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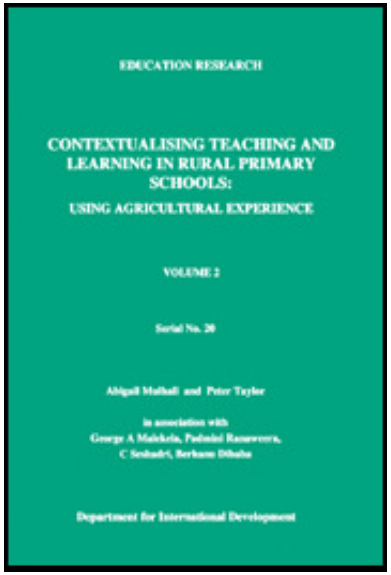
Contextualising teaching and learning in rural primary schools: Using agricultural experience - Volume 2 - Education Research Paper No. 20, 1997, 130 p.



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EDUCATION RESEARCH

VOLUME 2

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May 1997

Serial No. 20

ISBN: 1 86192 050 4

Department for International Development

DEPARTMENT FOR INTERNATIONAL DEVELOPMENT

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Acknowledgements

In Volume II of this research report, the editors wish to thank the Education Division of the Department for International Development for funding this research, particularly Malcolm Seath, Terry Allsop and Graham Larkbey for all their assistance and advice. The proof-reading skills and patience of Christina H. Ntchougan-Sonou of St. Peter's College, Oxford, are gratefully acknowledged, as are her many helpful comments and suggestions.

Tanzania

Thanks are given to the many teachers, pupils, parents, policy makers, researchers, educationalists and community members in Tanzania who were willing to give time, information and their views in the course of this research. The Government of Tanzania gave permission for this research to proceed, and thanks go to officials of the Tanzanian Ministry of Education for their assistance in this regard. The contributions of the District Education Officer and District

Academic Officer of Arumeru District are acknowledged, as is the cooperation of the headteachers of the four schools visited during the research.

Sri Lanka

Many thanks are given to Dr. G Nanayakkara, Director, Department of Primary Education, NIE, for allowing Padmini Ranaweera to collaborate with us in this work. Mr. S. B. Thoradeniya, Director Primary Education, Ministry of Education, Mr. LS. Kuruppu, Consultant on Primary Education, Mr S.M.S.M. Wijerathne, Project Officer, Department of Primary Education, NIE, and Dr. Nanayakkara, are acknowledged for their valuable comments and advice during the case study work. Thanks are also given to all the officers within the Primary Education Department at NIE who attended a meeting to discuss the case study findings. A number of discussions were held with Ms. Amara Amarasingh, ECD Project Officer, UNICEF Colombo and her

comments and advice were greatly appreciated. Thanks are given to the teachers, pupils and parents of the two main case study schools. Without their co-operation, patience and time this study would not have been possible. We cannot thank everyone enough for the interest they showed in this study and their willingness to answer our endless questions. One-day visits were made to two other schools and the co-operation and time given by teachers and pupils was greatly appreciated.

India

Mr Sidda Gangaiah, Lecturer, DIET, Mysore, is greatly acknowledged for his continued help and support before, during and after this study. Thanks are also given to Mr Eshwar Bhat, Director, DIET, Mysore for his help and support throughout the study. Sincere thanks are given to the teachers, pupils and parents of the two main case study schools. Without their co-operation, patience and time this

study would not have been possible. In particular we would like to thank one of these schools who, on our last visit, held a short ceremony in our honour which was a very touching event. The Assistant Block Education Officer and School Inspectors from the district of the two case study schools provided us with some useful background information. One-day visits were made to two other schools and thanks are given to the teachers, pupils and parents from these schools for their time and patience. In particular we would like to thank the parents and teachers of one school who provided us with a delicious lunch. The following people attended a meeting to discuss the project and the present situation of education in India. Their comments and ideas were greatly appreciated as was there time to attend what proved to be a lively and critical discussion: Dr. M.S. Murarirao, Professor of Technology (retired), Regional Institute of Education, Mysore; Professor C.G. Venkataramana Setty, Retired Principal, Government Teachers College, Mysore; N. Venkataiah,

Dean, Faculty of Education, University of Mysore; A.S.N. Raosindhe, Reader in Education, Regional Institute of Education, Mysore; Ms. Lalithamma, Head, Department of Studies in Education, University of Mysore; Dr. N.M. Rao, Reader in Mathematics, RIE, Mysore; Ram Kulkarmi, Joint Director of Public Instruction (retired); Mr. V.D. Bhat, Reader in Education, RIE, Mysore.

Ethiopia

Officials in the Ministry of Education, and Ministry of Economic Development and Co-operation kindly gave their permission for this research work to take place in Ethiopia. The British Embassy were helpful in providing initial contacts to enable the field work to be carried out. Thanks are given to the teachers, pupils and parents of the two main case study schools. Without their cooperation, patience and time this study would not have been possible. Thanks are also given to Officers at the *Woreda* Administration Office and

Woreda Agricultural Extension Office who provided background information of the village in which School A is situated; Oromia Regional, Zonal and *Woreda* Education Offices for allowined the field work to be carried out in their schools. The following people are acknowledged for their valuable comments and suggestions at the beginning and end of the work in Ethiopia: Dr. Wilhelm Schuldt, PEAP, GTZ; Andrew Bringham, British Council; Berhanu Habtermeriam, ICDR; Kedir Ibrahim, ICDR; and Officials in Oromia Education Bureau.

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List of acronyms

General	
DFID	Department for International Development
EFA	Education For All
GER	Gross Enrolment Ratio
GNP	Gross National Product
INSET	Inservice Education and Training
NER	Net Enrolment Ratio
NGOs	Non-Governmental Organisations
RPSs	Rural Primary Schools
TTI	Teacher Training Institute
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United National Children's Fund

Tanzania	
DAO	District Academic Officer
DEO	District Education Officer
ESR	Education for Self-reliance
MANTEP	Institute of Manpower Training for Educational Personnel
PSLE	Primary School Leaving Examination
SBC	School Betterment Committee
REO	Regional Education Officer
TADREG	Tanzania Development Research Group
Sri Lanka	
A/L	A Levels
GCE	General Certificate of Education
MOA	Ministry of Agriculture

MOE	Ministry of Education
NEC	National Education Commission
NIE	National Institute of Education
India	
DDPI	Deputy Director of Public Instruction
DIET	District Institutes of Education and Training
DPEP	District Primary Education Project
ECCE	Early Childhood Care and Education
MLL	Minimum Learning Levels
NCF	National Curriculum for Elementary Education
NPE	National Policy on Education
PMOST	Programme of Mass Orientation of School Teachers
SBC	School Betterment Committee
SC	Schedule Casts
SCERT	Special Orientation Programme for Primary

SOPT	Special Orientation Programme for Primary Teachers
ST	Schedule Tribes
SUPW	Socially Useful Productive Work
TCH	Teachers Certificate Higher
UEE	Universalisation of Elementary Education
VEC	Village Education Committee
Ethiopia	
ICDR	Institute of Curriculum Development and Research
MOE	Ministry of Education
PEAP	Primary Education Assistance Project
SPC	School Pedagogical Centre

1 Introduction

This report illustrates the findings from the second phase of a research project commissioned by the Department for International Development (Education Division), titled 'Contextualising the Curriculum in Rural Primary Schools: the role of agriculture'.

The second phase was commissioned following the findings of an initial desk study (Taylor, 1995 [1]), which set out to examine how agriculture could be used as a means of contextualising the primary school curriculum in rural areas. The purpose of the initial desk study was to examine the role

of agricultural experience as a vehicle which can support the development of learners in rural primary schools whose needs are extremely diverse, and whose life experience has been enriched by agricultural practice. This involved a review of literature which sought to investigate a "new role" for agriculture as a key element of primary schooling. In particular it examined from a conceptual point of view, and through the use of case studies from the literature, the capacity of agriculture to act as a familiar vehicle for the development of young rural learners' basic skills of literacy, numeracy, and other life skills which are perceived as necessary for a fruitful and productive life. The intention was not to explore issues relating to teaching agriculture as a distinct subject area in the curriculum.

1 Taylor, P. (1995), Contextualising the Curriculum in Rural Primary Schools - the Role of Agriculture. A Research Report to the Department for International Development. The University of Reading.

The purpose of the second phase of the research was to gather information about schools which have used agricultural experience as a means of contextualising teaching and learning, by looking at the implications for teaching and learning practices, resources, school management and teacher training, and to evaluate the impact of this practice on school attendance, school performance, development of school-community links, and on teacher, pupil and parental attitudes. Case studies were used to examine the capacity of agriculture to act as a familiar vehicle for the development of young rural learners' basic skills of literacy, numeracy, and other life skills which are perceived as necessary for a fruitful and productive life.

At the same time the research aimed to highlight the problems which may arise in attempting to use agriculture in a way which may challenge its traditional role as a vocational subject area. The study aimed to identify examples of good practice, and based on these, highlight issues of importance

to educational policy makers, teachers and other interested parties.

The case studies for this research project were carried out in four countries: Tanzania, Sri Lanka, India and Ethiopia, between July and December 1996. In each country, apart from Ethiopia, field work took 2 to 3 weeks. In Ethiopia, logistical problems meant that field work had to be completed in one week and consequently the case studies are shorter than in the other three countries. A detailed methodology is given at the front of this volume. Volume I should be consulted for the theoretical background and issues and implications arising from the research.

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2 Methodology

2.1 Design of the methodology

The methodology was designed specifically to identify issues and implications of the main research question *'to what extent have rural primary schools attempted to use agricultural experience as a means of contextualising teaching and learning?'.* The process started with a brainstorming session

to construct a set of sub-questions which would be used as the basis for the questionnaire:

1. To what extent is contextualisation of teaching and learning reflected in education policy statements at different levels?

2. What practices have teachers developed and used in order to contextualise learning?

3. What are the existing levels of knowledge, skill and attitude amongst teachers towards the process of contextualisation?

4. What are the attitudes of learners, community members and policy makers towards contextualisation?

5. What evidence is there to suggest that teachers

use agricultural experience as a means of contextualising teaching and learning?

6. What factors enhance or constrain the use of agricultural experiences as a means of contextualising teaching and learning?

7. What is the impact of contextualisation on the process of teaching and learning?

8. What is the role of contextualisation in strengthening and developing linkages between the school, home and community environments?

9. What are the implications of contextualisation for educational planning and practice in the future?

These research questions were then used to identify key issues, methods of data collection, potential sources of data,

and the type of data to collect, in order to obtain information on the key issues. This information was displayed in tabular form and was continually updated throughout the period of research methodology formulation. It was also used during the fieldwork as an important reference document and checklist.

Designing the methodology was a long process and required modifications before and during the fieldwork. It was envisaged that questions by themselves would not provide a sufficient standard of qualitative information, because it is unlikely that the people being questioned have ever undertaken long interview sessions. Also, since the sample size is small, no concrete conclusions can be drawn if only one methodology is used. With these points in mind, and to encourage more input through working in groups and to stimulate thought and discussion, a mixture of semi-structured questionnaires and participatory activities were used. The methodology proved, through the use of a qualitative,

triangulated approach, to be very successful in meeting the aims of the research. Figure 1 illustrates the research process undertaken for this study.

2.2 Country selection

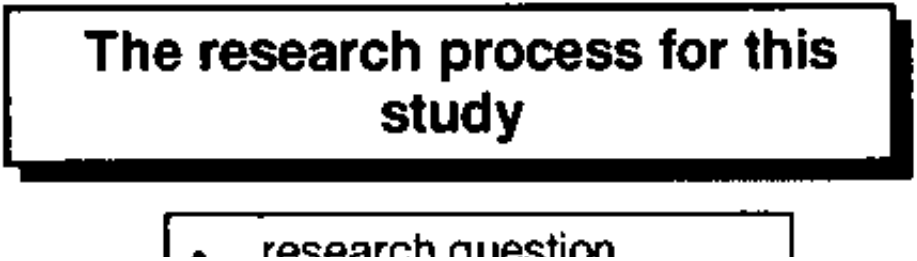
The selection of countries for the study was made on the basis of published papers that included, either directly or indirectly, some reference to contextualising teaching and learning in rural primary schools. In some cases (Tanzania and India) direct contact was made with the authors of the papers, who then became the collaborating partners. In the other countries (Ethiopia and Sri Lanka), following contact with the authors, recommendations were made to find appropriate collaborators.

