of pupils per teacher varies enormously, from a mere handful to over a hundred in countries with a high population growth.

In sparsely populated rural areas, it is not always possible to assign one teacher per grade if there are only a few pupils in each

grade. This is why educational delivery very often begins with the establishment of a one-class school providing all levels of instruction. In this case, the expression 'one-class' applies in two senses: administrative (the school has only one class) and pedagogical (a single class encompasses all levels of instruction).

Multigrade classes are often used to cope with a provisional situation: when a primary or elementary school first opens, it does not offer all of the grades planned, and the complete grade structure is generally established little by little. In practice, to open a new school offering all grades with monograde classes, a number of conditions must be met, such as a large school-age population in the area, strong social demand for education, and availability of premises and teachers.

Between large urban classes and the single classes found in rural areas, there is in fact a tremendous range of solutions used to cope with highly diverse situations: in one locality, three-class schools will be set up, in which each class covers two consecutive grades with recruitment every 2 years, or two consecutive grades recruited annually co-exist in the same classroom and are taught by the same teacher (twinned classes); in another, a single level will be recruited every 6 or 7 years in order to retain the one-class, one-level structure; elsewhere, pupils in a two-grade class will be received separately, one grade in the morning and the other in the afternoon, the purpose being not to admit more pupils, but to preserve the system of single-grade classes.

The term 'multigrade classes' thus covers a great variety of situations, and the way pupils are grouped depends on various factors according to the nature of the activities (age, height and sex for singing, physical education or crafts) or according to the subjects taught (by level of knowledge in mathematics and reading, by mother tongue in multi-ethnic classes, etc.). The same applies to teaching techniques, as multigrade classes may make use of context-specific curricula and teaching methods.

In addition to this great diversity, the treatment accorded to multigrade teaching will serve to show whether there is a genuine

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desire to provide schooling in rural areas, areas with scattered populations and areas that are not easily accessible.

The perception of multigrade teaching is positive in northern countries ...

In developed countries, with a few exceptions, schools with multigrade classes were long regarded as a mere stopgap solution, as the poor relations of the education system. Today, however, the distinctive nature and the legitimacy of multigrade classes are recognized. In rural regions of Australia and the developed countries of Europe and North America, one-teacher schools and multigrade classes are regarded as an effective means of delivering quality education.

The teaching techniques used in multigrade classes encourage individualized and autonomous learning, which is an asset as regards both access to and success in secondary education. When multigrade classes are co-educational, as is often the case, they offer pupils better chances of socialization. This consideration is leading educationists to recommend that the methods applied in multigrade classes be extended to traditional schools.

In Australia, where schools with multigrade classes range from three-class schools to small one-teacher schools attended by a dozen pupils, educationists recommend that the methods adopted of necessity by teachers in small single-class schools should be taken up in schools with monograde classes. Regardless of the grade distribution of the pupils in the school, separating them into small groups helps to develop the different aptitudes of each individual.

In France, educationists are reaching similar conclusions, leading them to rethink the organization of primary schools in rural areas, especially since the costs are not necessarily much higher if transport costs are factored in. Certain innovative methods that are particularly suited to teaching in multigrade classes – peer coaching, self-directed learning, flexible curricula and programmes presented in modular form, and a participatory atmosphere – have an undoubted impact on

academic performance and offer better prospects in terms of socialization. They should therefore be brought into general use.

... but mixed in the developing countries

In many developing countries, apart from the countries mentioned above that have undertaken successful projects, the managers of the education system consider multigrade classes as, at best, a provisional system offering lower quality, whose principal advantage is to offer some form of schooling at a time when a number of obstacles make it impossible to create schools with monograde classes.

For decision-makers and planners, this type of structure is merely an alternative made necessary by the circumstances. Sometimes, where this type of class exists and is recognized, no provision is made to assist either teachers or pupils.

Multigrade teaching will not really help to enrol and educate children who otherwise would have little or no schooling unless there is a clearly declared political will to deliver schooling to rural areas, with (in countries of modest size having few resources) support from external aid sources, at least for the start-up phase.

In most cases, multigrade teaching still has a rather poor image among the population: it is felt to be a stopgap measure and ‘cut-rate’ education. Yet this form of education is indispensable for providing schooling in disadvantaged rural areas, particularly in the context of EFA. **But – and this is the vital lesson – recourse to multigrade teaching to increase provision will be successful only if the multigrade approach represents a genuine alternative and a positive option that is taken into account and organized by planning departments.**

The problem is that education system managers are sometimes reluctant to invest in a structure consisting of multigrade classes and incomplete schools, which are regarded as provisional and short-lived. Indeed, to obtain tangible results very quickly in terms of increasing gross enrolment rates, it sometimes seems easier and more effective to add classes to existing incomplete schools, allowing them to offer

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a complete primary education, and to give up on extending the coverage of the school network by developing small multigrade schools in rural areas.

In this case, despite genuine quantitative progress in school enrolments for the country as a whole, the lack of multigrade classes means that there will not be equality of access to education services.

In developed countries, multigrade classes are recognized, permanent institutions, but they have sufficient resources to deliver education of good quality. Moreover, the closure of any school or class is politically sensitive at the local level and entails a high social cost.

Also in developing countries, and more especially in those where the demographic transition is more or less complete, school mapping and regional development policies are being instituted that entail renewed interest in multigrade classes, as these are an integral part of any effort to increase provision in rural and disadvantaged areas.

Owing to the lack of infrastructure and of resources, the solutions used in the north cannot simply be transferred to the south. Planners must therefore look for solutions specific to their own context. In view of the poor image of these classes, they must also undertake actions to persuade both parents and teachers.

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Owing to their lack of visibility in censuses, multigrade classes generally do not interest educationists and are not mentioned in most publications on elementary education. Yet these classes are very common in many countries, particularly in thinly populated rural areas, and they display a wide range of outcomes: an unquestionable success in one locality, and disappointing results in another.

Causes of failure

The failure of multigrade classes has important consequences: multigrade teaching being perceived as a cut-rate, unsuitable form of delivery, its failure causes families to lose interest in schooling and thus reduces social demand for education. In short, such failures contribute to under-development and poverty.

It is therefore vital for planners to identify the factors that lead to failure so as to avoid recourse to the multigrade option if the minimum conditions for success are not met.

The overview in *Chapter I* allows us to identify three main causes of failure: the lack of strong political will to expand provision in rural areas; lack of motivation on the part of teachers; and lack of educational resources. These factors are omnipresent and mutually reinforcing.

Lack of recognition of multigrade teaching

The lack of strong political will to increase rural school provision is reflected by a lack of coverage in certain geographical areas.

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Multigrade classes – whose existence in rural areas amounts to confirmation of a genuine effort to achieve universal primary education – are not considered to be a specific, recognized system: the authorities ignore them, their existence is merely tolerated, and the country's usual regulatory framework is applied to them. For example, the teacher-pupil ratio will be the same as that stipulated for conventional classes, even though class size may exceed 80 pupils in some African countries, making it impossible to teach a multigrade class satisfactorily.

If multigrade teaching is not legitimized by the political authorities, it will be all the less so by the central government departments responsible for education and rural development, and the same is true for regional and local governments. Under these conditions, it is certain to fail.

It is thus not surprising that multigrade schools are perceived as delivering education 'on the cheap', like a second-rate school, and that parents no longer send their children (particularly their daughters) to school. Lack of political and administrative support causes a drop-off in demand for schooling that leads, in turn, to a decrease in provision, legitimizing the authorities' lack of interest and creating a vicious circle.

Lack of motivation on the part of teachers

Field surveys of teachers of multigrade classes often assess their situation as critical.

A survey conducted in Equatorial Guinea, for example, reports that over half of the schools "have only one classroom, into which 100 to 150 pupils are packed, and only one teacher. In rural areas, there is no electric power, no drinking water, no latrines, no markets, no dispensaries, no playing fields [etc.]. There are schools that do not have their own premises; in some villages, pupils attend class in the chapel of one of the churches"⁴.

4. Report by Equatorial Guinea for the IIEP/Résafad seminar 2002, IIEP (Catz, 2002).

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In addition to their distance from a larger population centre, such schools offer no staff housing, no bonus to encourage teaching in difficult conditions, premises that are often in deplorable condition (sometimes without enough seats with a writing surface) and no appropriation for operating expenditures. All these factors often go hand-in-hand, and this unpromising situation makes it impossible to attract qualified teachers and to maintain teacher motivation.

The teachers appointed are often young and inexperienced. Left to themselves, with no initial training before taking up their posts, they receive advice only rarely from their distant superiors whom they see on limited occasions. Given the lack of further training, they cannot improve their skills. It is therefore not surprising that they quickly become discouraged. In Viet Nam, teachers have at times been appointed who do not even speak the local language; under such conditions, what influence and credibility can the teacher possibly have with the community?

Lack of educational resources

The shortage of teaching and learning aids for teachers and pupils is the third main cause of failure.

Teachers have no educational materials to help them in their task (methodological guides, worksheets, etc.), and pupils often do not even have the textbooks used in conventional classes.

Teachers' compensation is generally the only item of expenditure, even though support in the form of teaching aids is essential in order to enable them to do their job.

In a multigrade class, when the teacher conducts a lesson for one group, he or she must keep the other groups busy with a task they perform on their own. This requires some teaching materials and, in particular, worksheets or written materials that serve to guide the groups' independent activity (e.g. Freinet materials). Standard textbooks, even when there are enough of them, are designed for conventional classes; they will not suffice for multigrade classes, which require workbooks as well.

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Without such materials, multigrade classes quickly become, for most pupils, a kind of day-care centre in which each group has far fewer hours that are really devoted to learning. And beneath a certain minimum number of hours, it would be wishful thinking to expect pupils to be able to learn everything stipulated in school programmes.

These three shortcomings – lack of resources due to lack of government interest, lack of qualified teachers and lack of context-specific teaching resources – are mutually reinforcing. This means that improvement can be obtained only if all three aspects are considered simultaneously.

These causes of failure are found in many regions, where they have a severe impact on rural education, on multigrade classes in particular. In fact, what condemns this type of schooling is not its multigrade nature, but the lack of resources.

Conditions required for success

The overview also enables us to present the conditions required for success, which include:

- an *absolute condition*: political involvement;
- *administrative and regulatory conditions*, relating to standards, clusters and teacher management;
- *educational conditions*, such as adjustments to school programmes and hours and provision of teaching materials.

The adoption of ‘facilitating’ measures, such as those concerning partnership with civil society organizations and the implementation of decentralization, can also have a positive impact.

Political involvement

A determined effort on the part of the political authorities is the only thing that can motivate teachers and civil authorities, get planners involved and induce the managers of the education system to accept the priority given to increasing school attendance in rural areas.

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Without repeated affirmation at the highest levels of government of the need for greater equity and reduction of regional and rural/urban disparities, education authorities and planners will adopt the 'quick-fix' solution of concentrating their efforts in the most populous areas in order to obtain rapid improvements in enrolment rates at a lower cost. The risk is that all other areas will be marginalized even further.

Without a strong political will, it is very difficult to implement even a minimal strategy based on positive discrimination in favour of the neediest groups, as was recommended by the participants in the IIEP seminar on "challenges raised by the development of multigrade classes from the standpoint of EFA": "The expansion of provision in rural areas, and most especially multigrade classes, should benefit from positive discrimination in terms of facilities and materials as well as staffing (teacher support mechanisms)" (see *Appendix 2*).

Education in rural areas is always a politically sensitive issue: it requires decisions on the allocation of financial and human resources that are not easy in countries where such resources are scarce, especially when the problem is compounded by ethnic, linguistic or minority group considerations, as well as the demand that the content and end goals of education be more relevant. In many cases, the easy solution – consisting in the application to rural areas of an urban model in which primary school is no more than the first step in a track leading to secondary and higher education – is adopted in order to avoid political debate, on the pretext that the unity of the system ensures the same education for everyone.

Multigrade teaching, which is often perceived as an innovation with respect to traditional education, is particularly dependent on the political will expressed and reflected by all levels of government. Two contrasting examples will serve to illustrate the influence of politics on education in rural areas. In Uruguay, a change in the government's priorities compromised a decade's worth of efforts to increase school enrolments in rural areas, whereas in Portugal, a drive for cross-sector mobilization at the highest levels of State engendered many knock-on effects.

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In Uruguay, the end of the experiment with *nucleos* was due not to educational reasons, but to political wariness (Soler Roca, 2002).

The following example illustrates, in contrast to the major multigrade education programmes financed by international aid in Latin America, how a country can mobilize its own resources.

A holistic, multi-sector approach can prove necessary in implementing a comprehensive strategy in that it leads to synergies between the various efforts involved and the pooling of resources. This is evidenced by the case of the Programa Interministerial de Promoção do Sucesso Educativo (PIPSE – Interministerial Programme to Promote Educational Success) adopted by Portugal's Cabinet in December 1987 to increase the efficiency of primary schools and reduce regional and rural/urban disparities, which were very large at the time. The four-year programme reached nearly half of all primary school pupils in the country. Its success was especially noteworthy because it was an emergency programme aimed at remedying a disastrous situation that called for immediate solutions. This programme represented an unprecedented effort, involving local authorities, social security institutions, the private sector and labour, employer organizations and trade unions, teachers and educators. It succeeded in developing a new educational culture: in Portugal, basic education is now considered a major investment made by the entire society. Above and beyond increased enrolments, the programme aimed to help schools succeed.

The success of PIPSE was due to its dynamics, which was based at the top of the pyramid on a political consensus that made education a genuine national priority, and at the grassroots on a democratic rather than a hierarchical management style that generated motivation and commitment on the part of all partners. This example shows that solid results can be obtained through the mobilization and intelligent use of available resources.

Generally speaking, political authorities must often arbitrate among competing interests: the various stakeholders involved at the local level (pupils and their parents, teachers, the community, NGOs) all have their own expectations and goals. There may be disagreement

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or conflict over the setting of priorities, in which case it is up to the political authorities to set the policy directions that will allow the reconciliation of interests needed for action.

Administrative conditions

The success stories are also due to innovations and measures to increase managerial and administrative flexibility.

■ *More flexible standards*

Standards are essential tools for the educational authorities. Although it is the planners' job to propose standards regarding multigrade classes (optimal number of pupils, number of enrolments necessary to create a first multigrade class, threshold at which a multigrade class can be split into two sections, etc.), they must also make sure to recommend that these standards be applied flexibly so as not to lock multigrade classes into a regulatory straitjacket.

For example standards may be laid down as guidelines only, their enforcement may be made subject to certain requirements regarding availability of premises and positions, or they may be presented in the form of ranges rather than absolute numbers.

Special treatment in terms of standards constitutes a first recognition by the educational authorities that multigrade classes are different from traditional classes.

■ *Clusters of small schools*

All of the most striking successes of multigrade teaching have involved groups or clusters of small schools located in the same geographical area. The aim is to offset the dispersion of resources and the isolation of teachers.

The structure most often used for these clusters involves a main or central school, with the activities of satellite schools orbiting or alternating at varying distances from the centre. The principal of the

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main school thus becomes the principal of a larger group of classes spread over several sites.

Such clusters offer many advantages. They make it possible:

- *at the administrative level:* to simplify management by reducing the number of those in direct contact with the higher educational authorities, and to make it more efficient by rendering teacher supervision closer and more accessible. These clusters are often accompanied by a specific training course to prepare school principals to assume broader responsibilities;
- *at the economic level:* to improve the allocation of human and material resources and to optimize their use. Resources can be allocated by cluster; both teachers and materials are considered to be common resources of the cluster. Thus, teachers can give each other assistance, and readers and scientific equipment can be used by turns;
- *at the educational level:* to improve psychological and professional supervision of teachers and to provide steady support to teachers who often have little training.

Clusters can help to better integrate schools into their environment and to mobilize the community in support of the school. They facilitate the organization, in or around the school, of community-oriented educational activities, such as refresher courses for former pupils, adult literacy activities, and maternal and child care.

Such clusters generally bring very positive outcomes.

In most cases, both the enrolment rate and the percentage of students that complete primary education rise substantially, while repetition and drop-out fall perceptibly. These good results are attributed to increased allocations of learning materials and equipment, to support from parents, and to the quality of the instruction provided.

Teachers receive in-service training, and teacher absenteeism is trending downwards. Clusters also promote the monitoring and support of teachers as well as performance evaluation, owing to the interaction between teachers that the cluster makes possible.

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Clusters of schools have also made it possible to set up management training for principals to help them monitor teachers' work on a daily basis, to propose a system for allocation of resources, and to monitor the use of these resources by schools.

Administratively, the links established between schools offer considerable advantages. Previously isolated schools are better integrated into the formal administrative structure, making it easier to implement support measures.

For administrators and planners, recognition of clusters can simplify the statistical system. Most indicators published each year in the statistical yearbook take the class or the school as their basic unit, but using a different unit – e.g. clusters of schools – can prove helpful. It can improve not only projections and forecasting, but also the return on education (fewer school administrations and principals, simplified resource allocation, etc.) as well as raising the profile of multigrade teaching.

■ *School mapping and forecasting the establishment of multigrade schools*

The success of rural education and the timeliness of the creation of multigrade classes depend on a better balance between educational supply and demand. More refined forecasting methods can play a decisive role in this respect.

Two criteria – one administrative (the optimum number of pupils) and the other geographic (distance from the nearest school) – should be considered in combination to determine whether and where to establish new schools, and what additions to make to existing schools.

Population density (real or estimated) allows us to calculate the population within a circle whose radius corresponds to the maximum distance that pupils are supposed to travel, to deduce from this the school-age population and, according to various assumptions about the enrolment rate, to forecast how many pupils can be expected to attend multigrade classes.

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An example will serve to illustrate the reasoning process involved. The objective is to select the schools and classes to be created in a new district: if the population density is 15 people per square kilometre, the population to be served within a radius of 4 kilometres will be 754, and the school-age portion (7 to 13 years) will amount to 140 potential pupils. A predictable enrolment rate of 60 per cent leads to a forecast of 84 pupils admitted.

The establishment of a school offering a complete primary education of six grades would require six classrooms and six teachers, each responsible for 14 pupils. A multigrade school with two classes and two teachers, each responsible for 42 pupils in three grades, or a three-class school in which each of the three teachers supervised 28 pupils in the same two-year programme (twinned classes), would allow considerable savings.

In *Table 2.1* below, taken from the World Bank working paper on forecasting the number of pupils in multigrade schools in Tanzania (Thomas and Shaw, 1992), the shaded cells indicate the potential establishment of a large number of multigrade schools.

Table 2.1 Estimation of the in-school population for a given population density and enrolment rate in Tanzania

1 Population per sq. km	2 Population within a radius of 4 km (column 1 x 50.27)	3 Of which: 7-13 year olds (18.6% of column 2)	4 Number of pupils for given enrolment rates (% of column 3)				
			20%	40%	60%	80%	100%
10	503	94	19	37	56	75	94
15	754	140	28	56	84	112	140
25	1,257	234	47	94	140	187	234
50	2,514	468	94	187	281	374	468
75	3,770	701	140	281	421	561	701
100	5,027	935	187	374	561	748	935

Source: Thomas and Shaw, 1992.

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■ *Teacher management*

Provision of quality education in poor areas requires not only motivated and trained personnel, but also administrative management and supervision of teaching practices. The problem is that the quality of education is rarely the first concern of the central education authority, which is more interested in the inputs than in the outputs. Thus, a teacher's salary is paid regardless of the quality of the services rendered, e.g. without regard for absences or the results obtained by that teacher's pupils.

Experience shows that the procedures concerned with teacher management should be adapted to education in a rural environment: special recruitment and appointment criteria to avoid giving young, inexperienced teachers a first appointment in an overly difficult posting; appointment of couples to two-person postings in order to facilitate their integration into the rural environment and avoid an excessive turnover rate; in small schools, appointment of a teacher who speaks the children's mother tongue, etc.

Several of the recommendations reprinted in *Appendices 1 and 2* call for a set of positive discrimination measures to keep teachers motivated and encourage them to stay in their posts: granting a bonus for teaching under difficult conditions, salary increases based on seniority, favourable treatment in the scale adopted for transfers, etc. (*Box 6*).

**Box 6. Administrative measures:
Recommendation No. 52 of the ICE, 1961**

11. Although the conditions required for the opening of a one-teacher school vary considerably from country to country (number of inhabitants, too great a distance from another school, etc.) the authorities should be guided by two basic principles:

- the opening of a school in any place should not be delayed until the number of pupils requires the presence of several teachers;
- the regulations governing the opening of a one-teacher school should be flexible enough to facilitate the attendance of the greatest possible number of children throughout the country.