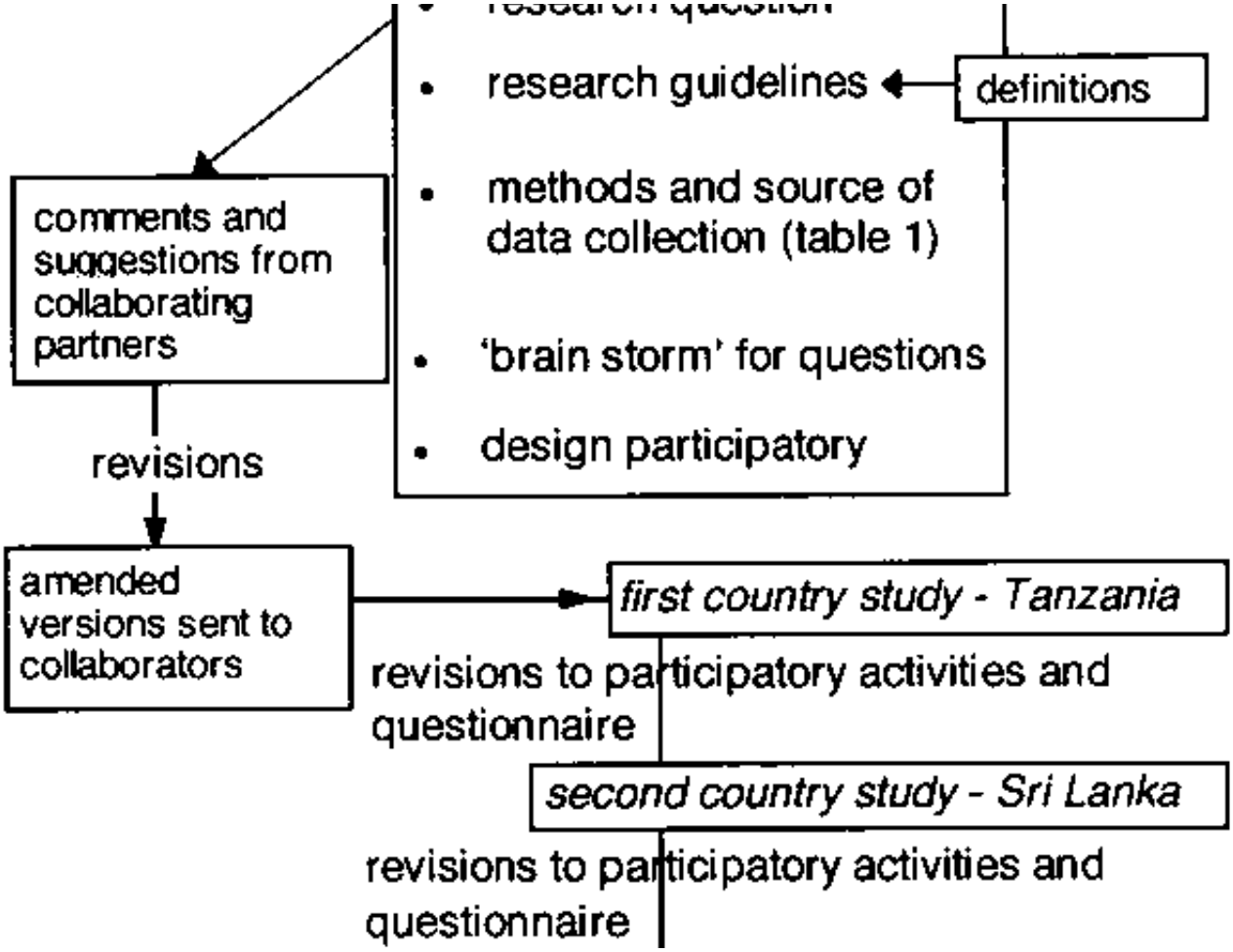
2.3 Sample size

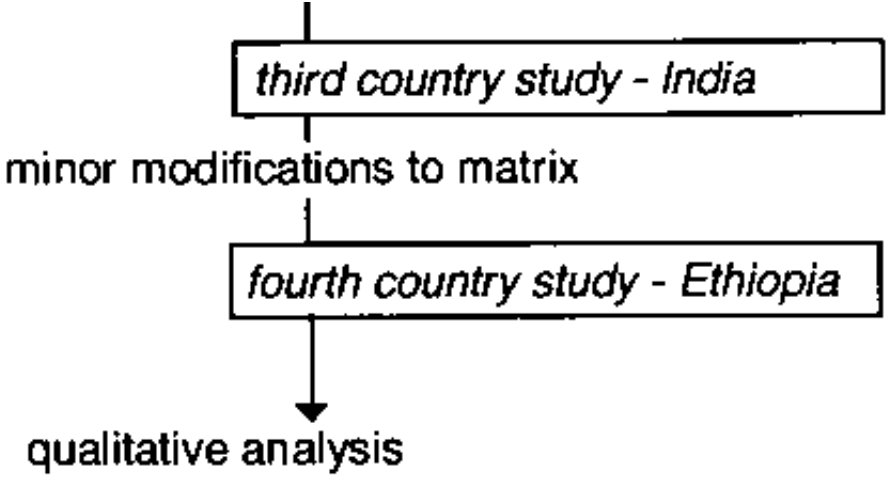
The sample size is small due to the nature of the research

work. The work is innovative and few qualitative studies have been carried out in this area of educational research. The case studies are not meant to be representative or comparative of the particular country's situation. They are intended to be illuminative, illustrating in a unique study what actually happens in the classroom of a selected rural primary school. This can help deepen understanding of the constraints under which teachers work, the nature of their practice and its strengths and weaknesses, and the perceptions of pupils, parents and policy makers of teaching and learning processes in rural primary schools.

Figure 1 The research process




research question
research guidelines
definitions
methods and source of data collection (table 1)
'brain storm' for questions
design participatory
comments and suggestions from collaborating partners
revisions
amended versions sent to collaborators
first country study - Tanzania
revisions to participatory activities and questionnaire
second country study - Sri Lanka
revisions to participatory activities and questionnaire



2.4 Case studies

Eight case studies were carried out; these were located in two rural primary schools in each of four countries, Tanzania, Ethiopia, Sri Lanka and India. Field work of one week in each school (except Ethiopia) was undertaken to obtain an understanding of the particular school in relation to the key issues. Schools were selected by the collaborating partners

following a set of guidelines, the most important being as follows:

- One case study school was recognised as an "innovative" school, where a school is perceived to be innovative if it conforms to some or all of the following:

  · there is a degree of flexibility in the curriculum, either in the basic construction or in the way the teacher interprets it and teaches it;

  · children are able and encouraged to discuss issues in class;

  · some attempt is made to use children's out of school experience in the learning process;

· teachers use and/or develop resources based around children's out of school experience and knowledge;

· there is some degree of continuous assessment;

· parents and community members have some involvement with the school;

· there is an attempt to use local technology in teaching and learning (resources relevant to local community and easily obtainable);

· there is some degree of integration of subject matter across the curriculum;

· some evidence of teacher support;

· some element of decentralisation.

• The second school was in the same vicinity as the first, but did not necessarily need to have a reputation for innovation (an 'average' school).

• Brief overviews of two more rural primary schools were undertaken through one day visits, in order to provide more supporting data for the case studies.

2.4.1 The Interviews

Semi-structured interviews were carried out and, for this purpose, separate questionnaires were designed for each of the target groups. For teacher interviews it was not always possible to have groups with even numbers of men and women, as this depended on the gender balance of teachers in the school. With pupil interviews even numbers of boys and girls were always requested. For interviews with community

members, it was desirable to interview men and women, but this was not always possible. All interviews and activities aimed to get equal representation from men and women. Informant groups and size of samples are indicated in Table 1. It is important to reiterate here that the small sample sizes were chosen to provide a greater depth of information as required for an illuminative study such as this, rather than to yield broad, comparative data.

Table 1 Interview groups

Key informants	- interviewed individually or in teams, which ever was appropriate. Persons interviewed included: ministry personnel, teacher trainers, researchers and curriculum developers.
Headteacher	- interviewed individually
Teachers	- interviewed in groups (2 groups of 4 teachers per school), [based on an

	assumption of 1 teacher per class and an 8 grade system, but this depended on the local education system in each country].
Pupils	- group interviews of 6 to 8 per group. The sample size (number of groups) depended on the school size and organisation. Ideally a sample was to be selected from a spectrum of year groups within the school (e.g. lower, middle and high grade classes) for in-depth observation and interviews.
Community members	- group interviews of 4 - 6 persons per group, including parents and teacher-parent association members if possible.

General background questions (e.g. name, position, qualifications) were kept to a bare minimum but in some questionnaires (headteacher and teachers) it was necessary to obtain data such as school numbers, teacher training,

length of service, attendance rates, etc., in order to get some important background information on the school. As questionnaires were structured with the research question in mind, questions were very specific and direct in the objectives they were tying to achieve. In some cases it was necessary to ask a number of indirect questions in order make a particular question understood, the reason for this being that if some questions were asked outright it was likely that they would not be understood. For example, to explain the concept and process of contextualisation proved to be very difficult in all of the countries and a problem that had been envisaged prior to starting the field work. It was very important to use this indirect approach to asking questions with pupils, for example *'can you describe a time when your teacher asked you about your experiences outside school?'* and *'can you tell me about a time that you used something you learned at home when you were at school?'* were asked rather than direct, technical and complicated questions.

2.4.2 Pairwise Matrix Ranking

Matrix ranking was used to obtain some information on the teaching and learning practices in the school. The method was first tested in Tanzania and proved to give some valuable information to support what was said in interviews. As the fieldwork progressed, the methodology for this activity changed slightly (mainly in the methods of learning identified by the schools) and became more refined to a point were it was a valuable tool in the whole methodology.

Photo 1 Matrix ranking activity (teachers), Sri Lanka

The process involved ranking ten methods of learning against each other by preference, and was undertaken by pupils and teachers. Pupils and teachers were asked which methods of teaching were used in the school and depending on their responses new methods were added or old ones deleted to produce a matrix ranking specific to the school (in practice

there was little variation in the matrix headings between schools or countries). A matrix ranking table is illustrated in Photo 1 and Photo 2. The method for completing the matrix was explained by the in-country researcher, and it was important to stress that the activity was not a test or assessment. It was also important that the pupils or teachers were not advised in their decisions in any way by the researcher.

Photo 2 Matrix ranking activity (pupils), India

2.4.3 Mapping Activity

Pupils also completed mapping diagrams (Photo 3 & Photo 4), a drawing activity that was designed to illustrate 'what pupils did at home', 'what pupils did at school' and whether there were any learning connections between the two environments. The activity was used as an 'ice breaker', emphasising that it was not a test and also was for their

enjoyment. Pupils were asked to write their name, age, parents occupation and school year on the back of their diagram, which prevented the need to ask pupils background questions during the group interviews. The mapping diagrams were then used as a starting point for interviews with pupils. Pupils (in a group) were asked to describe their drawings, and questions from pupil's questionnaire schedule were asked where appropriate. This also allowed more time to look at the diagrams and try to understand what the pupils had drawn/written. A mapping diagram by a pupil in Sri Lanka is illustrated in Figure 2 and in each country's section.

Photo 3 Pupils mapping activity, Sri Lanka

Photo 4 Pupils mapping activity, Ethiopia

2.4.4 Additional Comments on the Field Research

In-formal observations formed an important part of this

research. Throughout the fieldwork observations were made daily on what was happening in the school and in the classroom. During the participatory activities with teachers and pupils, their comments and reactions to the activities were observed. As more time was spent in each school, it was noticeable that teachers and pupils, and also local community members, became more familiar with the researchers, and vice versa. Once there was a clear understanding that the research visit was not some form of official inspection, an atmosphere of trust began to emerge, and in many of the schools the interaction between the researchers and the school community became noticeably less forced. Some teachers began to talk with the researchers informally between lessons and pupils came to show pieces of work which they had completed. Many comments and opinions were elicited as a result which helped greatly to inform the researchers' understanding of the processes taking place in the schools. The open nature of

this interaction may also have reduced to some extent the likelihood of the respondents telling the researchers what they thought they wanted to hear. Clearly this could not be avoided entirely, but the daily interaction and increasing familiarity between the researchers and school and local communities may have helped to reduce its occurrence.

In all of the countries visited it was necessary to work in the local language in addition to using English. Collaborating researchers generally acted as translators, as well as being partners in the research process, and their understanding and translations of the questionnaires and activities were vital to the success of the research. In the case studies which follow, italicised text within quotation marks is used to present direct comments and statements made by interviewees in English, or, in some cases, translations from the original statements. In the process of translation some meaning is always lost, but the researchers feel that the inclusion of even a translation allows a better understanding of what the

respondent conveyed at the time than to rephrase it in the researchers' own words.

All direct statements and responses presented in the case studies were obtained during verbal interviews with key informants, headteachers, teachers, community members and pupils unless indicated otherwise. The inclusion of such a statement or comment does not mean that the researchers support or agree with what was said, but its content indicates the view of the respondent at that time. Within the case studies, comments have sometimes been added by the authors in order to provide some insight into the situation by giving an explanation of why interviewees responded in the way they did. It is important to note that these are the researchers' own understandings and explanations and, unless otherwise stated, not to be treated as the views or perceptions of the respondents.

Figure 2 Example of a pupil's mapping diagram, Sri

Lanka

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Tanzania

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1 Education in Tanzania

1.1 The strategy for education after independence

Tanzania became independent from Great Britain in 1961 and, under the leadership of Julius Nyerere, became the location for some of the most daring and radical social reforms seen on the African continent, based on the twin principles of socialism and self-reliance. The history of these various reforms which have taken place in the intervening 35 years is both complex and fascinating, and is well documented by a number of authors (Yeager, 1989, Bevan et al, 1993, Katunzi, 1993, Buchert, 1994, Yisa, 1995, Kent and

Mushi, 1995). Today, Tanzania is listed as one of the world's 25 least developed countries with a per capita GNP of US$120 and per capita GDP of US$570 (Yisa, 1995).

Education in particular has been seen as a vital element of Tanzania's drive towards national development since 1967 when President Nyerere articulated the policy of "Education for Self-Reliance" (ESR), following the "Arusha Declaration". Mass political education was seen as a means of building the *"Tanzanian Personality"* (Kuhanga, 1977) which would inculcate socialist values. Four main strategies were adopted; resettlement of people in "Ujamaa" villages, adult education, compulsory universal primary education and higher education geared towards national manpower requirements. It was anticipated that this would concentrate on the development of human resources rather than wealth for a few, and lead to involvement of Tanzanians in their own development. Socialist education was seen (Kuhanga, 1977) as:

> *"the tool that can liberate the 'domesticated' colonised people from slavish mentality into the freedom of respectable human beings. It is the tool that can initiate, generate and establish social values which govern the security of the life and property of individuals as well as the public. It is the tool which gives man the techniques to transform and control nature to serve him economically and aesthetically".*

The overall intention of mass education was *"consciousness-raising",* where people would *"feel free to make strategic decisions concerning their personal life and well-being and to carry them into effect",* and live in *"human dignity and quality"* (Buchert, 1994:94). Most importantly, education should be relevant to the particular circumstances of post-independence Tanzania, a *"poor, undeveloped and agricultural economy"* (Nyerere, 1976).

A succession of Five Year Development Plans between 1964 and 1980 featured a huge expansion of the provision of primary education with major school building programmes and a significant increase in enrolment figures. These plans were followed by the National Economic Survival Plan (1981), the Economic Recovery Programme (1986) and the Economic and Social Action Programme (1988). Although major economic reforms were introduced, and a programme of economic and structural liberalisation embarked upon, the national aims for education changed little, emphasising primary education to be a cycle of learning, rather than a selection mechanism for advancement to secondary education. Maki (1993) observes however that, from the 1980s onwards, far less mention was made of educational planning compared with the previous 20 years, with the focus being more on fiscal policy at a macro-level. To date, the education sector is allocated an annual budget which has been dwindling with each successive year. For example,

whereas the central government recurrent budget allocation to the Ministry of Education and Culture in 1980/81 was 11.7%, it has fallen to 3.3% in both 1993/94 and 1994/95 (Ministry of Education and Culture, 1996:41).

In order to translate the national aims into action, attempts were made in the 1970's and early 1980's to localise the primary school curriculum, emphasising the integration of theory and productive work. It was intended that this approach to learning, drawing on contributions from parents, agricultural workers and artisans, would enable rural children and young people to develop knowledge, skills and attitudes which reinforced the work ethic and would lead, ultimately, to community development. As Kent and Mushi (1995) state:

> *"The policy of ESR could therefore be perceived as a political yet pragmatic response to defuse the emerging conflict between the ideology of the state anxious to stem urban migration and the*

expectations and aspirations of Tanzanian families who perceived that educational progression was the vehicle through which their children gained passage from rural, low paid agricultural employment to urban, relatively well paid employment in a parastatal organisation".

The primary school curriculum was developed to include a combination of practical and theoretical subjects through an integrated programme of study and work. Particular emphasis was laid on agricultural science, since it was anticipated that this would equip young people with the skills necessary to make the most of the potential of life in rural areas. Control of primary schooling was partially decentralised to the regions in order to involve all community members, including those at village level, in the planning and implementation of education. Although community participation was stressed as an intrinsic aspect of the

educational process in the community school movement, participation of the consumers in planning and implementation of schooling was negligible. This, ironically, may be due in part to the original concept of "Tanzanianisation" which encouraged the concept of a homogeneous populace with similar goals, aspirations and even culture, incompatible, perhaps, with the reality of a nation of enormous environmental and cultural diversity. In addition, school pupils who were supposed to play a key role in the development of rural communities were barred from active participation since, according to the constitution, school pupils are not members of the village (Katunzi, 1993).

The community schools movement was severely damaged by the fact that it was being developed in parallel with the traditional, post-Independence primary school system which had a different curriculum. National examinations were based on this latter curriculum, and did not take into account many of the practical activities undertaken by community school

pupils. Parents, community members and politicians complained against the community based curriculum as year after year, very few of their children were selected to pursue secondary education. Nor were there secondary schools operating in a similar fashion to allow for follow-up of the community school curriculum. Thus the system was unable to achieve its goals.

1.2 The current primary school system in Tanzania

1.2.1 Aims

In keeping with the ideals of Nyerere, policy for primary education stressed that *it "must be a preparation for the life which the majority of children will lead"* (Kent and Mushi (1995:8)). This is still reflected in the aims and objectives of primary education, which, according to the Ministry of Education and Culture (1995:5), are as follows:

- to enable every child to understand and appreciate his or her human person, to acquire, value, respect and enrich our common cultural background and moral values, social customs and traditions as well as national unity, identity, ethic and pride;

- to provide opportunity and enable every child to acquire, appreciate and effectively use Kiswahili and to respect the language as a symbol of national unity, identity and pride;

- to enable every child to understand the fundamentals of the National Constitution as well as the enshrined human and civic rights, obligations and responsibilities of every citizen;

- to enable every child to acquire basic learning tools of literacy, communication, numeracy and problem solving as well as basic learning content of

integrated relevant knowledge, skills and attitudes needed for survival and development to full capacity;

- to provide the child with the foundations of self-initiative, self-advancement and self-confidence; to prepare the child for second-level education (i.e. secondary, vocational, technical and continuing education); and

- to prepare the child to enter the world of work.

1.2.2 Structure

Currently, the education structure in Tanzania is 2:7:4:2:3+, (that is, 2 years of pre-primary education, 7 years of primary education, 4 years of secondary Ordinary Level, 2 years of secondary Advanced Level and a minimum of 3 years of university of education). Pre-primary education, is however, offered to very few children as it was formalized only

recently. It is intended that, ultimately, each primary school will have a preprimary school attached to it. Primary education is not free; the fee rose during the field research period from 200 shillings (about 30p) to 1000 shillings (about £1.20) per year, a matter of concern for many poor parents.

1.2.3 Curriculum

Tanzania Institute of Education (TIE) is now responsible for pre-primary, primary, secondary school and teacher education curriculum design, development, dissemination, monitoring and evaluation. The development of the curriculum is centralized, therefore, and is universal for the whole of Tanzania. The natural diversity in a large, heterogenous country with more than 120 different tribal groups has led to alienation of many people from a centralised process of curriculum development and hence the education system (Malekela, 1993). By 1992, there were 13 subjects taught at the primary school level: Kiswahili, Mathematics, English,

Sports and Games, Art and Craft, Music, Science, Health Science and Home Economics, Political Education/Civics, Geography, Agriculture, Religion and History. Following complaints by teachers and the public that the curriculum was too overcrowded, the government in 1992 revised it leading to the reduction of compulsory subjects from 13 to 7: Kiswahili, English, Mathematics, Social Studies, Science, Life Skills and Religious Instruction. In addition, the curriculum is expected to balance the requirements of the majority of children who do not proceed to secondary education, with the requirements of those few who proceed to secondary education. By August 1996, however, very few primary schools had started to use the new curriculum as the syllabi, textbooks and teachers' guides had not reached the schools.

Standard VII pupils must take the Primary School Leaving Examination (PSLE), and their performance in the PSLE determines their chance of progressing to secondary school level. Testing is also carried out at Standard IV for diagnostic

purposes. The number of candidates in the PSLE who score 50% and above (which is a passing grade) is very small. For example, in 1986, only 17% of the Standard VII candidates passed. Data from Morogoro region for 1992 and 1993 showed that only 10% and 8% of the candidates passed the examination in the respective periods. Failure rates are highest in Mathematics, English and Science subjects, in rural areas and among girls.

1.2.4 Teaching Staff

Numbers of primary school teachers had increased by 340% between 1974 and 1992, from 29,000 to 98,000, although many of these were Standard VII leavers with between 8 and 24 months of teacher training (Kent and Mushi, 1996). Currently, there are two categories of teachers at the primary school level; Grade A, those who have completed Secondary Ordinary level education plus two years of teacher education, and Grade B who have Standard VII

education plus two years of teacher education. By 1995, there were 105,280 teachers teaching in 10,927 schools of whom 63,845 (60.6%) were Grade B (Ministry of Education and Culture, 1996:30). Most Grade B teachers have neither a satisfactory knowledge base in academic subjects nor an adequate professional training. Although the commitment to teaching of Grade B teachers, especially in the rural areas, has been commendable, there exists the necessity to raise their level of education. The recruitment of Standard VII leavers for Grade B teacher training ceased in 1993. According to the new education and training policy, the minimum qualification for a primary school teacher shall be possession of a valid Grade A Teacher Education Certificate whose entry qualification to teachers colleges shall be a minimum of Division III of the Certificate of Secondary Education Examination followed by a two year professional training at a teachers' college. This is intended to raise teachers' quality and professional competence for the

efficiency of primary education. The current 63,845 Grade B teachers have, therefore, to upgrade themselves to Grade A through correspondence education and take the O-level examinations as private candidates. Upon succeeding in meeting the minimum admission requirements for Grade A teacher training colleges, they will undergo a one year training course.

1.3 Effectiveness of primary schooling in Tanzania

1.3.1 Resources

Although education and development were seen as intrinsically linked from the first days of Tanzania's independence, primary education continues to be severely under-resourced. According to official statistics of the Ministry of Education and Culture (1994), in 1993 there were insufficient numbers of permanent buildings and furniture in primary schools to meet the requirements of the potential

primary school population, and most of the existing buildings were in a state of disrepair. Teaching-learning materials were in short supply, and three-fifths of the teaching force had qualifications below that recommended by government. Class sizes ranged from 50 to 150 with an average of 80 pupils.

1.3.2 Enrolment, attendance and progression

Initial success in educational improvement was gained by increasing enrolment figures. At independence, primary school enrolment was 25%; by 1981, 98% of 7-13 year olds were enrolled in Standard I. Particular success was achieved with enrolment of girls, which had become equal to that of boys by 1985. By 1995 a total of 3,877,643 children (1,961,879, [50.6%] male and 1,915,764 [49.4%] female) were enrolled between Standard I and VII (Ministry of Education and Culture, 1996). Gross and Net enrolment ratios were 77.6 and 55.4 respectively (Ministry of Education and Culture, 1996). Although enrolment and attendance in

primary education has long been compulsory for all children aged 7-13 years, in practice this is not enforced. The drop-out rate between Standard I-VII is 20-25% (Malekela, 1995) and rural areas seem to suffer proportionately lower enrolment and higher dropout rates in comparison with urban areas.

Figures for the progression of primary school leavers to secondary education is shown in Table 1.

These statistics reveal that, currently, only 14.3% of Standard VII leavers enter secondary school, 7.3% enter government schools, whilst the remainder enter private secondary school. The centralised examination system has always been seen as a means of selecting primary school pupils for entrance to secondary school and on to higher levels of the education system, regardless of the fact that this was in direct opposition to the goals of ESR. A recent survey (Kent and Mushi, 1995) revealed that 85% of males and 90%

of females of the sample at primary school wanted to proceed to secondary school, although a significantly smaller percentage of both actually expected that this would occur in reality. In the past, possession of a certificate has provided the route towards further education or wage-earning employment, and success in examinations has been regarded highly by parents, pupils and teachers alike. The number of parents who are now prepared to pay for private education for their children highlights the increasing demand for secondary schooling. Many communities, both urban and rural, are also building their own secondary schools. This scheme receives some financial support from government, but still requires considerable funding from community sources. Further emphasising the increasing burden of the cost of education on parents and communities, relatively better-off parents in urban areas, and increasing numbers of poor parents in rural areas, are sending their children to tuition classes where they pay tuition fees of not less than

1000 shillings per month to the tutors, who tend to be the most competent primary school teachers. Although statistics are not available, it is stated frequently by teachers and parents that the children who attend tuition classes are far more likely to proceed to secondary schools (Malekela, 1993).

Table 1 Primary Education Leavers and Form I Selection, 1963-1995

Year	Std. VIII/VII	Form I Selection			
	leavers	Public	Private	Total	%
1963	17042	4972	0	4972	29.2
1968	58872	6989	2511	9500	16.1
1973	106203	8165	4964	13129	12.4
1978	185293	8720	8467	17187	9.3
1983	454604	9899	9606	19505	4.3

1988	347978	15675	20789	36464	10.5
1993	363404	21531	26965	48496	13.3
1994	370534	24321	28498	52819	14.4
1995	386564	28412	*	*	*

Source: Ministry of Education and Culture, 1996
* Data from private secondary schools had not been compiled by the time these statistics were produced.