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12. Every possible means should be employed to counteract the isolation of the one-teacher school, both for the teacher (special help from inspectors and advisers, professional literature, study groups, continuous contact with larger educational establishments etc.) and for the pupils (visits from school doctors, correspondence with other schools, school co-operatives, excursions, pupil exchanges, external examinations, etc.).

13. It is strongly recommended that a travelling library service be made available as widely as possible to one-teacher schools in order to provide for the needs of the teacher and the community as well as of the pupils; these schools should be helped, moreover, to acquire permanently a few essential books of reference.

14. It is desirable to set up, as part of the senior authority for primary education, an advisory body, whose task, in collaboration with other ministries or departments and with representatives of the teachers concerned, would be to study in all their aspects the problems involved in the operation of one-teacher primary schools.

15. The functions of this advisory and research body should comprise in particular:

- an objective and impartial examination of the advantages and disadvantages of the one-teacher school;
- an investigation of means of remedying their disadvantages and of increasing their efficiency when their existence proves necessary;
- a study of the financial, social, cultural, pedagogical, etc. aspects of the retention of these schools or of their conversion into schools with several teachers;
- the preparation of action to encourage the teachers and facilitate their task.

Source: Recommendation No. 52 of the ICE, UNESCO/IBE, 1961 (see *Appendix 2*).

These recommendations place special emphasis on teacher training.

“It is necessary to provide for the gradual implementation of procedures for special training – initial and further training, face-to-face and distance training – for teachers assigned to multigrade classes, with among other things training modules devoted to techniques of group management and educational activities” (IIEP/Résafad, 2002).

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In major programmes, such as Colombia's *Escuela Nueva* programme, teachers received programme-specific prior training dispensed in training centres. For student teachers, such training was mandatory; for volunteer teachers, it was offered as a specialized option or an additional training course before taking up their duties.

Examples of training modules for teachers of multigrade classes appear in *Appendix 3*.

Context-specific prior training in a training centre is not always possible, which explains the need for face-to-face further training that emphasizes learning of teaching techniques. Such training also offers the advantage of stimulating the exchange of ideas and offsetting the isolation of such teachers.

The first to benefit should be training centre instructors, inspectors, advisers and primary school principals. These training courses can be set up fairly quickly using the skills available in the country.

Teaching conditions and materials

As early as 1961, the International Conference on Education recommended some measures concerning teaching methods in response to the special nature of one-teacher schools and multigrade classes (*Box 7*).

Box 7. Methods and materials

20. As the difference between one-teacher schools and schools with several teachers lies not in syllabus requirements but in the internal organization of school work, it is desirable to give particular emphasis, in instructions and suggestions for one-teacher schools, to the fact that these schools offer greater opportunities than other types of schools for the application of certain principles of educational psychology, such as individual work and group work.

21. The preparation of teachers' handbooks for the teaching staff of one-teacher schools is fully justified; it is also advantageous to encourage educational reviews to make suggestions of direct interest to teachers in one-teacher schools.

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22. Although there are material difficulties in the way of producing special textbooks for one-teacher schools, it is, however, desirable to place at the disposal of these schools audio-visual aids, sets of graded exercises, individual work cards and other instructional material suitable for group teaching.

Source: Recommendation No. 52 of the ICE, UNESCO/IBE, 1961 (see *Appendix 2*).

Apart from the major educational programmes in Latin America, which developed their own teaching materials, the textbooks available are generally those used in urban areas. In this case, it is very helpful to supplement them with additional materials designed specifically for multigrade teaching. These supporting materials may be of very different kinds, from an educational journal and lesson sheets to support in the form of distance training (correspondence training courses, radio broadcasts for the teacher and others for the pupils).

The aim is to help teachers set up a system for working in independent groups. The same materials could be used in all situations in which it is desired to institute teaching in groups, particularly in overcrowded classes, so as to get a better return for the costs.

Such materials could preferably be developed at country or sub-regional level by educators in the countries concerned in the form of a participatory collaborative effort. The use of interactive radio can prove very useful.

The first interactive radio programme was tested in Nicaragua in 1970. The model subsequently spread to over 20 countries. Guinea was the first French-speaking country to try it. It involves instruction in a given subject (mathematics, a national language, etc.) delivered directly to pupils through radio broadcasts accompanied by workbooks. The radio takes the place of the teacher. The interactive aspect arises through questions asked during the broadcasts or in the workbooks in accordance with the technique of programmed instruction, as well as through discussions between the teacher and the pupils in the classroom (*Box 8*).

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**Box 8. Interactive radio and publication of written materials
in Guinea**

Guinea has recently undertaken two independent innovations in support of rural education:

- In 1998, the *Institut national de recherche et d'action pédagogique* (INRAP), with assistance from USAID, initiated an interactive radio programme to train teachers in the use of radio and pupil-centred teaching methods.
- In 2000/2001, radio broadcasts on mathematics, French and science were produced for the six elementary grades. These broadcasts were accompanied by printed materials and posters for grades 1 to 4, and science teaching kits for grades 5 and 6.

Also in 2000/2001, the national publishing sector published six 96-page multidisciplinary workbooks (French, mathematics, science) corresponding to the six elementary grades. These workbooks constitute an innovative learning aid that assembles in a single document the basic content of primary education and that provides learning activities in the form of practical exercises. The set of materials, which also includes three teacher's guides, offers pupils and teachers the opportunity to use a coherent set of teaching materials that are well suited to the needs of multigrade schools.

More generally, the textbooks used in urban schools are far from being fully satisfactory for multigrade teaching, particularly when they are imported. Therefore, when large-scale production of materials specifically for multigrade schools is considered, and when it is preferred not to import them, it is often worthwhile to consider the option of producing them in the country concerned⁵.

'Facilitating' measures

The study of successful cases reveals another constant: all of the positive experiences were conducted with the assent and, in most

5. On this issue, it will be helpful to refer to the 12 modules assembled and published by the IIEP in 1995: *Planning the development of school textbooks* (Brunswic and Valérien, 1995).

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cases, the active participation of the communities involved, particularly the participation of parents.

Most of these success stories occurred in the framework of decentralization measures aimed at bringing decision-making power closer to the level of practical implementation.

Although it cannot be claimed that the measures presented below are specific to multigrade classes, it has been proven that multigrade teaching cannot be developed without support from the actors and partners of the school system. For this reason, when considering the costs of multigrade teaching, one must not neglect the importance of campaigns to inform and sensitize the public.

■ *Partnerships with civil society organizations*

School plays a relatively limited role in the development of the child. The family still has the strongest influence, followed by the child's schoolmates and immediate surroundings. This explains why it is important to involve civil society in extracurricular educational activities, which are highly influential in pupils' education – probably at least as influential as the 800 hours spent in school each year. Extracurricular activities are mainly intended to organize the child's life outside of school hours as a complement to, rather than a substitute for, schooling. Experience shows that such activities are most effective when they are organized and directed in partnership with the school.

In the north, extracurricular educational activities are generally organized at local level by the town or district authorities. The presence of libraries (offering a room and information that pupils can use to do their homework), music or drama schools, sports clubs and so forth surprises no one; it is their absence that would be surprising. Local and regional authorities make very substantial contributions to such activities, which consume a considerable share of their investment, staffing and operating budgets. The purpose of all these activities is to provide the most rewarding education possible for all children, above and beyond teaching of the school syllabus.

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In developing countries, and more particularly in rural areas, these facilities generally do not exist for a number of reasons, such as lack of administrative personnel and lack of resources. Co-operation between schools and civil society organizations is thus extremely important as it enables some deficiencies to be overcome. A notable example is partnerships with parent associations and with local NGOs.

■ *Parent-teacher associations*

Parent-teacher associations (PTAs), which are found worldwide in various forms, can be very useful partners for the school.

In French-speaking Africa, PTAs were formed on the centralized French model, and are therefore structured from the local right up to the national level. Their scope of action is very broad. They are often responsible for supplying school materials, textbooks, notebooks, chalk and pencils (particularly within the framework of co-operative funds) and for organizing support for pupils' schoolwork, often in co-operation with NGOs whose members are university students or volunteer retired people. A particularly acute problem relates to the conditions for schoolwork performed at home: in small villages, the family home generally does not offer facilities for studying and doing homework, and these activities must therefore take place on the school premises or on those of local clubs or associations.⁶

Another type of organization that exists in many countries is the 'village committee'. Such committees provide a framework for addressing problems relating to health, transport and apprenticeship, all of which require treatment that lies beyond the scope of the school.

The experiences presented in *Chapter I* show just how important these partnerships are; and rightly so, as they constitute one of the pillars of the EFA strategy defined at the Dakar Forum.

6. At the request of the *Fédération africaine des associations de parents d'élèves et étudiants* (FAPE), the UNESCO Regional Bureau for Africa developed a prototype of a multi-purpose room serving as both a library and an activities room, which could be financed by an NGO and made available to local stakeholders who would be responsible for its upkeep and for conducting activities.

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At both the local and national levels, non-governmental systems that could act as an interface between the education system and other stakeholders (families, social and professional organizations, associations) are worth supporting and encouraging. They may take the form of a foundation or an association for educational co-operation whose role would be that of a facilitator seeking to promote synergies among various initiatives, to give a boost to self-help actions, and to lend moral and material support to educational sites.

■ *Devolution and decentralization*

Decentralization and devolution are recognized today as administrative practices and strategies that can increase the relevance of the education system in the eyes of users and partners. For multigrade classes, decentralization can, for example, favour the implementation of programmes that take account of the specific cultural character of the immediate environment, including the choice of language of instruction. In small rural schools, children can begin their schooling in their mother tongue and subsequently move on to use the language of instruction.

In systems where provision of schooling in rural areas is a priority and where there is a large-scale national plan that includes multigrade teaching, forming clusters of small schools makes it possible to set up a school council consisting of teachers, parents and local authorities. These councils can receive assistance from an NGO and be overseen by a system of school boards at the district, provincial or national level.

Their role is, in general, to help execute the programmes and attain the goals of education, and more especially to:

- formulate budgets and control spending;
- forecast staff promotions, transfers and growth; and
- encourage interaction between schools and communities.

Making schools serve the needs of pupils and communities, easing the central education authority's difficulties in administering large numbers of pupils, pushing democratically for the involvement of many

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partners – all of these are good reasons for having many procedures performed at the provincial or local level (devolution) or delegating responsibilities that are incumbent on the central education authority (decentralization, entailing the transfer of responsibility, of decision-making power and of financial resources).