1.3.3 Public perceptions of primary schooling

High drop-out rates and low rates of progression to secondary school normally lead to dissatisfaction with an education system from a range of stakeholders, and this is indeed the case in Tanzania. A recent study on parents' attitudes towards education (TADREG, 1993) reveals that

parents feel they are not getting value for money from primary schooling, that many children are leaving school illiterate and innumerate, that "self-reliance" activities are mostly exploitative, that resources are being misused, that relations between school and community are poor, and that teachers abuse their authority over their pupils out of sheer frustration. The report cites the *"inefficient hierarchy which runs primary education"* as the main culprit. Bureaucratic inertia and mis-appropriation and embezzlement of funds has exacerbated the situation, with problems in distribution of supplies in addition to national shortages, and complex regulations surrounding the development of curricula and text books and materials (Kent and Mushi, 1995). The examination system is blamed also, since only academic aspects of the curriculum have been examined to date; the more practical and developmental sections have been accorded lower prestige, leading to abandonment of teaching of these elements or poor attendance by pupils. Parents see

little advantage in contributions from community members to school teaching, or to their children being involved in manual and agricultural activities, when these seem to have no influence on their chance to progress to secondary school or to find employment.

Pupils seem also to be disillusioned with the teaching and learning process and drop out either to look for more pragmatic activities or to take up actual work opportunities in the newly expanding informal sector. This increases the likelihood of rural young people leaving home with little or no formal schooling and moving to urban areas to join the rising numbers of the unemployed. Also, many of those pupils who do complete primary schooling are thought to be undereducated, lacking knowledge and skills which are directly useful to life in the rural community. Much of what is learned at school through predominantly rote learning practices seems not to be transferable, disadvantaging school leavers from undertaking other occupations in the

formal or informal sector.

Teachers are not happy with the situation either. Sections of the Tanzanian press champion regularly the teachers' cause, noting the need for a general improvement in school infrastructure, provision of in-service training to teachers and improved supplies of teaching-learning materials in schools. Salaries are a particularly emotive issue as, under present conditions, teachers tend to look for projects outside school in order to supplement their incomes. These alternative income-generating activities are sometimes carried out during school hours, leading to increased teacher absences in many schools. Teacher absence is worsened by the need for all teachers to collect their monthly salaries personally from the District Education Office. Distances to travel for those in rural areas, delays in payment and problems with the banking system mean that many teachers miss several days from school each month in order simply to collect their wages.

Clearly, from this overview of the national situation, the education system in Tanzania is in need of support, improvement and development. Although, as seen above, much literature may be found relating to the education system in general, little information appears to exist on actual practice in school. The following case studies were carried out in order to learn from the reality of the classroom about the nature of teaching and learning in two Tanzanian rural schools, paying particular attention to the way in which learning is contextualised through the medium of agriculture.

2 The schools

2.1 Selecting the schools

Two schools were selected for detailed case studies following discussions with the District Education Officer (DEO) of the District in which the research was carried out. In addition to the characteristics of an innovative school which had been offered by the researchers, the DEO suggested several more. These included:

- a hard-working, disciplined environment;
- a source of leadership in the community, for example by discouraging local conflicts through harmonious relations between staff and between school and community;
- the capacity to look forward for future development;

- cleanliness;

- possessing gardens with practical activities going on, especially if these activities reflect what happens in local homes, such as vegetable growing;

- use of teaching aids;

- time and opportunity for pupils to make things and to talk about their experiences.

Following discussions, one school was selected as "innovative", and a second was chosen as an "average" school. It was clear from an early stage, however, that it was perhaps easier to select an "innovative" school than an "average" school, due to the huge differences between schools in the District. Two other schools were visited also to provide further general information on primary schooling in the locale.

2.2 Location of the schools - Arumeru district

2.2.1 Background

The research study was carried out in Arumeru district, one of the nine districts which form Arusha region, Tanzania. The district lies between 3.5 and 3.7 degrees South of the Equator on the slopes of Mount Meru, the second highest mountain in the country with a height of 14,000 feet above sea level. Arumeru lies between 2,600 and 6,000 feet above sea level with an annual rainfall of between 600 mm and 1200 mm. Temperatures range between 20 and 28 degrees Centigrade. There are three major climatic zones in the district, the Upper Belt, the Middle Belt and the Lower Belt. These zones vary in altitude, rainfall and predominant types of agriculture, with coffee and cash crops being grown mainly on the higher ground, and increasing numbers of livestock kept on land at lower altitudes. The Lower Belt is characterised also by irrigated crop production.

Arumeru district has an area of 2,966 sq.km., which is 3.6% of the whole Arusha region with an area of 82,424 sq.km. Administratively the district is divided into 6 divisions, 37 wards and 133 villages. It is composed of two major ethnic groups, the Maasai/Waarusha and the more sedentary Wameru. According to the census of 1988, Arumeru district had a population of 321, 898 people. The population annual growth rate was estimated to be 3.8% (slightly higher than the regional average of 3.5%). Based on projections, the district was estimated to have a population of 407,524 people by 1995 with an average population density of 137 people per sq.km. (being one of the highest population density in the country). The average population density, however, varies from the highly populated fertile highlands on the slopes of Mount Meru to that of the lowlands which have a scattered population. The district's current Crude Birth Rate is estimated to be 53 people per 1000 while the Crude Death Rate is estimated to be 15 people per 1000. Life expectancy

is estimated to be between 60-65 years which is above the national average of 53.

2.2.2 Education in Arumeru District

Administration

At the district level, the Education Department is headed by the DEO who is assisted by two Supplies and Statistics Officers, one Adult Education Officer, two District Academic Officers, one Audio-Visual Aid Officer, one Home Economics Education Officer, and an Agricultural Education Officer. These education officers are assisted by other support staff, such as secretaries, drivers and storekeepers.

Academically and professionally the DEO reports to the Regional Education Officer and then to the Ministry of Education and Culture. Administratively, the DEO is responsible to the District Council and is the chief advisor to

the Council on all educational matters. He reports to the District Administrative Secretary. The district councils are under the Prime Minister's Office which has a Ministry Regional Administration and Local governments under which all district councils fall.

Achievements registered in 1995

As a result of people's efforts in collaboration with their leaders, two day secondary schools were established. Application to register two more schools were sent to the Ministry of Education and Culture headquarters so that Form I could start in 1996. Furthermore, using the District Education Fund, the district council managed to buy, without central government assistance, iron sheets to roof classrooms in 29 primary schools and desks for 13 schools.

Problems in 1995

The Education Department was faced in 1995 with transport problems and difficulties in paying teachers' salaries. The Department had a lorry and a landrover, both of which were in bad condition and needed major repairs to serve a district of 148 schools with a total of 67,001 pupils. Distribution of school materials due to this transport problem was delayed severely. Teachers also faced the following problems:

- delayed entry in the central payroll;
- delayed adjustment of their salaries for more than a year;
- non-payment of leave and medical expenses; and
- being paid 5% instead of 10% of their entitled housing allowance.

Other problems cited by the District Education Officer included large numbers of pupils in classes, equipment shortages, absence of school lunches, no resource centres to help teachers raise standards of teaching and learning,

constant changes in the curriculum with no accompanying inservice training and shortages of school buildings. Books, visual aids and basic teaching materials such as paper and pens were in such short supply that they were rarely seen in most schools. The sheer size of the Arumeru District was also a major concern; the DEO had only managed to visit half of the schools in the previous two years. Some schools were never visited unless a crisis arose. A lack of District Schools Inspectors worsened this situation. The narrow outlook of some Inspectors was also criticised since it was stated that teachers were sometimes reprimanded for not following the teachers' guides exactly, even when attempting to introduce alternative approaches to teaching and learning. A general lack of confidence amongst teachers was said to prevail, and no mechanism existed which could support and encourage teachers to experiment with alternative methods.

2.3 An 'innovative' school - School A

2.3.1 The Community Environment

School A is situated in a village in the Arumeru district, about 10 Km east of Arusha. The village consists of about 600 households; as the average number of children per household is about 6, this means the population is in the region of 5,000.

Agriculture

Agriculture is the main economic activity in the village. The main cash crop is coffee, but maize, bananas and beans are important crops both for sale and consumption. Many households have small vegetable gardens which are usually tended by older children. The average area of land cultivated by a household is 2 acres, which, in the opinion of villagers questioned, is too small for a household to produce enough food for consumption and sale. Land is at a premium in the area, so land is cultivated intensively. Fortunately the soil in the area is a moderately fertile loam, and there is a surplus

of ground water. This ensures a reliable main harvest each year from July to September but it is possible to achieve three harvests of maize per year. Mixed cropping is practised and both manure and artificial fertiliser are applied. A typical yield of maize would be 500-600 Kg per acre. Livestock are reared, mainly goats, chickens and pigs, and cows are kept for dairy production. Cows are zero grazed on banana and bean leaves and dried grasses due to land being utilised mainly for cropping.

Social and economic background

The villagers have access to piped water and electricity, although few homes are connected to the power supply. The main tarred road from Arusha to Dar es Salaam runs alongside the village, but access to the village itself is by a narrow, uneven dirt road or by footpaths through the banana trees and coffee farms. Occupations range from purely farming to various types of business such as owning bars,

shops and buses. A number of people have settled in the village from other areas in northern Tanzania, particularly from Kilimanjaro region. These settlers are mainly people of the Chagga tribe who are renowned for their business acumen, and tend to be among the better off, financially. The other two tribal groups represented are the Wameru and the Waarusha, the latter being related to the Maasai. Kiswahili is spoken by everyone and is the lingua franca. Some of the female primary school teachers work in the village but live in Arusha town where their husbands are employed.

There is a considerable difference in wealth between members of the village both in terms of income and expenditure. It is estimated that the average expenditure of a farmer's household would be about 3000 shillings per day but the daily income might be slightly more than this. Nothing is provided free by the government of Tanzania, and people must contribute to the cost of education, health, and all other services. Income is seasonal, with a steady flow in the

harvesting period, and a very lean period from January to June in the growing season. Vegetable growing makes an important contribution at this time. Men and women are involved equally in farming activities now that traditional roles, where men ploughed and planted and women weeded and harvested, are breaking down. Everyone is expected to contribute to the work. Women are still responsible for cooking, collecting firewood and water and men do the "heavy work" which includes spraying and pruning. Men never cook, since, according to a male member of the school committee, *"a man who cooks has no respect - he is only a man because he is born a man, that's all".* Women work for many more hours than men who do not participate in household chores. Children tend not to be too involved in farming activities if they are attending school, which, as mentioned earlier, is compulsory in Tanzania in theory. Children do assist with certain tasks such as harvesting coffee, cutting grass for livestock and weeding, at weekends

or during school holidays They also contribute to household duties such as collecting water and firewood.

Relations between School and Community

The head teacher explained that there is considerable interaction between the school and the community. Another teacher supported this by noting that the villagers were very interested in the education of their children, and had been proud especially because of the high entrance rate of pupils from the school in the government secondary school. Another reason given for community spirit was the relative diversity of tribes (around 5) compared with other villages. This was seen as encouraging harmony and co-operation. Community-school relations are facilitated by a Village School Committee, which is composed of 15 people, 3 of whom are teachers (including the head teacher who is its secretary). The function of this committee is to identify ways in which village members can contribute to the development of the

school, and also to assist in certain issues such as discipline and absence of pupils. This committee also organises two meetings for all community members in a year, which many parents attend. Up to now the community has not invited school members to participate in community activities, however. Teachers do contribute to "Self-Reliance" activities in the community, for which they are given leave of absence. One teacher also said that he made financial contributions to community projects. The school occasionally invites certain community members into the school to assist with teaching in some subject areas. These guest speakers may include veterinary, health and extension staff.

2.3.2 The School Environment

Background

School A was established in 1974 and comprises 540 pupils and 17 teachers. There are 264 male pupils and 276

females. 15 of the teachers are women; one of the two males is the head teacher. 8 of the teachers are registered as Grade A whilst the remainder are grades B and C. According to the head teacher there are sufficient teachers to teach the requirements of the school timetable. About 95% of the school children are from an agricultural background. Many live within 2 km of the school, but some pupils interviewed stated that they have to travel as much as 8 km from home to school. The catchment area is small because of the large number of primary schools in the area (148 in Arumeru District). On average, 40 out of the 540 pupils (7.4%) are absent at any one time. Absenteeism is due to sickness, pregnancy (this was relatively low, only one case in the previous academic year), or where children are called upon by their parents to work on the farm or go voluntarily to work in local mines (boys only). There are no repeaters in the school at present.

School A has a good academic reputation (one of the

reasons it was identified by the DEO as being suitable for this research study). Between 1980 and 1995, 86 pupils had been selected to Form I in public schools. Of 66 Standard VII pupils in 1995, 20 obtained places in government secondary school and a few others obtained places in private secondary schools. This compares favourably with the national average percentage of primary leavers entering government secondary school of 7%. The District Academic Officer (DAO) noted, however, that this progression rate was influenced strongly by the opening of a new day secondary school in the locality. Like the primary school, this secondary school was constructed largely using local community contributions. In order to have 80 Form I entrants by the time of opening (July 31,1996) a larger number than usual of Standard VII finalists were deemed to have performed sufficiently well to gain entrance. The DAO pointed out also that the number of day secondary schools in the District is mushrooming, increasing by around 5 each year. Since these

schools lack qualified teachers and most resources, particularly for science and technology subjects, the quality of education gained is open to question. In the long term this may affect the quality of primary school teachers, since some of them will come through this under-resourced secondary education sector.

School Surroundings and infrastructure

Infrastructurally the school is in a poor condition. There is no electricity supply, even though the posts carrying the wires run less than 5m from the school wall. Piped water is available nearby, but it is not clean, and teachers and pupils must travel about 1.5 km to the nearest drinkable supply. The school building is a long, narrow construction, the width of one classroom built of unrendered concrete block with a corrugated iron roof (Photo 1).

Photo 1 School A

Doors and windows are open spaces, although a few windows do have shutters which can be closed. In the cold season, mornings can be very cool and parents worried that some pupils would suffer in the classrooms open to the elements, especially those who are too poor to own warm clothes. As one parent stated, *"in the cold season, children's handwriting gets very bad".* It is a condition set by the government of Tanzania that a village community should build a primary school up to the level of the wall plates themselves; having done this, the district council then provides the roof. The village members also have constructed or provided all the furniture in the school, two teachers houses, latrines, and organised school security (a night watchman) to reduce theft of materials.

There are seven classrooms, each measuring about 10 metres square. Classroom furniture, made by village carpenters, is a collection of combined benches and desks, each of which is intended to accommodate two pupils. Since

there are between 70 and 85 pupils per class (about the average class size in Tanzanian primary schools), pupils double up on desks, resulting in 4 children per desk from standard III upwards. Children in Standards I and II are allowed to remain at 3 per desk as it is thought that they need more space in their early years of schooling to increase their chance of intellectual development. Parents interviewed remarked that they would like to see class-sizes meet Tanzanian government regulations which recommends that a class should have 45 pupils.

In the centre of the school block are two small rooms, an office for the headteacher and a staffroom for lesson preparation and marking. This "staffroom" for 16 teachers measures approximately 3 metres square, and is a major source of discontent amongst staff (photo 2). The school stands in grounds of 5 acres which staff feel is insufficient for over 500 pupils to move around and to be used also for ESR activities, including agricultural production. Of the 2 teachers'

houses, one is occupied by the headteacher, the other shared by 3 single female teachers. The headteacher has an impressive plot on school property in which he grows cabbages and tomatoes to supplement his income. The school "garden" is rather less impressive, however, and looks distinctly neglected compared with the *shambas* farmed by community members across the fence.

Photo 2 The staffroom (school A)

A problem identified by most respondents was the shortage of materials and resources at the school. Parents are expected to provide all stationery for their children, but, as stated in the national policy on education, the government should provide textbooks and specific resources for teaching and learning. This, according to the head teacher, was not happening. He noted that specific books are recommended to be used in conjunction with the syllabus, and without these it is almost impossible for most teachers to teach the required

elements. Many of these books are not available in the school, neither the teacher's guide nor pupil's textbooks. Pupils complained also of the lack of books, especially in English and Science.

Photo 3 An agriculture lesson

In a Standard VII Agriculture lesson observed, there were six atlases for 85 children, and one set of digging tools. Science lessons which require specialised equipment such as chemicals, microscopes and bunsen burners are entirely theory based. Teachers do make some teaching aids from locally available materials; some examples observed were latrine covers, stools, puppets and dress patterns made from food sacks. At least there appears to be no shortage of chalk, which has been a problem in some Tanzanian primary schools. Manila paper is in short supply. Posters on various topics (mainly health and conservation issues), available for use by teachers, were on the wall of the headteacher's office

but not in the classrooms. During the Agriculture lesson (Photo 3), the teacher demonstrated briefly a knapsack sprayer, but in a rather cursory fashion, and none of the pupils participated actively. Again, during a practical session on planting coffee, only three boys were engaged actively in the practical activity due to a lack of equipment; the rest of the class stood around watching.

Parents were concerned that a schools broadcasting service on the Tanzanian national radio had been discontinued, since this had been a means of supplementing teaching in school. They also wished that reference materials could be made available for their children's use, again as a means of supplementing what was learned in class.

2.3.3 The Teachers

The teaching staff have all been through a teacher-training programme, and by the standards of some Tanzanian

primary schools are a well qualified cohort. Some have been teaching at the school for more than four years. There is no in-service training available, normally. The head teacher, who had been at the school for 4 years, bemoaned the fact that he had qualified as a teacher in 1983 and had received no training since then. One long-serving teacher (17 years) had gone on a 3 month training course which "updated" him in Environmental Science, Maths, Science and English in 1994. He said that he found this most useful and wished he could receive more training, especially in English and Maths. In his words, *"You rest, you rust".*

The head teacher stated that he and his staff were not happy about teaching in general, mainly because he felt that they are underpaid, a statement agreed with by all the teachers interviewed. Teachers felt that they needed to earn at least twice their current salary to have a reasonable living wage. The head teacher felt a four-fold increase was more appropriate. One parent, who had himself retired from

primary teaching after many years service, noted that teachers used to receive an adequate salary, and would even pay the school fees of poor pupils whose parents could not afford to send them to school. Another problem identified by the village school committee chairman and the DAO was that teachers were often not paid on time, and had to go several days on the run to the local district education office to ask for their salary, during school hours. Even when they eventually received their cheque, there was no guarantee that the bank would have funds to cash it. In one group of teachers interviewed, three out of four said that teaching was not their first choice of career, but they had taken it up after failing to enter into other professional training (accountancy, law). These same three teachers stated that their first reason for wanting to teach was *"to earn money".* One longer serving teacher said that she wished to *"help in life".* In order to supplement their income, the head teacher noted that most teachers resort to other earning activities, such as his own

vegetable production enterprise. In addition, he and other teachers practice "tuition", extra teaching carried out in spare time, identical in nature to normal teaching, either during evenings or at weekends.

In response to a question about what makes a good teacher, a wide range of criteria were mentioned by the different groups and individuals interviewed. These were then listed and ranked by a group of pupils (4 boys and 4 girls) and by a group of teachers (1 male and 3 females) (Table 2).

Some specific issues were mentioned in relation to these criteria. The head teacher felt that teachers should have good passes in important subjects, particularly English, Mathematics and Science, as this would result in a better pass rate amongst pupils, and hence an increased number progressing to secondary school. He stated also that he would prefer to have more male teachers in the school for several reasons. Firstly he felt that female teachers taking

maternity leave disturbed the equilibrium in the school. He claimed also that female teachers had to do a lot of domestic work at home which took their attention away from school duties. Finally he mentioned that female teachers who were married to men with a higher status than teachers were sometimes rude to other teachers, himself included! With regard to pupil-teacher relationships, the head teacher stressed that beating was an important aspect of school life, as it *"helps students learn".* Pupils when interviewed had identified beating as the element they disliked most about school. He went on to note that teachers need to develop a *"good correspondence with pupils" and "become friends"* with them.

Some of the qualities which appear as ranked highly by pupils are quite different to those given high positions by the teachers. For example, *"Gets many pupils into secondary school" and "strictness and discipline"* are ranked higher by

the pupils, but are ranked much lower by teachers. When asked to state why they had ranked in this way, pupils said that they aspired to secondary education and hence wanted a teacher who could help them realise their dream. Teachers thought that a good education, love of teaching and commitment were more essential than the other criteria as in order to teach well, one had to be academically and professionally proficient.

Table 2 Ranking of Qualities of a Good Teacher: Pupils and Teachers (School A.)

Pupils' response	***Teachers' response***
1. Gets many pupils into secondary school	1. Good education
2. Gives examples	2. Love of teaching
3. Love of teaching	3. Commitment
4. Encourages interest	4. Follows syllabus

5. Gives feedback	5. Appearance
6. Strictness and discipline	6. Prepares for lessons
7. Good education	7. Can use and make teaching aids
8. Willing to learn from others	8. Attends classes
9. Gender (Male)	9. Gives examples
10. Is active in the classroom	10. Helps pupils understand
11. Helps pupils understand	11. Encourages interest
12. Prepares for lessons	12. Gives feedback
13. Can use and make teaching aids	13. Flexibility
14. Good behaviour	14. Is active in the classroom
15. Follows syllabus	15. Good behaviour
16. Commitment	16. Friendly to pupils

17. Friendly to pupils	17. Strictness and discipline
18. Appearance	18. Willing to learn from others
19. Attends classes	19. Gets many pupils into secondary school
20. Flexibility	20. Gender

2.3.4 The Learners

As mentioned earlier, children and young people in rural areas of Tanzania are expected, to assist their family members with household tasks, and sometimes with agricultural activities. A mapping exercise (Figure 1) was carried out to determine the range of non-school activities which school pupils are involved in (this method was developed considerably during the other country studies). When asked to identify, diagrammatically, their main activities, in terms of where they went on a regular basis, all

four boys who carried out the exercise noted that they went to school, to the shop, to market, to the field, to collect firewood and to play. The four girls who took part also noted the first five, but instead of playing, all identified water collection as one of their main activities. It is interesting to note from this exercise that the pupils who drew the maps in this school did not draw any illustrations or pictures in their maps, even though they were told that they could present the maps in any way they wished. Classrooms were devoid of any pictures or posters, and the few books available were illustrated minimally. The shortage of paper, pens and pencils, also restricted opportunities for drawing.

Figure 1 A pupil's mapping diagram (School A)

A group of pupils (4 boys and 4 girls) were asked to identify the reasons why children go to school, and why some children do not go to school. They were then requested to rank these as a group exercise, and the resulting table was

as follows (Table 3).

Table 3 Why do some children go to school and others don't? (School A)

Why do children go to school?	***Why do some children not go to school?***
1. To get a good job	1. Some go to work at mines (boys)
2. To be able to read and write	2. Inability to pay for school requirements (uniforms, books, pens)
3. To be able to struggle in life	3. Parents use children as source of labour
4. In order to get more knowledge	4. Some engage in petty business (boys)
5. To be good at	5. Inability to pay school fees

mathematics	
6. To learn about agriculture	6. Afraid of being beaten by teachers
7. To be able to speak English	7. Some are academically weak
8. To do things less demanding than home activities	8. Marriage
9. To make friends	9.

From the reasons given for attending school, future prospects are clearly at the top of the list; it is ironic therefore that the reasons given for children not attending school are primarily economic.

2.3.5 Teaching and Learning Processes

The curriculum and content of learning

As mentioned earlier, the curriculum in use in all Tanzanian primary schools is prepared entirely by the Tanzania Institute of Education in Dar es Salaam, and it is not adapted or adjusted in any way at school level. There is some confusion over the curriculum at School A, since the government has introduced a 7 subject structure as opposed to 13, but some of the new subjects such as "Life Skills" are not yet being taught. The syllabus for certain subjects also appears not to have changed, even though there should be a difference between the old and the new syllabus. According to the District Academic Officer, the new curriculum was supposed to be fully implemented by the end of 1997, but he felt that *"everything could still change".* One teacher noted that the constant changes in the curriculum content made teaching very difficult, especially as teachers were not consulted, informed late, and books and resource development failed to keep up with curriculum change.

All teachers interviewed expressed the view that the curriculum is too full, even after the reduction of subjects from 13 to 7. Time is clearly a problem, since all those interviewed felt that not enough time was available to cover all the content. The large class sizes were also cited as a reason for insufficient time to deal with individual students sufficiently.

One teacher stated that it is necessary for teachers to "second-guess" examination questions and limit their teaching to those subject areas identified as the ones most likely to come up in the PSLE papers. Not all 13 subjects in the old curriculum were examined, so that in terms of what is actually taught, little may have changed. The head teacher felt that much of the content of the new curriculum is irrelevant since it relies on materials and equipment unavailable in the local community, such as machines in the Science syllabus. Not only did the pupils have little or no experience of some aspects of the curriculum, it was not possible for the school

to obtain many items described, making some teaching totally theoretical and abstract.

The school committee chairman suggested that more periods in Maths, Science and Language were required to give pupils a stronger foundation in these subject areas. Some teachers felt that more agricultural and vocational education would be valuable. Parents agreed with this, but emphasised the need to base practical agricultural activities on sound scientific methods. They noted that agriculture lessons appeared to have been limited to manual labour in the school garden. Domestic Science/Home Economics was mentioned by several teachers as a particularly useful subject for girls only, although it is studied by all pupils.

In interviews with pupils, English was identified as the most popular subject, because it would help when seeking a good job. The subject disliked most by boys was Domestic Science, since *"they are not women".* Girls disliked Games

most, as they said they did not like to get dirty. Boys thought also that Agriculture was a "boys" subject, but they did not see any problem with girls studying it. The subject seen as easiest to cope with is Kiswahili, because it is a language they all speak daily, and one they knew even before coming to school. Maths is seen as the most difficult subject, particularly Geometry. Pupils stated that they thought education was very important overall.

What takes place in the classroom

Teaching methods observed at the school involved traditional chalk and talk and demonstrations. Teachers interviewed did state that they used group methods in English, Science and Mathematics lessons but that they found this approach difficult. Reasons given for this included the large numbers in the class being unmanageable, and the difficulty in knowing whether individuals were *"learning"* when they worked in groups. It was claimed by the teachers that pupils preferred

whole class teaching. It was observed that pupils automatically huddled into large groups when it came to using resource materials. The alacrity with which they did this suggested that this was indeed a common occurrence. In one observed class, the teacher visited each group to check on their progress. A Standard I teacher, stated that he used group work on a regular basis, dividing his class into 3 groups. He called the groups A, B and C, and encouraged all pupils to be promoted into group A as a motivational strategy. According to this teacher, lazy pupils were pulled up by the others, and pupils *"teach themselves".* Other teachers noted that pupils frequently helped each other with their work. Standard VII pupils stated that they did work in groups occasionally and that they enjoyed it.