Decentralization cannot be brought about abruptly; rather, it needs to be channelled and controlled so as to avoid undesirable effects. Its effectiveness depends on the development of local management capacities that may be lacking in poor rural environments: large projects set up with the aid of international development co-operation generally include a capacity-building component for staff and partners. Partnership is another method used, for example with an NGO working locally.

It is probably in the context of decentralization that schools, or educational sites, will be able to meet the expectations of improvement of educational quality as part of the EFA mechanism, as long as local efforts are encouraged by steady support from the educational authorities.

Impact on costs

It must be recognized that data on the costs of multigrade teaching are very scarce: this is probably due to the fact that such costs are largely invisible, but also to researchers' lack of interest in the question. The costs are often hidden; they are unique to each situation, as in each case one must factor in what is available on site and the impact of construction, maintenance, teachers' wages, etc. and it is not easy to draw general conclusions from the results.

We have only theoretical models or indications as to the costs of implementing large-scale operations such as the *Escuela Nueva* project in Colombia, which are detailed in a World Bank technical paper (Thomas and Shaw, 1992). However, such studies are indicative of trends.

The Escuela Nueva project

Unit costs per pupil are 5 to 10 per cent higher than in traditional schools. This difference is mainly attributed to heavier spending on textbooks, materials and teacher training (Thomas and Shaw, 1992).

However, several positive aspects may be mentioned in favour of the new schools:

- the rate of repetition is 6.7 percentage points lower than in traditional schools;
- although the drop-out rate in first grade is slightly higher in new schools, the rates for grades 2-5 are on average 7.6 per cent lower than those in traditional schools. These results are particularly surprising in that the pupils in these new schools are children presenting a higher risk of repetition and drop-out than children attending conventional schools;
- the teaching methods used also led to significantly higher scores in mathematics and Spanish as well as improved social behaviour.

As a result, although the expenditures incurred lead to slightly higher unit costs per pupil, the unit costs per pupil who completes the cycle are lower. The multigrade option adopted becomes profitable if the improved academic performance is factored in, as well as the broader coverage provided by the education services.

The authors conclude that it is the combination of these factors that makes the *Escuela Nueva* model a viable option for provision of education services in Colombia. They emphasize, however, that in other contexts the costs involved will have to be calculated according to the characteristics of the region or country concerned, although cost savings can indeed be expected.

The costs of the new school vary with the potential of each region to develop its infrastructure and according to the level of skills and expertise already present on the ground. They should be viewed in the perspective of the opportunities for improvement offered by the programme (*Box 9*).

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Box 9. Opportunities for cost savings through reduction of repetition and drop-out

The quality improvements associated with multigrade schools – fewer repetitions and drop-outs – bring considerable cost savings per completer. Research in Colombia, for example, has shown the difference between multigrade new schools and monograde rural schools (Schiefelbein, 1992):

Colombia: repetition and drop-out (%), 1987

Indicator	<i>Escuela Nueva</i>	Monograde rural school
Repetitions	47.2	53.9
Drop-outs, grade 1	10.5	8.6
Drop-outs, grade 2	5.1	9.3
Drop-outs, grade 3	2.9	7.8
Drop-outs, grade 4	0.7	7.9
Drop-outs, grade 5	-3.0	11.1

Rates of repetition in new schools are lower than in comparable monograde schools. Although in new schools there are more drop-outs in grade 1 than in monograde schools, there are much fewer in grades 2 to 5. (The number of dropouts was negative in grade 5 of the new school; more pupils were enrolled in this grade at the end of the school year than at the beginning.)

To recapitulate, new schools display a 12.4 per cent decrease in repetitions, and an overall reduction of 1.2 per cent in drop-outs. Thus, new schools get more pupils all the way through the system at a faster pace than comparable monograde schools.

Source: Thomas and Shaw, 1992.

The adoption of a minimalist strategy based on the positive discrimination measures mentioned above (smaller number of pupils per class than in urban schools, salary bonus, provision of staff housing, etc.) unquestionably leads to additional expenditures, which often lead

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in turn to reallocation of available funding within the budget and efforts to raise fresh funds.

What costs should be taken into consideration?

Planners should conduct a few additional investigations in order to be in a position to justify the decision to use multigrade teaching.

These investigations mainly relate to:

- identification of the costs that are specifically attributable to multigrade teaching;
- investments: fewer classrooms are needed, but they must be larger than conventional classrooms; easily movable furniture to allow a variety of classroom configurations; other minor facilities, such as having a blackboard for each grade taught; increased storage and cupboard capacity for both teachers and pupils;
- operating costs and recurring costs: supply of essential teaching materials for working in groups; support to teachers; radio broadcasts; travel expenses for cluster principals;
- breakdown of expenditures according to who pays for what (unit cost is determined without making assumptions as to the contribution of the various entities that contribute financially: central government, regional and local governments, parents, NGOs and international aid).

Analyses have shown that while there are slightly fewer pupils, the unit costs per pupil and per year are somewhat higher. When the rates of repetition, drop-out and completion are considered, however, this indicator is reversed.

Another aspect to be considered is that of social costs, which are rarely taken into account. These costs include:

- transport costs borne by families and/or fatigue due to the long distances pupils are forced to travel;
- productivity is lower in the short term because children are in school, but it falls in the medium term if they do not go to school;
- community pressure to establish or maintain a school.

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Such investigations, whose findings must be expressed in monetary terms (including for social costs), will allow enlightened decision-making and informed choices among the various solutions available.

The inventory below, drawn from the World Bank study (Thomas and Shaw, 1992), proposes a list of the various spending items apt to be taken into consideration for a cost assessment when a multigrade teaching campaign is planned in a given region. Note that this is a cost estimate, not a breakdown of funding according to the paying entities: national, regional or local government, parents and outside aid sources.

Initial investment:

1. Preliminary studies: school-mapping process, local surveys;
2. Information and awareness-raising campaign to bring stakeholders on board;
3. Construction or renovation of schools (classrooms slightly larger than in conventional schools);
4. Basic facilities:
 - furniture: shelves, teachers' desks, cupboards, movable tables and chairs for pupils,
 - additional blackboards, bulletin boards, copying machines,
 - initial allocation of textbooks and teaching materials, radio;
5. Construction of teachers' housing, if applicable.

Recurring costs, operating costs:

1. Teachers' salaries and, if applicable, bonuses;
2. Upkeep of classrooms, furniture, facilities;
3. Training of teachers and administrators:
 - initial training programme,
 - in-service training programme;
4. Administrative support and supervision of teachers;
5. Replacement of supplies, textbooks and library books;
6. Radio broadcasts and educational journal.

Such studies should once again be supplemented by a comparison with the cost of implementing a conventional educational structure.

As an example, the World Bank study compares the cost of two options: a traditional school with six classes, and a multigrade school with three twinned classes, each option accommodating 105 pupils spread over the six elementary grades. This theoretical comparison leads to the following conclusions (*Table 2.2*):

- in theory, the multigrade option holds the potential for savings on investment costs and recurring costs;
- investment costs are lower because the multigrade school has only three classrooms (although they are larger) whereas the monograde option has six. However, the multigrade school requires a larger investment in bookcases and furniture. As a result, the fixed cost per pupil is 31 per cent lower than in monograde schools;
- the recurring costs of the multigrade option are also lower, as the multigrade school uses three teachers whereas the monograde school has six: teacher-related costs are thus lower, even when a higher salary is factored in. Maintenance costs are proportional to construction costs, and thus also lower for the multigrade option. Only the costs relating to books and consumable supplies are higher for multigrade schools. In sum, the recurring cost per pupil is claimed to be 30 per cent lower in the multigrade school than in the monograde option.

Table 2.2 Cost comparison: multigrade and monograde options

	Start-up costs	Unit cost	Traditional option six grades		Multigrade option three levels	
			Number	Total cost	Number	Total cost
1	Construction of normal classrooms	22,000	6	132,000	0	0
2	Construction of large classrooms	26,000	0	0	3	78,000
3	Construction of an office/a library	17,000	1	17,000	1	17,000
4	Textbooks	5	209	1,047	209	1,047

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5	School library	700	1	700	1	700
6	Class library	350	0	0	3	1,050
7	Blackboard	85	6	510	6	510
8	Bulletin board	65	6	390	3	195
9	Duplicating machine	60	3	180	3	180
10	Shelves	300	6	1,800	6	1,800
11	Locking cabinets	500	6	3,000	6	3,000
12	Conference table	450	0	450	4	1,800
13	Movable desks and chairs	80	105	8,378	105	8,378
14	Office supplies	2,000	1	2,000	1	2,000
15	Total fixed costs			167,455		115,660
16	Fixed costs per pupil			1,599		1,104
17	Teacher (per year)	1,400	6	8,400	3	4,200
18	Salary supplement for multigrade teachers	140	0	0	3	420
19	Upkeep (5%)			8,231		5,599
20	Books and supplies (every 3 years)			577		923
21	Total recurring costs			17,208		11,142
22	Recurring costs per pupil			164		106

Source: Thomas and Shaw, 1992.

This is a theoretical example of the areas in multigrade programmes that are likely to yield cost savings; planners should carry out their own cost studies in their own specific contexts.

In fact, the real problem is often not costs, but a lack of political will: in rural areas with scattered human settlements in many developing countries, the alternatives are not multigrade school or conventional school, but rather multigrade school or no school at all.

III. Means of extending educational provision in rural environments

When we think about multigrade teaching, we necessarily place it in the broader context of sustainable development and the problems of regional development in rural areas with scattered human settlements, or in isolated and hard-to-reach regions.

Schooling in such areas goes hand in hand with health, road construction, communications, etc. and faces similar problems of organization. It is not an exception that can be examined in isolation from its context. For all these services, but for some schools even more than the others, the standard of reference is still very often the urban model.

The urban model of schooling is characterized by the specialization of educators and the increasing differentiation of tasks that underpins the way a teacher's work is organized. These principles – increasing specialization and differentiation of tasks – have a great influence on the organization of primary education. To deliver the minimum level of attainment expected, primary education is divided into annual increments spread over 5 to 10 years, depending on the country, which means the pupil must pass five to ten grades in order to leave the primary education system a winner. Textbooks and other teaching materials have been prepared with this in mind. Teachers' tasks are organized in accordance with a given pupil-teacher ratio per class, which ranges from under 24 pupils per teacher in some countries to over 80 in others.

In urban or densely populated areas, this structure makes it possible to group a large number of pupils in single-grade classes in a single school. The system is straitjacketed by a set of regulations concerning the number of pupils, the duty schedule of teachers, school hours and programmes of instruction. It is also constrained by the corporatism of the teaching force.