The head teacher emphasised the importance of using questioning techniques to draw responses from students and involve them in the lesson. This approach was observed in the classroom, although the questioning in an observed

lesson was based on simple recall rather than problem-solving. The pupils did not ask questions themselves in this lesson, but both teachers and pupils interviewed stated that pupils did ask questions. The Standard I teacher noted that his pupils often *"give news about themselves",* such as what their mother had eaten for breakfast. An interesting feature of the teacher-pupil interaction in the classroom was the spoken agreement by all pupils with statements made by the teacher. The teacher would make regularly a series of statements to each of which the entire class would respond *"Ndiyo!"* (yes) in unison. This exchange could develop a rhythm which seemed to draw a response automatically from the pupils, including from those who previously had been glancing out of the window or writing on their hands. Pupils did not take notes during one lesson observed, and the teacher rubbed all her notes off the blackboard before the class could write them down. Afterwards she wrote up a series of questions related to the subject which they were then expected to

answer in their notebooks. This was supposed to encourage pupils to think about what they had heard and seen during the earlier part of the lesson rather than simply copying notes off the board. There were always some teachers observed in the staffroom during school hours marking piles of pupils' exercise books.

Teachers' views on Teaching and Learning.

A group of six teachers (all female) were asked to rank methods of helping pupils to learn better. Ten possible activities were listed, which had emerged during the interviews. Teachers were asked to rank the activities in pairs according to the design of the matrix (Table 4).

Table 4 Summary of Matrix Ranking of Ways of Helping Pupils Learn: Teachers at School A.

Rank	Method of Learning

1	Pupils doing practical activities
2	Teacher giving examples
3	Pupils asking questions
4	Pupils singing or reciting
5	Teacher talking or reading to pupils
6	Teacher asking questions
7	Pupils talking about their own experiences
8	Pupils writing about their own experiences
9	Pupils helping each other
10	Teacher beating pupils

"Pupils doing practical activities" and "teacher giving examples" were ranked highly by teachers as the best ways of helping children learn. Teachers said that learning by doing helps pupils remember for a long time, as does the provision of examples if there are many ("examples" included exercises

and short assignments). The idea of pupils talking about or writing about their own experiences, which was thought to be relevant to learning since one would be moving from the known to the unknown, was not ranked particularly highly. Asked why this was so, most teachers said that things that happened in pupils' homes were private and some of them confidential. The other argument was that there were class differences among pupils and the types of homes they came from. To ensure that those coming from poor homes with limited resources did not feel an inferiority complex, such an approach was not very much favoured. The teacher beating the pupils as a way of helping them learn was not preferred at all, although it was observed that pupils were being beaten every day, an approach supported strongly by the head teacher. The teachers' ranking therefore might be interpreted as what they saw as an ideal situation, rather than what was practised on a daily basis.

Teachers at School A were of the opinion that teaching and

learning could be improved if certain inputs were injected into the system. A group of teachers (four females) prioritised them as shown in Table 5.

Contrary to what might be expected, especially since it was a subject much talked about, higher salaries were not the top priority, and in fact were ranked in bottom place. Teachers ranked most highly the need for better training (both pre-service and in-service), participation in the curriculum development process, and provision of the basic teaching-learning materials which are deficient in schools. They went on to say that without these inputs, a teacher could not do his or her job anyway, and so an increased salary would be meaningless for teachers who had a genuine love of teaching. It should be noted, however, that all teachers interviewed were aware that the focus of the research was teaching and learning practices. The possibility that they prioritised the areas in which they thought they might receive some help from the team cannot be ignored.

Table 5: Inputs needed to improve teaching and learning: Teachers at School A.

Rank	*Inputs*
1.	Training for teachers (long courses)
2.	Consultation in curriculum development
3.	Teaching aids
4.	Seminars and workshops
5.	Stationery (paper, books, pens)
6.	Textbooks
7.	Support from District Education Office
8.	Support from community
9.	Smaller numbers in class
10.	School inspections
11.	More secondary school places
12.	Resource centres

13.	Buildings
14.	Furniture
15.	Higher salaries

Learners' views about teaching and learning

As this was the first case study carried out, and the research process was still being refined, a shortage of time resulted in pupils not being asked to undertake the matrix ranking exercise. In interviews, pupils did say, however, that they preferred teachers who gave examples, and who taught so that they understood. One pupil stated that she preferred teachers to use examples based on what she knew already. Members of one group of pupils interviewed stated that they had *"had enough of rural life",* and wanted to leave the village because there was nothing new to learn there. One pupil said that she would like to learn about new people and

places. Perhaps the proximity to the road, and hence access to Arusha, as well as interest in job possibilities has an influence on the broad view of education held by pupils in the school.

2.3.6 The Home Environment

The parents interviewed stated that they viewed education as being very important for their children, perhaps not surprising as they were members of the village school committee; one parent described it as *"the key of life".* They felt, however, that educational standards had fallen. Parents interviewed complained that they felt powerless about what went on in schools, even though they were expected to contribute financially to school construction and maintenance. They felt frustrated that they had no possibility to interact with those who decided what their children learned in school.

Various examples were given to illustrate the dissatisfaction

with their children's education. One parent claimed that a Standard VIII (top-primary in a previous system) pupil was *"brighter"* than a Form VI (A level) pupil of today. Another example given was of a Standard I entrant who had the advantage of 2 years kindergarten in Dar es Salaam; it was thought that she was as *"bright"* as any of the Standard IV pupils in school A. In general, parents felt that children were less enthusiastic about education than they used to be.

The parents interviewed stated that they thought all teachers should continue to receive training in order to keep up to date with new developments and lack of in-service training was identified by parents as a limiting factor in their children's education. One parent stated that he would like to see teachers receive scholarships or some in-service training provided by the government, particularly in the "3 Rs", Science and English. In terms of relative importance, parents identified Mathematics, Geography, Domestic Science (for girls) and Agriculture as key subject areas. They also

expressed the wish to see Business Studies/Commerce (to assist school leavers to set up small businesses) and health and disease prevention dealt with more strongly in the curriculum. Parents seem willing to support the school when it comes to disciplinary issues. One parent stated that parents whose children came home complaining of being beaten by a teacher would also mete out discipline to a child *"if they knew the value of education".* Other parents, however, cited cases of boys who had been circumcised (and therefore had entered into adulthood) being beaten, and even worse, being beaten by female teachers. This went against traditional practice, and some parents had complained when it happened.

Interest of parents in their child's schooling depends on the general outlook of the parents on education. It was stated that some parents regularly checked their children's exercise books and asked them about progress at school, whereas

others never bothered; it was *"not a skin off their nose if a child works or not".* Those who did check test scores were sometimes confused because of the overall low standards of a class; an example was given of a child who came home with a test score of 45%. On being accused by the parent of not working hard, the child pointed out that he had come 4th in the class out of 85, the top mark being only 48%.

It is apparent that the relationship between parents, particularly fathers, and their children also affected the amount of direct parental interest in schooling. In response to the question regarding children asking their parents questions, it was explained that, traditionally, children would find it difficult to talk to their fathers, and would use the mother as a *"bridge to the father".* Men would tend to talk to other men of their own age group and status. It was claimed that this could be disadvantageous in matters relating to schooling, since many women had not had the opportunity to

attend school. Some parents felt that these traditional roles and relationships were changing, and would prefer to return to them to maintain the respect of children for their parents, and the *"distance"* between them. One parent noted that change was inevitable, however, and it was up to parents to deal with these new situations as they arose.

Some parents felt that their children needed more help with schooling than was offered by the school in normal hours. In addition to the normal primary school fee and the contribution from all villagers of 50 shillings per year for school upkeep, many children at school A receive "tuition". Tuition costs 1000 shillings per month; hence it is a considerable source of income for teachers (or *"motivation"* as described by the head-teacher) and a major expense for parents. Not all parents can afford to pay for tuition. In the current Standard VII class, made up of 85 pupils, 30 go for "tuition". How much of the school's academic success is due to tuition is not known, but most of the pupils who proceed to secondary

school have had the advantage of tuition. Some parents expressed the view that a pupil's progress would be dependent on the wealth of his or her parents, and that educational goals would not be achieved if there was a different form of education for those who could afford it. One parent, a businessman, felt that it was up to parents to pay if they wanted their children to succeed. The local councillor suggested that all parents might make a *"top-up"* contribution to teachers' pay which would allow all pupils to receive "tuition".

With regard to the future of their children, parents expressed the view that they would prefer their children not to enter agriculture, since they wanted them *to "go beyond what they had achieved themselves".* They wished that all their children would eventually live in a *"modern house",* which clearly had implications for their future income and where they would live and work to achieve this goal. They saw that education could

enable children to become self-reliant, and to get employment in the *"modern sector".*

2.3.7 Contextualising Teaching and Learning

With regard to contextualising teaching and learning, teachers acknowledged that, according to Tanzanian government aims for education, they were supposed to relate the content of the curriculum to the local environment. They thought that the pre-service training they had received had been helpful, and did enable them to practice this by relating the content of the curriculum to locally relevant examples. Examples given were:

- discussing local crops and livestock in Geography;

- using objects brought in by children (fruits, seeds, household objects) to teach about prepositions in English;

- using round objects from home to teach about circles in Mathematics;

- asking young children how many cows they had at home in Mathematics;

- asking pupils how they cultivated their home vegetable gardens in Agriculture.

From observations and discussions with teachers, it became apparent that some teachers contextualise learning by using examples on the spur of the moment, without conscious planning, or without really understanding that this could be a strategy used more regularly. One teacher noted that basing teaching and learning on children's own experience was useful because teachers *"should learn from them",* and *"have to know their interest".* He acknowledged that this was difficult when pupils had different ranges of experience but explained that this could be overcome by using different types

of examples, a practice welcomed by pupils as well.

Pupils stated that teachers never asked them directly about their home life, but did sometimes ask about things relating to the village. They thought that what they learned in school was different from what they learned at home because it was an organised programme of learning. They also pointed out that at home they learned agriculture, whereas at school they learned about reading and writing. They did not draw the link themselves between learning about agriculture at home and at school. School learning was thought to be more valuable as it could help them get good jobs. They noted that the qualities of obedience and respect for elders learned at home were useful in the school context. Pupils also laid great emphasis on examples given by teachers. They felt that this was an important part of the learning process, especially when the examples were based *"on things they knew already".*

In the interviews with parents, a lot of interest was expressed regarding the development of teaching strategies which relate learning to the local context. In general the concept was welcomed, particularly by linking learning to the pupils' agricultural background. There was general agreement, though, that children should not be encouraged to discuss their family life in great detail in the school as this was seen as an invasion of privacy.

2.3.8 Using agriculture as a means of contextualising learning

From the above examples given, it is clear that some teachers did attempt to relate the learning experience to the pupils' agricultural experience, for example in Geography and Mathematics. It was apparent, however, that teachers at School A had a limited capacity to find ways of doing this. This was illustrated, ironically in an agricultural lesson observed which dealt with coffee production. This presented

an ideal opportunity to relate the content of the lesson to local conditions, since coffee is the main cash crop grown in the region. The teacher did not ask the children about their knowledge or experience of coffee production, even though children help regularly with the coffee harvest, and coffee trees grew in the school grounds. She did ask the class who had drunk coffee that morning; in fact no-one had, as, in response to a second question, it was apparent that all had drunk tea. She also showed the class small coffee plants, one of which was planted later, and passed around the class examples of coffee beans, fresh and roasted, ground coffee, and leaves with evidence of a rust disease.

Some teachers did use agricultural examples, either intentionally or unintentionally, to bridge the gap between school learning and the home environment. Since, as noted above, discussing the actual domestic scene obviously held a number of taboos, reference to work practices such as agricultural activities had two advantages, firstly being

familiar to all school pupils and secondly being fairly uncontentious.

2.3.9 Issues arising from the School A Case Study

The list of characteristics of an innovative school had been discussed with the DEO, but his choice of School A as an example was probably influenced also by the fact that the head-teacher had provided strong leadership in the local community during a period of tribal conflict. Partly as a result of the headteacher's efforts and his good relations with local community members, particularly the village elders, order and harmony had been restored. The good relations between the head teacher and local community members was quite apparent during the visit. Since many schools in Arumeru District do not benefit from this harmonious atmosphere, the reason for the choice of this particular school became more clear. In fact, many of the characteristics of an innovative school are absent from School A, particularly resources such

as teaching aids, pictures, books etc. The school is fortunate to have several very long serving teachers, who demonstrated verbally and practically their ability to provide stimulating learning experiences for their pupils. There are also a number of younger teachers, however, who seem to lack enthusiasm for their work, and in this regard a really strong sense of a school community seems absent. Even so, the demand from all teachers for greater support and further training is very strong.