The problem is that sparsely inhabited areas, and particularly rural areas, do not fit this pattern, owing, among other things, to the insufficient numbers of pupils.

In the north, education in rural areas is very different from the urban model; very often, educational methods have adapted to this environment (influence of the 'free school', multigrade classes, specific teaching materials, etc.). In the south, however, the difficulties involved in adaptation are compounded by the shortage of resources: teachers with little or no training, unsuitable premises, insufficient teaching materials, rarely seen supervisors, etc.

Multigrade classes, though unavoidable, do not necessarily constitute a stable, lasting structure in all developing countries. Population pressure and increasing demand for education (which are causing the proliferation of community schools), as well as progress towards gender parity as girls' school attendance rises, are pushing school systems to institute the urban model with single-grade classes as soon as possible, under pressure from government, teachers and parents to conform to this model, and nearly always with the handicap of being under-equipped.

Where political will is lacking, multigrade teaching is often merely a temporary, stop-gap solution, based simply on observance of the established standards for teacher-pupil ratios, and adopted pending the establishment of schools offering a complete primary education.

Schools with small numbers of pupils are inevitable in thinly populated rural areas. When the population density of rural areas is high, as it is in some areas of sub-Saharan Africa, multigrade classes are primarily a temporary solution: most of the schools that establish such classes are destined to become complete schools with single-grade classes. As and when school enrolments increase, other multigrade classes will be opened in new areas, and not until rural areas with a low population density are actually included in programmes aimed at achieving universal compulsory schooling will the multigrade class system be seen as a realistic and permanent solution.

For planners, resorting to multigrade teaching in a context of regional development and severe shortages entails considerable analytical, forecasting and school-mapping work.

Leaving multigrade classes, which are often started through local initiatives, in their current state and seeking exclusively to address the structural problems of incomplete schools is no solution, and all authors of works on the subject agree on the need to formalize multigrade teaching so as to make it a real alternative to the usual system.

To this end, will it suffice merely to make a few adjustments to curricula and teacher training, to organize clusters of schools and a travelling inspection team, or will it be necessary to create a whole new system from scratch (like the *Escuela Nueva* in Colombia), with its own structure, programmes, increments and textbooks?

To answer this question, a systemic approach must be employed.

Proposed methodology

The systemic approach is an analytical methodology that makes it possible to influence a given educational situation, considered as an autonomous system, by acting on one of its constituent parts which is in interaction with all the others (*Box 10*).

Box 10. The systemic approach

The systemic approach requires planners first to identify the problem to be resolved (in this case, how to develop a policy to increase school attendance in rural areas of a given country), and second to spell out the objectives to be attained, in quantitative and qualitative terms as well as the time frame projected.

In each country these objectives will depend on the political will and the resources that can be mobilized.

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The next step is to conduct as complete an inventory as possible of the resources and the constraints impacting the achievement of these objectives, and then to determine the crucial buttons to push at the various levels of the system (central and provincial government, educational site, and their respective environments), so that all those involved in the education system, regardless of their level of responsibility, will be concerned and motivated to become involved in the action.

Each component of the system is in interaction with the others. Each resource may become a constraint, and vice versa. For example, if parents are not convinced that schooling is worthwhile, they constitute a major obstacle, whereas if they enter into a partnership with the school system through PTAs, they become a resource.

Lastly, it is necessary to lay down criteria for evaluating the success of the action over the course of its implementation.

If the quality of multigrade teaching is envisaged as the depth of the water contained in a wooden tub made of staves of different heights, it is obvious that the quantity of water contained in the tub will be determined by the height of the shortest staff. If each staff represents a factor that influences the improvement of educational quality, the planner needs to consider which one constitutes the limiting factor in order to attack the problem from the most promising angle: if the shortest staff were lack of political commitment, there would be no point in working on the 'curricula' or 'staff training' staves.

To identify the factors which can profitably be addressed as a matter of priority, we will consider two levels of the education system in turn: first, the level of the central education authority; and second, that of the educational site, i.e. the school or cluster of schools.

For each level we will distinguish between the factors which can be influenced in the short term without major additional spending and medium-term actions that require the mobilization of additional, more substantial resources.

Proposed measures at central level

A clearly defined regulatory framework is essential so that educators can respond to a clear stimulus from the central educational authority, relayed by supervisory staff (inspectors, headteachers and principals). Lacking such a stimulus, it would be wholly unjustified to place the onus for negative perceptions of multigrade classes on teachers.

The regulatory framework should not be limited to setting the conditions under which classes and schools should be established or closed, but should make the one-teacher primary school and the multigrade class a legitimate form of elementary education, specifying the types of instructional, organizational and administrative support provided at the various levels of the education system.

Five particularly rewarding areas for action are considered below:

- administration, management, regulation;
- curricula;
- teacher training;
- teaching resources;
- infrastructure and investment.

Administration, management, regulation

■ *In the short term*

It should be possible, without major expenditure, to establish a certain number of standards, procedures and practices specific to multigrade teaching, or to make the existing regulatory framework more flexible, particularly as regards:

- thresholds for forming and closing multigrade classes;
- pupil age limits on entering the different levels;
- evaluation of pupils and laying down the criteria for graduating to the next level;
- extent to which school hours can be adjusted;

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- consideration of the special nature of multigrade teaching in inspection reports and scores;
- reaching out to the community and the role of parents.

Some regulatory instruments could be applicable to all multigrade classes. Others, aimed at introducing more flexible practices concerning the range of school hours, scheduling, and even the pedagogical structure of the school, could initially be applied more restrictively, and could be presented as the first step towards exemption, applying only in certain geographically defined districts by way of a preliminary experiment.

Such regulatory action serves no purpose, however, unless inspectors and advisers simultaneously give priority to small schools – a priority that should be reflected in their schedule of school visits.

■ *In the medium term*

It is recommended that, along the lines of what was done in Latin America and Asia, an operation to group small isolated schools into clusters be gradually undertaken. In Africa, this process has only just begun; for example in Burkina Faso, where ‘satellite schools’ are linked to a ‘central school’.

These groupings should be reflected in the statistical system to make the school cluster a basic unit as important as the individual class.

The issue of whether it is appropriate to set up a dedicated unit within the central government department responsible for elementary education and create a budget item specifically for rural education should be judged on a case-by-case basis.

Programmes and curricula

■ *In the short term*

Official instructions could be so worded as to leave the educational site considerable room for manoeuvre. For example, teachers could

be encouraged to downplay the dogmatic aspect of their teaching, which leaves little room for initiative and for pupils' assumption of responsibility for their own learning process, in favour of more activity-oriented, inquiring methods based on experience and curiosity, and to introduce a variety of activities.

Teachers might, for example, be encouraged to introduce certain activities that are not geared solely towards knowledge acquisition, such as play (games for the senses focusing on audition, vision or bodily awareness, or emphasizing graphic elements to develop pupils' attention and ensure that their acquired knowledge will be better structured) or exploratory activities (working as a team on an agricultural project, or training in the use and maintenance of tools and machines used in the community).

Methodology suitable for peer coaching (in which an older pupil tutors the younger ones) should be encouraged and should form the subject of research and experimentation by educational research institutes.

■ *In the medium term*

The involvement of teachers and parents could be sought for the implementation of subject-specific measures, e.g. in the form of a major plan intended to rally support (a reading plan, a plan for science teaching, etc.).

The longer term could see the implementation of programmes that have been re-engineered with rural education in mind, following the model of the large Latin American projects, with a direct linkage to the publication and distribution of new textbooks and other written materials.

Teacher training

■ *In the short term*

A first series of low-cost measures can be taken within the framework of *in-service training* for serving personnel. An appeal to

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existing providers of training (training centres, educational research institutes, universities, teacher supervision staff) should yield the following:

- remote support for teachers, and possibly for pupils, in the form of a regular radio broadcast (at least once a week initially);
- the introduction of a training module on multigrade classes in the training course for primary school principals;
- mobilization of supervisory officials (inspectors and advisers) to take advantage of their visits to schools to promote a pooled collection of teaching materials, group teaching methods, and independent work by pupils;
- the organization of professional development seminars for teachers of multigrade classes, including a component in which they produce a written teaching aid (a documentary background sheet, a lesson plan, etc.), with a view to putting it to use in the future;
- publication of fact sheets and guides specifically for multigrade teaching, and their distribution to teachers; and
- exposure for multigrade classes in existing communication tools (educational journal, conferences, etc.).

In addition to training, a series of measures could be taken to maintain and/or increase the motivation of rural teachers: providing access to a means of communication (newspaper, telephone, radio etc.), taking into account service in a one-class school to allow for faster promotion, paying teachers a bonus, providing staff housing or a housing allowance, etc.

Giving priority to the assignment of couples of teachers to schools with more than one class is apt to promote greater stability in the teaching force.

■ *In the medium term*

Modules on multigrade teaching – either optional or mandatory – could be introduced in the *initial teacher training* curriculum dispensed by training centres. Examples of such modules appear in *Appendix 3*.

Teaching resources

The introduction of teaching resources, and in particular written materials (textbooks, teacher's guides, lesson preparation cards, wall charts), is probably the most relevant, effective and rapid means of improving educational quality today.

■ *In the short term*

For teachers, a generous allocation of existing textbooks and reference works (e.g. dictionaries) can constitute a valuable beginning for a resource centre. For pupils, a travelling library can be organized at district level.

Production of written materials by the teachers themselves can be encouraged.

Radio can be used to overcome the isolation of multigrade teachers, to offer them distance education to help them prepare for professional examinations, and to guide the production of their own written materials. In the interactive form described above, radio would also make it possible to address pupils directly in order to provide instruction in a given subject.

■ *In the medium term*

The modules and other materials produced by teachers in their further training sessions, as well as a selection of other materials they have prepared on their own, could be collected in a databank. The accumulation in the databank of content and aids for certain activities could serve as the basis for context-specific teacher's guides, workbooks for pupils to accompany the textbook in use nation-wide, or even textbooks specifically for the rural context, adapted to the rural environment and validated through previous experimentation.

It is logical to plan as well to build a documentary network with an educational research institute serving as the anchor. This network would give priority to serving the most remote schools for the purposes

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of providing information to teachers, scholastic and vocational guidance, and teaching resources and methods.

Infrastructure and investment

■ *In the short term*

The central education authority can guide local investment in the construction of new classrooms by developing standards and stock plans for the construction of multigrade schools, or even by supplying certain construction materials that are difficult to obtain in the locality concerned.

■ *In the medium term*

A programme to build schools designed and equipped for multigrade teaching (larger classrooms, movable furniture, several blackboards, storage units, etc.) could be drawn up and implemented over time in accordance with school-mapping forecasts.

Proposed measures at the level of the educational site (school or cluster)

It would be pointless to request a special effort of the principals of small schools or of teachers who are often poorly qualified, isolated and left to their own devices if the central education authority has not previously defined a regulatory framework for multigrade classes. Only within such a framework, or within a given project and network, will it be possible to ask teachers working in rural schools to furnish an extra effort. The reason is that recognition of rural classes, the setting of overall objectives and improvement of the daily operations of administrative departments constitute the preparatory spadework required to encourage teachers to take any initiatives.

Provided that such a framework exists, teachers could, at the level of their educational site (small rural school or cluster), introduce a number of innovations.

Means of extending educational provision in rural environments

■ *In the short term*

Concerning *teaching methods*: practice with group teaching methods and peer coaching (where older children help the younger).

Concerning *teaching materials*: when textbooks, teaching aids and learning materials are lacking or in short supply, the immediate environment of the school will always provide practices and objects that can be used for an educational activity, and the teacher and pupils themselves can produce learning materials. For example it is possible to gradually build up a number of collections (rocks, butterflies, botanical specimens etc.) that will serve as a basis for study of the environment, or to conduct surveys on the technological objects and know-how of the social environment (means of measurement and transport, the practices used in agriculture and skilled crafts, etc.) with the co-operation of the local population.

If teachers can receive advice from a supervisor or remote assistance by radio, they may be encouraged to produce the learning materials for certain activities on their own (plan of the village, maps, puzzles and educational games, exercises for independent or group work, pre-prepared wall charts, etc.). These aids can be re-used from one year to the next. A competition could even be organized to reward the best efforts.

Concerning *school premises*, pupils can be arranged within the classroom in such a way as to favour working in groups, whereas the traditional arrangement, in which all the pupils face the teacher, reinforces the dogmatic aspect of teaching. For example, two-thirds of the pupils can be seated in an arc facing the teacher, while a group of pupils works in each of the two corners at the back of the room; or the class can be arranged in three triangles, with a group seated in each and facing one of the classroom's four walls, etc.

Concerning *the number of pupils*, dividing the class into groups is an inherent feature of multigrade teaching: a multigrade class must be divided into groups by grade. If there are six grades, there will be at most six groups, each working on a different activity: at a given moment, group A may be working independently on documents, group

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B doing a supervised exercise, groups C, D and E attending a technology lesson conducted by the teacher, and group F outside the classroom under its own responsibility for a physical activity or sport.

Concerning *the use of time*, it has been noted that school premises are used only about 6 hours per day and 180 days per year, or only one in every 2 days. In collaboration with PTAs, supervised study periods could be arranged after class. Similarly, support activities for the least able pupils (help with learning their lessons and doing homework) could be organized at the initiative of the PTA, which might call on the services of an educated retiree or a former pupil.

Concerning *use of the resources from the immediate environment*, it would be advisable to take stock of these resources with an eye to creating a few arrangements or entities that would participate in the school's activities and help it exert a wider influence in the community:

- parent-teacher associations;
- appeal to resource persons who are able to take responsibility for certain activities (supervision; productive activities such as a plant nursery, garden or henhouse; help with schoolwork in exchange for help with work around the house);
- partnership with associations of shopkeepers and local businesses, etc.

■ *In the medium term*

When the innovations and measures mentioned above have been carefully tested, with the approval of parents and the community, they can be combined into structured mini-projects with clearly stated goals.

Such mini-projects will concern actions such as:

- cautiously introducing productive work as part of the process of establishing a school co-operative fund;
- adopting the so-called 'centres of interest' method, leading to the use of activity-based methods and outreach to the community;
- establishing a supervised study period;
- founding an 'alumni' association of former pupils.

Means of extending educational provision in rural environments

In addition, schools should be requested to produce a study for a more ambitious overall *school project*, with stated targets for improvement in the quality of instruction (reduction of absenteeism, increased pass rate, reduction in girls' drop-out rate and so forth).

The implementation of such school projects leads, in most cases, to the creation of a *school council*, in which stakeholders, local officials and resource persons meet to consider the school's problems, and a *management committee*, responsible for purchasing books and supplies and managing the school co-operative fund, the library, revenue from productive work, the school canteen, etc.

Implementation strategies

It is absolutely not intended that the measures and innovations described above should be implemented immediately and in their entirety. As the French proverb puts it, "pulling on all the threads at the same time won't untangle the knot". The aim is emphatically not to introduce all these innovations at the same time, but to choose precisely the right measure to start untangling the knot.

The central education authority will obviously base its choice of which measures to take on the particularities of the country as a whole, but it is the specific features of the local environment that will determine whether a given innovation can be introduced in a given educational site.

The action plans which are to be developed and implemented as part of the EFA process should list the measures to be taken, but should at the same time initiate a process in which each step paves the way for the next.

Initiating a process often means experimenting beforehand, so as to check on criteria relating to geography and the availability of human resources (presence of an enterprising school inspector, rural development project, etc.). A co-ordinator should then be appointed at the central level, and another one at the level of the outlying

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department closest to the educational sites concerned (e.g. inspection district, devolved administrative authority). In the case of rural education, initiating a process also means providing, at the outset, a guidance tool that can counteract teachers' isolation and make up for the lack of supervision: a weekly programme, 30 minutes to an hour in length, broadcast by the closest local-interest radio station, would seem to be a minimum in this respect.

Three basic options are detailed below to serve as benchmarks: minimal, mid-range and maximal options corresponding to three time horizons (the short, medium and long terms). Many other options are available, of course, and it is also possible to advance from one option to the next.

The first option (minimal, for implementation in the short term) aims at improving the existing situation (through a relative increase in the enrolment rate and the quality of provision) with a minimal investment of resources. In this case, multigrade teaching is regarded as a provisional solution, adopted for a limited time and not worth substantial investment. The option is therefore limited to provision of minimal support to existing multigrade classes.

The second (mid-range) option aims at substantially raising enrolment rates and improving quality over a longer time horizon by making adjustments to the conventional national education system to take account of the specific character of the rural environment. In this case, precise quantitative targets should be set for the development of primary schooling in rural areas. If necessary, external aid could be requested within the EFA framework for the investments needed to implement a national plan. A special regulatory framework should be developed as and when the reforms concerning educational practices are adopted, and a school-mapping study undertaken in order to group small schools into clusters.

The third option (maximal, for implementation over the long term) is in line with a regional development policy and aims at the implementation of a comprehensive reform to foster both equal access to education and rural development. This option involves the development of a truly national plan with dedicated programmes,

special teaching materials, special training (initial and continuing) for teachers, and mobilization of many different sectors. With assistance from international co-operation agencies, the project can take on a sub-regional scope.

Table 3.1 summarizes the measures proposed at the level of the central education authority and at the level of the educational site (school or cluster) for the first two benchmark options. The third option does not appear in the table as it may be regarded as an outcome that, owing to its scope and impact, requires specific study in each country concerned and is a matter for overall government policy-making.

Table 3.1 Summary table of proposed measures

Central level	Educational site level
MINIMAL OPTION	
Regulatory framework (standards, flexibility)	Group teaching, peer coaching
Support and further training for teachers	Self-production of teaching materials
Instruction by radio	Contributions by parents and the community
MID-RANGE OPTION	
Written aids for teachers and pupils	
Dedicated unit to support and monitor rural education	Partnerships with local stakeholders
Adjustment of curricula	Implementation of a school project
Initial and continual training for teachers	
Teacher's guides, materials for pupils' activities	
Radio support for pupils and teachers	
Positive discrimination measures to motivate teachers	

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Formation of clusters of small schools
and school mapping

Requesting assistance under the EFA
process

Research programme

Project assessment

Project assessment

The case of Africa

The countries which could most naturally follow the path we have sketched here, implementing the three proposed strategies in succession as the expected advances in school enrolments are made between now and 2015, are undoubtedly the African countries.

In most countries of sub-Saharan Africa, multigrade teaching does not have a positive image and is rather rarely used. In view of these countries' rapid population growth, priority has hitherto been given not to establishing new schools, but to forming new classes in existing schools so as to offer a complete primary programme. For example Senegal's national EFA action plan, finalized in 2002, contains no measures concerning multigrade teaching but plans to transform many incomplete schools into complete schools over the next decade.

Even where multigrade classes are legal and recognized, they are often regarded as temporary and have no clearly determined status. Some countries, such as Benin and Togo, prefer to establish three-class schools in rural areas, with twinned classes of 60 or more pupils. In Equatorial Guinea, as we saw in *Chapter I*, multigrade classes can contain as many as 120 pupils. The alternatives that have been adopted, such as multi-year recruitment, are not satisfactory either, and the solutions used in the north (transport by school bus, distance education, etc.) are not suitable as they require infrastructure and resources that are not available in African countries.

Often, when the educational authorities are unwilling or unable to foot the bill for establishing new schools in rural areas, local communities take the initiative of financing and running small schools

Means of extending educational provision in rural environments

beginning with a single class, known as ‘community’ schools, ‘spontaneous’ schools or ‘local initiative’ schools.

Even if sub-Saharan Africa is undeniably far behind in expanding access to schooling in rural areas and in implementing the EFA programme, does this mean it is necessary to revive multigrade teaching in the region? The planning departments of the seven countries that participated in the IIEP/Résafad seminar in April 2002 replied “yes” to this question (see *Appendix 2*).

The study which has just been conducted and the lessons to be drawn from upcoming experiments can be an asset for the future, since, regardless of the continent or country concerned, in the north or in the south, the issue of whether to maintain small schools will arise sooner or later. The trend in multigrade teaching over recent decades has shown that this mode of education has remained an inescapable necessity: today, some 30 per cent of all primary school classes in the world are multigrade classes.

Even the success of EFA plans will not eliminate the need for multigrade classes; to the contrary, it will eventually confer legitimacy on them. In view of the inertia of education systems, it is not too late to prepare for this eventuality.

Conclusion

The overview of multigrade classes during the last half of the twentieth century shows that one-class and/or one-teacher schools have, in both developed and developing countries, and on all five continents, constituted a widely used strategy for maintaining or introducing primary education in rural environments and sparsely populated areas.

Even today, as the twenty-first century begins, it is estimated that nearly half the schools in the world include multigrade classes: this means that multigrade teaching, though not always recognized and legalized, is more highly developed and more widely found than is generally thought. In fact, despite its apparent invisibility to educational administrators, multigrade teaching, far from disappearing, is destined to undergo further development in some situations in order to contribute to the expansion of educational provision.