A real advantage for School A is its location in a community which has several business-minded individuals as members. This small group of men have contributed considerably to school funds for buildings and equipment, and have encouraged other community members to give what they could, either financially or through time and labour. The school has also developed a "sister" relationship with a primary school in the UK, and some co-operation and communication is already taking place. In this sense, the

relative security of the school means that innovations can be developed in a secure environment. The apparent lack of teacher-led innovation seems, therefore, to be caused by other factors, the absence of which mitigate against the use of alternative methods of teaching and learning. One such factor which might strain relations within the school is the preference of the head-teacher for male staff when apart from himself and one other male, all the teachers are female. Subgroups of teachers appear to exist as well, which is not conducive to the creation of a collaborative culture within the school. There seems also to be a view pertaining amongst many of the school members interviewed that education is very much a means to an end, rather than an important process which can continue throughout life. For some of the teaching staff it provides an interim means of employment. For pupils it may result in a job, preferably after leading to a secondary school education.

The concept of contextualisation proved difficult to grasp for

almost everyone interviewed at School A, teachers, pupils and parents alike. A certain amount of explanation and careful questioning, was required before understanding was reached about the focus of the research. Once the nature of contextualisation was grasped, a great deal of enthusiasm was generated, since everyone, without exception, stated that they felt it was an excellent practice to pursue. Some teachers were delighted to discover that they were actually using it to a limited extent, although there was no evidence at School A that learning was being contextualised in a conscious fashion, other than through the use of occasional examples, recognisable to pupils, to illustrate certain topics from the curriculum. It is true that some of these examples have an agricultural basis, but they seemed to be picked out at random. Their use seems also to depend on the enthusiasm of the teacher to move beyond the specific material included in the teachers' guide. All of the teachers interviewed stated that they would like to learn more about

how to contextualise learning.

Even with the good relationship between school and community, the school and village environment are not used as a source of interest or reality which can provide a basis for an understanding of more abstract concepts. In this sense, the case study yields little information towards an understanding of how learning can be contextualised and the impact that this would have on pupil performance, attendance, and attitudinal development. It does, however, provoke a degree of questioning about what conditions will create fertile ground for the contextualisation of learning. It also provides an excellent illustration of the enormity of the problems facing rural primary schools in Tanzania.

2.4 An 'average' school - School B

2.4.1 The Community Environment

School B is situated in a village about 5 km to the south of the village where School A is located. The two villages are separated by a deep valley. School B's village has a population of 2,555 people of which 950 are adults, 1,460 children and 145 are handicapped people. The village also has safe piped water which has been rehabilitated by a USA-based donor agency so that more water is available to meet villagers' requirements

Agriculture

Economically the vast majority of villagers depend on agriculture. The village lies partly on steeply sloping land, where coffee is grown as a cash crop. The other section of the village is on lower lying ground where farmers grow maize, beans, and bananas, mainly as food crops. Livestock are also kept (dairy cattle on hill slopes and beef cattle and goats on the lower and drier areas). On average, a household farms 2 acres of land and owns 2 dairy cows (on

the slopes) or 3 beef cows (lower lying). A number of people are engaged in vegetable gardening, but some are employed in a large, commercial, rose growing industry located near to the village. The soil is fertile, and there is no shortage of water for agricultural purposes.

Social and economic background

The villagers have access to piped water and electricity, but few homes are connected to the power supply. The village lies near a wide but rough dirt road, but access to the village itself is by a narrow track or footpath. Occupations range from purely farming to various types of business such as owning bars and shops. The main tribal group represented is the Warusha, but some Wameru and Chagga people live there also.

According to villagers, there is not a great difference in wealth between community members, since there are few

business owners. Income is seasonal with lean and relatively affluent periods of the year. A number of farmers are also artisans, e.g. carpenters, cobblers, tailors, but they tend to carry out their trade during the periods of the year when people have cash to hand, during and after the harvest. The average size of a household is 8 people. A number of pupils who attend the primary school are noticeably poorly clothed, and ill-health and poor nutrition are constant problems. From their height and physical appearance, many of the pupils aged 15 or 16 appear to be four or five years younger than they actually are. One pupil had died in the previous year due to malaria, which could have been treated had there been medication available.

Relations between School and Community

The head-teacher and teachers thought that it was important to have a good relationship between the school and community and they felt that, in general, the existing

relationship was satisfactory. One problem identified by the headteacher, was that the village school committee wanted to *"overcome the school",* and the chairman would sometimes arrive expecting to check on how things were going. This situation arose apparently because community members were not sure about the role they had with regard to a school which they had built themselves and continued to support financially. The headteacher had received a manual from the Institute of Manpower Training for Educational Personnel (MANTEP), entitled the "Educational Management Training Manual". This included a section on how a head-teacher should educate the village school committee on *"the difference between the school and the village".* The village school committee apparently attracts sporadic support, and includes three women members as recommended by government guidelines. Unfortunately the women members rarely attend committee meetings, possibly because they find it difficult to interact with men according to traditional custom.

Some outside "experts" come into the school and contribute to teaching, for example, veterinary and health officers working in the local community. School teachers said that they did not have any particular additional role to play in community life.

2.4.2 School Environment

Background

School B opened in 1977 when universal primary education (UPE) was implemented for the first time, starting with one class. The classroom was constructed by the villagers and parents. Later the villagers built four more classrooms making a total of five. Due to their financial limitations, the parents decided to build the classrooms using poles and thatched with grass. Initially there were no desks at all and children were forced to sit either on the mud floors or on stones. In 1993 the villagers and parents in collaboration with

World Vision International built four more classrooms to make a total of nine and one office for teachers. The Arumeru District Council assisted by providing iron sheets for roofing two classrooms (Photo 4.)

In August 1996, there were 682 pupils (344 boys and 338 girls) from Standard I to VII and 15 teachers (3 men and 12 women), one of whom is the head teacher. Six teachers are Grade A and the remaining 9 Grade B by qualification. There are 12 streams, all of mixed ability. Standards I-V are divided into 2 class groups each, whilst VI and VII are in single groups. Average class sizes are in the region of 80, although between 15 and 20 pupils are usually absent from a class at any one time. Standards I and II are taught in shifts, stream IA and IIA in the morning, and IB and IIB in the afternoon. Of the pupils attending the school, it is estimated that about 93% come from an agricultural background.

Since the school started to present its students for the

Primary School Leaving Examination (PSLE) in 1984, only 21 had been selected to join Form I public secondary schools by 1995, making an average of less than 2 students per year in the 12 year period. The highest progression rate occurred in 1995 when 6 out of 79 candidates were selected, thanks to the establishment of a day secondary school nearby. This sudden increase has improved the academic reputation of the school locally.

School Surroundings and infrastructure

Since 1993, the donor agency has rehabilitated the nine classrooms and the teachers' office and provided 50 desks and 10 tables for teachers' use. There are only two teachers' houses for five teachers (two families in one house separated by a wall, with two small bedrooms each) and the other one is shared by three unmarried women teachers. The first house was built by villagers and parents while the second one was built in collaboration between the villagers and the donor

agency. There is very little land, since the plot on which the school is built was donated by a local farmer. Apart from the school buildings, there is a football pitch, but no school garden.

The absence of teaching aids is the source of greatest concern amongst teachers and pupils alike. Classroom walls are completely bare, even though there are lockable doors on all rooms. Some teachers have made their own materials, for example a map of Tanzania, and the parts of a maize plant, embroidered onto pieces of cloth. These materials are durable and cheap in terms of materials, but had obviously taken some considerable time and ingenuity to make. Teachers acknowledged that they could make other materials if paper, pens, magic markers and coloured chalk were available, but due to lack of money this was not possible. Some teachers do bring in materials locally available, or ask pupils to provide them. One teacher had obtained frogs for dissection in science, arid rats had also been used to

demonstrate the effect of an absence of oxygen.

Photo 4 School B and pupils' mapping activity

2.4.3 The Teachers

All teachers but one interviewed complained that they had had no in-service training or opportunities for professional development since leaving teacher training college. The head-teacher was the only exception, as he had been on two short courses in his 17 years of teaching; these were in "leadership" and "educational management". Even so, he felt that all teachers required *"refreshers"* on a regular basis. He stated that he tried to read about new or difficult areas of subject matter and alternative methods of teaching, but found it difficult on his own with no support. One woman teacher said that she wished to attend courses in English as she was required to teach it; these courses are only available in Arusha town. On calculating the cost for her to undertake the

course (including transport and fees), she estimated that this would leave her very little money from her monthly salary for food and clothing. Several teachers mentioned that they visited other teachers in local primary and secondary schools for advice on some subject matter when they had a problem. Areas identified in which training was urgently needed were English, Science and Mathematics. The reasoning behind this was that many teachers had studied very little of these subjects in their own education, and are now expected to teach them to pupils. Training in methods of teaching and making and using simple teaching aids was also thought to be important. One teacher mentioned that she would like the educational programmes broadcast on the radio to be reinstated. Another area identified for in-service training was in methods of assessment of pupils as this was limited, currently, to monthly tests. It was pointed out that teachers had no idea about how to assess anything other than the acquisition of knowledge.

The headteacher clearly was concerned that this school should be run as efficiently as possible, and was attempting to develop his knowledge of school management techniques. The atmosphere in the staffroom was welcoming and friendly, and relations between staff and the head teacher appeared good. The problem relating to salary payment was witnessed on one of the visits to the school, however, as only 5 out of the 15 teachers were present, the rest being at the District Education Office, trying to acquire their salary payment. The suggestion that one teacher might go to collect all the salaries and bring them back was not seen as being realistic, unfortunately, as *"today, not all teachers are honest".*

When asked to rank the qualities of a good teacher, the groups of pupils (four males and four females) and teachers (two males and two females) had similar priorities (Table 6). A good education was seen as the most important quality of a teacher by both pupils and teachers, since without this it was thought a teacher would not be able to handle the

content of the syllabus. Commitment and *"love of teaching"* were seen also as of great importance. Otherwise, pupils rated highly those qualities in teachers which were related directly to themselves, such as friendliness towards pupils, encouraging understanding, and getting many pupils into secondary school. Teachers on the other hand tended to prioritise those qualities with direct relevance to themselves and their work, such as good behaviour, appearance and following the syllabus.

Table 6: Ranking the Qualities of a Good Teacher (School B)

Pupils' response	***Teachers' response***
1. Good education	1. Good education
2. Gets many pupils into secondary school	2. Commitment
3. Commitment	3. Good behaviour
4. Love of teaching	4. Appearance

5. Prepares for lessons	5. Willing to learn from others
6. Friendly to pupils	6. Follows syllabus
7. Helps children understand	7. Prepares for lessons
8. Good behaviour	8. Helps children understand
9. Gives examples	9. Can use and make teaching aids
10. Strictness and discipline	10. Gives examples
11. Willing to learn from others	11. Love of teaching
12. Gives feedback	12. Attends classes
13. Follows syllabus	13. Is active in classroom
14. Flexibility	14. Gets many pupils into secondary school
15. Can use and make teaching aids	15. Friendly to pupils
16. Attends classes	16. Encourages interest

17. Encourages interest	17. Flexibility
18. Is active in classroom	18. Gender
19. Appearance	19. Strictness and discipline
20. Gender	20. Gives feedback

During interviews, pupils noted the need for a teacher to help pupils understand during lessons, and that teachers should be fair-minded, give feedback and attend classes regularly. Several pupils thought that a good teacher should beat a student in order to correct mistakes, and judging by the constant sound of beating throughout the day, teachers thought this necessary also, even though this received a very low ranking by pupils and teachers as a means of helping pupils learn. Other pupils cited being beaten without reason as their chief dislike of school. One teacher thought that poor teachers could be *"too strict with nothing else to offer".* As at School A, this highlights the differences between an ideal in

the minds of pupils and teachers and the reality of the everyday situation.

2.4.4 The Learners

School B pupils were not asked to draw maps of their daily activities. Since they come from a village which bears many similar characteristics to the village of the School A case study, the assumption could be made that their non-school activities are also similar. One difference observed about school pupils at School B was the greater degree of poverty in general. Many of the children at the school have evidently suffered malnutrition, and are physically smaller than would be expected for young people of their age. A considerable number of pupils were seen to remain in the school grounds during the lunch break, unlike School A where the grounds emptied rapidly. Teachers stated that some pupils would not find any food at home at that time of the day; since there were no school meals they had no choice but to remain and

play games or sit around until the afternoon session recommenced.

A group of pupils (four male and four female) were once again asked to say as a group why they thought some children go to school and others do not. Their responses are shown in Table 7. At this school, it is interesting to note that learners seem more aware of the idea that education might have an intrinsic value, rather than being purely a means to the end of obtaining a job. This may be a reflection of the learning environment of the school, and the headteacher's interest in education.

Table 7: Ranking why children do or do not go to school, School B.

Why do children go to school	***Why do some children not go to school***
1. To get education to help in life	1. They don't know the

	importance of education
2. To learn how to read and write	2. Health problems
3. To learn things to help the nation of tomorrow	3. Parents cannot meet school costs
4. To get a job	4. Some parents do not follow progress of schooling
5. To learn how to help our parents	5. Girls are discouraged because of tradition
6. To learn about current and future events - to be future leaders	6. Afraid of being beaten by teachers
7. To learn about science and technology	7. Involved in petty business or mines
	8. They have to help their

	parents (look after cattle)
	9. Some are taking drugs
	10. Because their parents have passed away
	11. Marriage

2.4.5 Teaching Learning Processes

The curriculum and content of learning

Teachers interviewed felt that the curriculum was very problematic. The head-teacher pointed out that, in the old curriculum still being used, there were too many subjects (13), and that this was too much for pupils to deal with; *"pupils don't get any sufficient education - it's not good to put too many things in the head of a young student".* Much of the content was thought to be irrelevant to the lives of young rural children, since according to the head teacher, *"When they go*

home there are no such things there". The Science and Technology content in particular was seen to be far removed from rural life.