The decision to maintain multigrade classes or the deliberate choice to establish small one-class schools is made out of economic and educational necessity – in a great many cases, the choice lies between multigrade schooling and no schooling at all. Multigrade classes are not a stopgap solution, but in fact are the only solution that allows provision of schooling in certain areas.

What is the price of success for this solution?

It emerged from the overview that multigrade classes have made a positive contribution to national efforts to achieve universal primary education when three essential conditions are met:

- the first has to do with central government commitment and the mobilization of local communities, both of which must be strong and clearly affirmed. Although some powers have been transferred to local government in the current context of decentralization, this does not mean the end of all state intervention, as many decisions must still be taken at the highest level;

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- the second concerns the motivation of teachers, fostered and encouraged by oversight by supervisory personnel and (probably more than by an in-service training initiative) by the establishment of a communication system designed to overcome the isolation of such teachers;
- the last concerns provision of teaching tools – notably textbooks and teacher’s guides – as well as minor learning materials for group activities within the class.

It must be strongly emphasized that multigrade teaching will make a valid contribution to educational provision in sparsely populated and thinly settled rural areas only if it represents a true alternative that is recognized and structured by planning departments. Lacking a sustained policy and ongoing support measures, teachers very quickly lose interest, performance drops, and multigrade teaching soon loses all credibility.

Where the multigrade option succeeds, however, it is often recommended that the methodologies used in multigrade classes be employed in schools offering a complete primary curriculum with one grade per class; a notable example is the practice of working in sub-groups when classes have a large number of pupils, as is increasingly common in urban areas.

In addition to these three keys to success, we should perhaps mention a fourth: active involvement of international educational co-operation, which has succeeded not only in mobilizing national forces and assisting them financially, but also in giving projects a considerable sub-regional scope.

As shown by the experience of developed countries, universal primary education can be achieved in sparsely populated rural areas only through multigrade teaching. With the Education for All programme, developing countries will sooner or later have to face up to the same set of issues if they wish to avoid an absence of provision in certain regions. It is time to get to work on this problem, in particular by starting immediately to train the officials who will be called on to guide the development of rural education and the teachers who will be called on to deliver multigrade teaching.

Conclusion

The stakes are very high.

Lastly, it must be emphasized that the education authorities alone cannot resolve all the problems involved, most particularly in thinly populated rural areas. Success will require the combined efforts of all concerned, since educational development and sustainable development are two sides of the same coin.

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Appendices

The first two appendices contain two sets of recommendations made 40 years apart:

- the first, published in 1961 by the International Conference on Education, stems from a survey of 69 countries, on all five continents, that had single-class schools and multigrade classes;
- the second, drafted in 2002 in the context of an IIEP/Résafad seminar, is the result of collaborative work on multigrade classes conducted by the planning departments of seven French-speaking countries in sub-Saharan Africa, a sub-region where multigrade teaching is neither widespread nor well accepted.

The similarities between these two sets of recommendations are highly instructive. In particular, multigrade teaching seems indeed to be as inescapable in sparsely populated rural areas today as it was 40 years ago. The Education for All programme aimed at achieving universal primary education will inevitably bring developing countries face to face with the same set of issues that confronted the countries of the north and will in short order induce those which have not yet completed their demographic transition to adopt multigrade teaching.

The third appendix presents a list of modules for training teachers in multigrade teaching.

No matter what policy directions and priorities are adopted with respect to rural education, nothing can be done without the human resources needed to ensure the success of the projects drawn up.

The volume concludes with a short list of bibliographical references. A more complete bibliography has been compiled by Tania Catz, in collaboration with the IIEP documentation service, for her review of all the literature on multigrade classes published since 1950. This review (Catz, 2002) can be consulted at the IIEP Documentation Centre.

Appendix 1

Recommendation No. 52 to the ministries of education concerning the organization of one-teacher primary schools (1961)

The International Conference on Public Education⁷,

Convened in Geneva by the United Nations Educational, Scientific and Cultural Organization and the International Bureau of Education having assembled on the third of July, nineteen hundred and sixty-one, for its twenty-fourth session, adopts on the thirteenth of July, nineteen hundred and sixty-one, the following recommendation:

The Conference,

Considering Recommendation No. 47 to the Ministries of Education on facilities for education in rural areas, adopted on the sixteenth of July, nineteen hundred and fifty-eight by the International Conference on Public Education at its twenty-first session,

Considering Article 26 of the Universal Declaration of Human Rights, which proclaims that free compulsory elementary education should be provided for all,

Considering that obstacles of many kinds must be overcome if children in small communities, without being separated from their families, are to enjoy educational facilities equivalent to those provided for children in larger centres,

Considering that in many countries the creation of one-teacher schools has made the development of compulsory education easier,

7. The 'Conférence internationale de l'instruction publique' became 'Conférence internationale de l'éducation' in 1978.

Considering that, in spite of the changes that have come about in some countries in the living conditions of small places and of the resulting decrease in the number of one-teacher schools, there are still millions of children attending one-teacher primary schools,

Considering that, in order to enable pupils to transfer, if necessary, to another primary school and to continue their education at post-primary level, the one-teacher school should be 'complete'; that is, it should comprise as many years' instruction as an ordinary primary school,

Considering that it is urgently necessary to convert incomplete one-teacher schools into complete one-teacher schools,

Considering that the complete one-teacher school still has great services to render, particularly in countries which are at present concerned with organizing their own system of compulsory primary education when the means of transport and communication at their disposal in some areas are still inadequate,

Considering that slight attention has generally been given hitherto to the study of problems of all kinds connected with the efficient operation of one-teacher primary schools,

Considering that, despite similar aspirations, countries in very different positions must reach varied solutions of the problems of the organization of one-teacher primary schools,

Submits to the Ministries of Education of the different countries the following recommendation:

Existence of one-teacher schools

1. Whatever the nature of his place of origin or his domicile, urban or rural, any child attending a primary school, whether this school has several teachers or one teacher, should receive the minimum of instruction necessary either to continue his studies beyond the primary stage or to enable him to receive additional training which

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will prepare him to fulfil his obligations as a human being and as a citizen.

2. When plans are drawn up for the extension of primary education or for the general introduction of compulsory schooling, very special attention should be given to the contribution which the complete one-teacher school system can make to the implementation of such plans.
3. When one-teacher primary schools are 'incomplete' in that the number of years' instruction provided is lower than that prescribed for other primary schools, it is important to provide other facilities for pupils in such schools to pursue their schooling without difficulty, taking into account local conditions.
4. In places where it is still thought that a school run by one teacher cannot provide more than a part of primary education, very intensive action should be undertaken to convince the education authorities and teachers that:
 - a) illiteracy has virtually disappeared in countries where a system of complete one-teacher schools has enabled the provision of instruction for all children;
 - b) countries in the forefront of educational development on a worldwide scale continue to use this system when transport or financial difficulties do not allow them to regroup pupils from small places in central schools, with or without boarding facilities;
 - c) in spite of its shortcomings, the complete one-teacher school offers undeniable advantages in three spheres: the educational (study of the local environment, group work, individual work, etc.), the human (family atmosphere, human relations and co-operation) and the social (extension of the school's influence and its contribution to adult education).
5. In newly developing countries and in insufficiently developed areas of other countries, where the provision of a one-teacher school is necessary, this school should serve as a centre not only

for teaching children but also for adult education and for the implementation of plans for economic and social development.

6. It is desirable that incomplete one-teacher schools at present in existence, as well as those which may be newly opened, should be converted as soon as possible, in accordance with plans drawn up in advance, into complete one-teacher schools, or even into schools with two or more teachers if the circumstances require it.
7. Complete schools in which two or three school years are grouped under each of the teachers facilitate transition to ordinary primary schools.
8. If incomplete one-teacher schools have to be retained owing to local conditions it is important that their pupils should be enabled to complete their primary education in a central school.
9. In countries where the tendency is to abolish one-teacher primary schools owing to population trends or in order to achieve a more efficient distribution of schools, it is desirable that before the intended rearrangement is undertaken the wishes of the local inhabitants concerned, particularly the parents, should be taken into account, as these people may be anxious to retain their school which is often their only centre of cultural and social life.

Administrative measures

10. In countries where the population situation and the way of life of small communities are changing rapidly, it would be advisable to revise periodically the regulations governing the one-teacher school in order to adapt them to the changing circumstances.
11. Although the conditions required for the opening of a one-teacher school vary considerably from country to country (number of inhabitants, too great a distance from another school, etc.) the authorities should be guided by two basic principles:

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- a) the opening of a school in any place should not be delayed until the number of pupils requires the presence of several teachers;
 - b) the regulations governing the opening of a one-teacher school should be flexible enough to facilitate the attendance of the greatest possible number of children throughout the country.
12. Every possible means should be employed to counteract the isolation of the one-teacher school, both for the teacher (special help from inspectors and advisers, professional literature, study groups, continuous contact with larger educational establishments etc.) and for the pupils (visits from school doctors, correspondence with other schools, school co-operatives, excursions, pupil exchanges, external examinations, etc.).
13. It is strongly recommended that a travelling library service be made available as widely as possible to one-teacher schools in order to provide for the needs of the teacher and the community as well as of the pupils; these schools should be helped, moreover, to acquire permanently a few essential books of reference.
14. It is desirable to set up, as part of the senior authority for primary education, an advisory body, whose task, in collaboration with other ministries or departments and with representatives of the teachers concerned, would be to study in all their aspects the problems involved in the operation of one-teacher primary schools.
15. The functions of this advisory and research body should comprise in particular:
- a) an objective and impartial examination of the advantages and disadvantages of the one-teacher school;
 - b) an investigation of means of remedying their disadvantages and of increasing their efficiency when their existence proves necessary;
 - c) a study of the financial, social, cultural, pedagogical, etc. aspects of the retention of these schools or of their conversion into schools with several teachers;

- d) the preparation of action to encourage the teachers and facilitate their task.

Educational measures

16. As a teacher in a one-teacher school has to deal with children of widely differing ages and with several classes, the number of pupils in this type of school should not exceed the number of pupils normally taught by a teacher in a primary school with several teachers; in fact, it should be lower.
17. Since it is impossible for the teacher in a one-teacher school to deal with all the pupils at the same time, the formation of groups as homogeneous as possible is essential, taking into account the children's ages, abilities and level of attainment.
18. Although the part played by the pupil-monitor in giving instruction has decreased in importance, the teacher and the pupils themselves may still benefit from the direct assistance of the more advanced pupils, which, in addition to the incentive it provides, also facilitates general class organization, lesson drill and the supervision of practical work, games, sports and open-air activities.
19. In a one-teacher primary school, the content of the curricula and syllabuses, like the number of years' schooling, should not be inferior to that provided in schools with several teachers, so that pupils from both types of school may have the same opportunity of undertaking further studies at post-primary level.
20. As the difference between one-teacher schools and schools with several teachers lies not in syllabus requirements but in the internal organization of school work, it is desirable to give particular emphasis, in instructions and suggestions for one-teacher schools, to the fact that these schools offer greater opportunities than other types of school for the application of certain principles of educational psychology, such as individual work and group work.
21. The preparation of teachers' handbooks for the teaching staff of one-teacher schools is fully justified; it is also advantageous to

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encourage educational reviews to make suggestions of direct interest to teachers in one-teacher schools.

22. Although there are material difficulties in the way of producing special textbooks for one-teacher schools, it is, however, desirable to place at the disposal of these schools audio-visual aids, sets of graded exercises, individual work cards and other instructional material suitable for group teaching.
23. The building provided for a one-teacher school should be designed in relation to the particular needs of this type of school; in order to facilitate simultaneous activities by different groups, it is desirable to provide additional work spaces or rooms so arranged that the teacher may keep all the pupils under his constant supervision; whenever feasible, land should be provided for gardening and rearing small animals.
24. The education authorities should concern themselves with the special requirements of one-teacher schools as regards furniture and equipment (desks, tables and chairs adaptable for children of different ages, the larger number of blackboards required by the teacher, etc.).
25. Problems concerning the one-teacher school should be the subject of educational research, the corresponding experimental studies being such as to advance the knowledge of learning techniques in general.

Teaching staff

26. In whatever type of establishment future teachers in one-teacher schools are trained, the length and standard of their studies should be the same as for those who are to work in a school with several teachers; this will furthermore enable teachers to be transferred without legal obstacle from a one-teacher school to a school with several teachers, rural or urban, and vice versa.

27. The study of problems arising in a one-teacher school can be helpful to all teachers preparing for primary education and should, whenever possible, be included in general primary teacher training.
28. Of equal importance to a theoretical knowledge of the organization of teaching in one-teacher schools is the provision, as part of teacher training, of opportunities for teaching practice in a school of this type; such experience will be of great value for future primary teachers in general.
29. The establishment of one-teacher pilot schools adapted to different areas may prove useful for certain countries; it would be an advantage for these schools to be attached to a teacher training establishment, so that they might serve both as demonstration schools for student teachers and as further training centres for teachers in service.
30. In view of the isolation of teachers in one-teacher schools, in-service training is even more necessary for them than for the staff of schools with several teachers; it is desirable to give them the opportunity of taking vacation courses, correspondence courses and courses by radio, of attending area conferences for teachers and of using travelling libraries.
31. In countries where teachers in one-teacher schools have received training of a lower level than teachers in other primary schools, action to promote the further training of teachers in one-teacher schools should aim at placing them on an equal footing with their colleagues in order to remove the differences which may exist as regards conditions of appointment, remuneration, transfer, etc.
32. In view of the difficulties of their task and of the extra responsibilities borne by teachers in one-teacher schools, it is desirable to improve their working conditions to the fullest possible extent; every reasonable assistance should be given to them as regards housing, medical supplies and necessary travelling expenses; it is also important to consider the possibility of granting them a head teacher's allowance, as is already the case in some countries.

International co-operation

33. It is highly desirable that specialists or teachers of wide experience in the organization of complete one-teacher schools should be invited to assist countries where this system is still imperfectly known and where it could help to solve the problem of the general provision of compulsory education.
34. Scholarship programmes should include awards for educators wishing to go abroad to become acquainted with the complete one-teacher school system or to improve their knowledge of its operation.
35. UNESCO, the International Bureau of Education and regional educational bodies, as well as professional associations of teachers, should promote and encourage the exchange of documents of all kinds (official regulations, reports, individual studies, films, textbooks, etc.) and the organization of professional meetings and seminars devoted to the study of questions concerning one-teacher schools (their establishment and operation, teacher training, timetable arrangements, appropriate methods, teaching material, audio-visual aids, etc.).

Implementation

36. It is important that the text of this recommendation should be widely diffused by Ministries of Education, the school authorities for the level of education most directly concerned, national and international teachers' associations, etc.; the educational press, whether official or private, should play a large part in the diffusion of the recommendation.
37. UNESCO regional centres, with the collaboration of the ministries concerned, are invited to facilitate the study of this recommendation at the regional level with a view to its adaptation to the special characteristics of the region concerned.

38. In countries where it seems necessary, Ministries of Education are invited to request the competent bodies to undertake certain activities, such as, for example:
- a) to examine the present recommendation and to compare it with the *de jure* and *de facto* situation in their respective countries;
 - b) to consider the advantages and disadvantages of implementing each of the clauses not yet in force;
 - c) to adapt each clause, should its implementation be considered useful, to the requirements of the individual country; and
 - d) to suggest the regulations and practical measures which should be taken to ensure the implementation of each clause examined.

Appendix 2

Recommendations by the participants in the IIEP/Résafad Seminar – Paris, April 2002

Findings

The establishment of multigrade classes, in which a teacher is responsible for several grades simultaneously, can make a decisive contribution to national EFA campaigns, particularly in rural areas or hard-to-reach places, but only if three vital conditions are met:

- the central government's commitment and the mobilization of local communities must be strong and clearly affirmed, in particular through a systematic policy of positive discrimination on the part of the national, regional and local authorities;
- teacher motivation, maintained through supervision of teaching methods, training and the establishment of a communication mechanism aimed at overcoming the isolation of teachers;
- allotment of educational aids – guides for teachers and textbooks for pupils – and small expendable learning materials for group activities within the class.

A. Proposals for the attention of national decision-makers

General recommendations

1. It is of particular importance that support for multigrade classes become an integral part of national Education for All plans. The establishment of and support for such classes should be the subject of strategies devised jointly by the ministerial departments

concerned and of regular consultations conducted through the regional and local levels.

2. Consideration should be given to whether it is appropriate to establish a dedicated unit to support and monitor multigrade classes.
3. The expansion of provision in rural areas, and most especially multigrade classes, should benefit from positive discrimination in terms of facilities and materials as well as staffing (teacher support mechanisms).
4. It is important to conduct campaigns to make the public aware of the problems and to get parents more involved in school activities.

Specific measures

5. It is recommended that, as part of the national school-mapping process, standards be set for the creation of multigrade classes.
6. Whenever possible, the formation of clusters of small schools around a central establishment (complete primary school or even a junior secondary school) should be considered, at the levels of both administrative and support responsibilities and allotments of teaching materials (e.g. travelling libraries).
7. It is recommended that special attention be given to the training of supervisory staff in the techniques of pedagogical and administrative management of multigrade classes.
8. It is necessary to provide for the gradual implementation of procedures for special training – initial and further training, face-to-face and distance training – for teachers assigned to multigrade classes, with, among other things, training modules devoted to techniques of group management and educational activities.
9. There is reason to envisage taking or strengthening incentive measures to retain teachers in these classes.

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10. Universities and educational research institutes should be encouraged to undertake multidisciplinary research to support the development of multigrade classes.

B. The role of regional and international co-operation

1. Regional and international co-operation should help to rehabilitate the status of this strategy for expanding provision by, among other things, placing it on the agenda of high-level international conferences and stimulating research and exchanges of ideas between countries.
2. It is particularly important that the institutions of the United Nations system become more involved in this strategy. The Association for the Development of Education in Africa (ADEA) could form a working group dedicated to provision in rural areas; the IIEP, for its part, should consider how to provide enhanced support to planning departments for the expansion of multigrade classes.
3. The highest priority should be given to developing national capacity specific to the multigrade approach and to the training of trainers, *inter alia* by identifying existing expertise and providers of training at the national, regional and international levels, and by organizing exchanges of experience and sub-regional and regional seminars.
4. Firm support should be given at sub-regional level to the joint development of training materials and teaching materials that can be adapted to the specific conditions obtaining in each country.
5. Comparative cross-country research projects should be launched on the impact of these classes on participation in school of various population segments, on their internal and external efficiency, and on their economic aspects and their link to economic development and the fight against poverty.

Appendix 3

Training modules for multigrade teachers (Birch and Lally, 1995)

The training modules in the nine fields selected are geared towards the following objectives:

- to turn out teachers who are familiar with multigrade teaching methods and undertake to apply them;
- to give the personnel who will be teaching in multigrade classes the ability to develop specific programmes, to teach and run these classes, to prepare and assess teaching materials;
- to train supervisory staff who are perfectly acquainted with teaching methods for multigrade classes and have the capacity to advise, support, inspect and generally perform their duties on the basis of criteria that are specific to multigrade teaching methods.

Within this framework, the proposed training modules are divided into nine fields:

1. The psychological and philosophical foundations of multigrade teaching
 - Study of the psychological foundations of multigrade teaching
 - Study of the philosophical foundations of multigrade teaching
 - Teaching multigrade and monograde classes: similarities and differences
 - Reflections on multigrade teaching
2. The school and its environment
 - Profile of pupils
 - Social context of the school
 - The multigrade school as a social organization
 - The community as an educational resource

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3. Techniques for developing specific programmes
 - Principles for developing programmes of study
 - Requirements of the national programme
 - Designing integrated programmes
 - Defining a programme for multigrade teaching
4. Teaching strategies
 - Preparation of lessons
 - Teaching procedures
 - Remediation and reinforcement strategies
 - Implementation of strategies
5. Class management
 - Learning conditions
 - Physical environment
 - Time management
 - Discipline
6. Resource development
 - Identifying and using human and physical resources
 - Developing multimedia teaching materials
7. Evaluation
 - Defining performance indicators
 - Evaluation methods
 - Teacher evaluation and self-evaluation
8. Problem-solving strategies
 - Discuss problems with administrators and the education authority
 - Cope with the constraints inherent in the context of multigrade classes: isolation, demand on the part of families
 - Managing strained situations
 - Development of job-related expertise
9. Further training in methods of multigrade teaching
 - Continued development of professional expertise is vital to ensure the sustainability of a work setting such as this.

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Inquiries about the Institute should be addressed to:

The Office of the Director, International Institute for Educational Planning,
7-9 rue Eugène Delacroix, 75116 Paris, France.