The situation is worsened, according to teachers, by the absence of any of the recommended teaching aids and resources, and also a shortage of textbooks. Teachers' guides, the "bibles" of primary school teachers, are not available for those courses which have a new syllabus. KiSwahili is a particular problem area, as teachers were warned sternly by inspectors that they should not refer to the old guides, which contain messages supportive of party policies now abandoned. Further, new KiSwahili terminologies are not included in the old books. Unfortunately, the new guides, supposedly available in 1993, cannot be obtained from anywhere. In some subjects, the syllabi have been received without any textbooks, and in others, some textbooks have arrived without syllabi and teachers' guides. The newly introduced subjects like Life Skills and Civics have

no materials at all, so teachers are left to struggle on their own.

Teachers felt frustrated that the centrally developed curriculum was constantly changing and inadequately supported with reference materials. They rated highly the need for teachers to be consulted in curriculum development. The head teacher felt strongly that teachers should become involved in the curriculum development process, rather than the curriculum being developed solely by a team within the Tanzania Institute of Education. As he said, *"We are the ones who know more deeply than themselves. We are the ones with the experience; because they have not taught for a long time they can forget something."* Teachers noted instances where the curriculum failed to account for the great diversity of agro-ecological conditions throughout the country. One example was the description of seasons in the syllabus and books, which in practice vary enormously from region to

region.

Teachers felt strongly that they were overloaded, having to teach from morning until the end of the school day with very little time for preparation. Lessons divided into 40 minute periods clearly did not allow sufficient time for the content to be dealt with in detail. Also there were neither books for schemes of work nor formats for lesson plans, which discouraged teachers from adopting an organised approach to their work.

What takes place in the classroom

Teaching practice, at school B, involves much teacher talking and writing on the board, plus considerable use of singing and chanting by pupils. In a Standard III English class observed, the entire lesson revolved around the teacher making a statement, based on an object or objects held up, which was repeated in unison by the pupils. When the

statement was changed or became more difficult it was noticeable that only a few pupils were sure enough of what was being said to repeat it perfectly; others mumbled, clearly listening to those who were calling out loudly. On repetition, the entire class could soon recite the sentence perfectly. This process sometimes led to confusion, as follows:

> Teacher (holding up a book): *This is a book*
> Pupils: *This is a book*
> Teacher (holding up three books): *These are books*
> Pupils: *These are books*
> Teacher: *How many books are there?*
> Pupils: *How many books are there?*
> Teacher: *No no no, count! How many books are there? One, two, three!*
> Pupils (very hesitantly): *There are three books.*

Another example from the same lesson:

Teacher (holding up a spoon): *Is this a spoon?*
Pupils (fading rapidly): *Is this a.....*
Teacher: *No, no. Is this a spoon?*
Pupils (some): *These are spoon*
Teacher; *Is this a spoon?.....moja, moja!!* (one, one!)
Pupils (some, hesitantly): *This is a spoon*
Teacher: *This is a spoon!*
Pupils (all, loudly): *This is a spoon!*

Ultimately all the pupils did repeat the sentences correctly. It was unclear, however, whether they had learned the meaning of the sentence, or whether their skill lay in expert mimicry. In a Standard V English lesson observed (Photo 5), pupils obviously had a greater understanding of what they were reading, although in a class of 65 there was one book for every seven or eight pupils. As the pupils were sitting in rows, half of each group were effectively reading the book upside

down, but still managing to repeat in unison the short sentences read aloud by the teacher. One ramification of this strategy of chanting, along with the frequent use of singing, is the sheer noise emanating from each classroom. Since the roofspace between each classroom is not sealed, it is sometimes almost impossible to hear the teacher talking if the pupils in the adjoining room are singing or chanting.

Photo 5: The Classroom - School B

In observed classes, a typical pattern of teaching was as follows:

- teacher and pupils exchange greetings
- teacher refers to the previous lesson
- pupils sing a song
- new topic is introduced
- teacher follows teacher's guide (when available) with class

- pupils sing
- teacher gives exercises to pupils

The time allocated to content rarely exceeded 20 minutes. In addition to the above activities, teachers regularly beat students. Beating a class of 65 would in itself take up at least 5 minutes of the lesson time. Teachers noted also that they found it difficult to use group work because of the lack of time available for teaching each subject and the overcrowded conditions.

"Tuition" is being used as a means of boosting the chances of those pupils whose parents can afford it. Four teachers are involved, and these were chosen by the head teacher on the basis of their ability to deal with difficult subjects such as Mathematics. It was explained that "tuition", offered three evenings per week, was different to normal teaching as groups were small (around 5-15 per group) and much more time was spent on doing exercises. The cost was Tsh500 per

month, and for this reason was unpopular with most teachers who felt that the extra effort involved was not rewarded sufficiently. The head-teacher admitted that teachers would tend to favour those pupils to whom they gave tuition in the normal teaching sessions, and this meant that those who were prepared to pay tended to reap the educational dividends in terms of progression to secondary school. He went on to say that he had tried to persuade all parents to send their children to tuition, but some parents questioned why they should be paying extra for something which the government was supposed to provide anyway. As a result, some teachers had decided to give extra teaching to a whole class for free.

Teachers' views on teaching and learning

Both teachers and pupils were asked to undertake a matrix ranking exercise, to find out how they ranked different methods used to help pupils learn. The same list of methods

was provided as at School A, these having been drawn from points raised in interviews with teachers, pupils and parents at both schools. The response from the teachers (two males and two females) is shown in Table 8.

Table 8: Summary of Matrix Ranking of Ways of Helping Pupils Learn: Teachers at School B

Rank	***Method***
1	Pupils doing practical activities
2	Teacher giving examples
3	Teacher talking or reading to pupils
4	Teacher asking questions
5	Pupils asking questions
6	Pupils singing or reciting
7	Pupils writing about their own experiences
8	Pupils helping each other

9	Pupils talking about their own experiences
10	Teacher beating pupils

Teachers ranked "pupils doing practical activities" and "teachers giving examples" as the strategies which were most helpful to pupils' learning. Reasons given for this were that practice and doing examples contributed greatly to understanding. Teachers gave a very low ranking to beating as an effective way of helping pupils learn, even though beating was common throughout the school. Singing was seen as a useful method, and this was borne out by its regular usage, as mentioned above. Teachers did not give a high ranking to pupils writing or talking about their own experiences. Reasons for this are discussed below, under Issues.

When asked to rank the inputs which they thought would improve teaching and learning, teachers (two males and two

females) highlighted training, and greater involvement in curriculum development as most important. The ranking produced was remarkably similar to that from the teachers at School A. The point made earlier about the possibility of "researcher influence" may apply here also (Table 9).

Learners' views on teaching and learning

The results from the group of pupils (four males and four females) who completed the same matrix ranking exercise as the teachers is provided at Table 10.

It is interesting to note that, although the pupils and teachers were not aware of each others' responses, the first two positions were exactly the same, "pupils doing practical activities" and "teacher giving examples". Beating was knocked off the bottom position by singing, rather surprisingly. Evidently teachers thought more highly of the use of singing than the pupils who carried out the ranking

exercise. One of the pupils from a Standard VII class stated that singing was more appropriate for younger children. The volume of the chorus emanating from Standard I, II and III classrooms suggested that this was indeed true.

In interviews, pupils noted that the limited opportunity for practical activities and the heavy emphasis on theory led to them finding learning difficult in school. Learning at home, on the other hand was thought to be easier because children learned by doing, reading and writing was not involved, and there was no time limit on any activity. Learning about agriculture was thought to be quite different at home to that at school, since at home it was practical, whilst at school it was entirely theoretical, there being no school garden. Mathematics, was identified by some pupils as their favourite subject but also as the most difficult, especially due to the lack of textbooks and the many principles involved. Science and English were identified as other popular subject areas. One boy said that he liked Science because it helped him to

think about developing simple machines which could be used at home, for example for cutting grass. Another said that he liked mathematics because it would enable him to understand about money and avoid being cheated. English was popular as it would allow pupils to interact with *Wazungu* (white people) who they might come across in Arusha. Pupils felt that what was learned at school was more important than what was learned at home because many more things could be learned, for example writing, *"drawing a world map", "history from long ago"* and world issues. Another important factor was that those things learned at school would be examined. Pupils attached a high degree of importance to passing examinations, as this would help them ultimately to gain a good job, and so help their parents in the future. Examples of career aspirations of pupils interviewed were to become teachers, doctors, nurses, a policeman, a member of parliament and a chief accountant. All pupils interviewed stated that they wished to continue on to secondary school,

preferably a government boarding school as they would have more time for study there.

Table 9: Inputs needed to improve teaching and learning: Teachers at School B.

Rank	***Inputs***
1.	Training for teachers (long courses)
2.	Consultation in curriculum development
3.	Seminars and workshops
4.	Teaching aids
5.	Textbooks
6.	Stationery (paper, books, pens)
7.	Furniture
8.	Buildings
9.	Smaller numbers in class

10.	More secondary school places
11.	School inspections
12.	Higher salaries
13.	Support from District Education Office
14.	Support from community
15.	Resource centres

Table 10: Summary of Matrix Ranking: Pupils at School B

Rank	***Method***
1	Pupils doing practical activities
2	Teacher giving examples
3	Teacher asking questions
4	Pupils helping each other
5	Pupils asking questions
6	Teacher talking or reading to pupils

6	Teacher talking or reading to pupils
7	Pupils talking about their own experiences
8	Pupils writing about their own experiences
9	Teacher beating pupils
10	Pupils singing or reciting

2.4.6 The Home Environment

Parents interviewed stated that they thought relations between the school and community were good. They regretted that they were unable to provide more than they had, especially land, but they noted that this was in short supply for everyone. They were proud of the fact that, in the previous year, community members had contributed a million shillings; this was due to be used to construct a new office for the head-teacher and a new classroom. Although they stated that it was every parent's aspiration for their child to progress to secondary school, they knew also that there

were insufficient places, nationally, and that they should be realistic about their chances. Ultimately their goal was for their children to come back *"more advanced"* than their farming parents, either as *"Ministers", "civil servants"* or at least as skilled agriculturalists who could give advice on matters of production; *"most farmers are lowly educated and would like their children to go beyond what they have".* Having said that, one parent also stated that he would like his children to help him become a better farmer, even if they were not farming themselves.

Parents felt that in general, teachers were doing their best for the pupils. They felt in-service training and academic advancement of teachers was vital, again in Mathematics and Languages, but also in Agriculture. With regard to school pupils, one parent stated that children who attended school tended to be more respectful and cheerful than those who did not. Even so, it was said that, in the minds of many parents,

a child who failed to progress to secondary school might as well have had no education at all. This was because parents felt that primary schooling did not equip school leavers for life and work, and that 7 years of schooling was insufficient. There was some debate about this, however, during the group interview. One parent stated *that "those who come home after 7 years are sometimes more dumb than those who never went to school".* Another thought that some education would be bound to enlighten a child to some degree. There was general agreement that children should go to secondary school if at all possible, either by selection to a government school, or by paying privately. It seems that wealth of parents will frequently be the deciding factor in the educational life of a child.

The parents interviewed were members of the school committee and said that they took a personal interest in their children's education and the education of the village children

in general. They pointed out that this positive attitude was not universal, however, and that many parents who had never attended schooling themselves showed little inclination to support the development of the village school. Around 50% of parents had achieved Standard VII schooling. One parent stated that, for children to gain the most from schooling, it was necessary for them to know that they had their parents' support. According to the parents, young children in Standard III or below frequently talked about school when they came home, but older children became more reluctant unless they had performed particularly well. This inclination to talk about school depended also on the relationship between the parents and child, and whether parents asked their children questions or asked to look at their exercise books. One parent stated that he welcomed constructive questions from his children, but these should be *"within the bounds of the parents' expectations".* It was thought that most parents in the village would not want their children to be too inquisitive,

nor to talk openly about home life in school as this was confidential.

Pupils interviewed described ways in which they applied what they had learned at school in the home environment. Examples given related to cooking techniques, AIDS awareness (*"not sharing toothbrushes and razors"*), having a balanced diet and crop planting techniques. They stated also that the respect for elders learned at home was helpful to them at school. One boy mentioned that he had been taught to draw the map of Tanzania by his brother before he started school, and duly demonstrated his ability to reproduce it. The comment was made also by pupils that parents usually did take an interest in their work, and would often ask to see their school books. It seemed not to matter whether the parent was literate or not as *"even a parent who has not been to school can recognise a tick or a cross".* In general it was thought that fathers were more interested in their

children's work than mothers, perhaps because many more mothers had not attended school.

2.4.7 Contextualising Teaching and Learning

Teachers at School B said that they did try to relate teaching and learning to the pupils' experience, but were limited by their own knowledge of how to do this, the constraints of the syllabus and teachers' guides, the large class numbers and the lack of time available. Teachers gave examples of areas of the curriculum which could be linked to pupils' experience in the English syllabus; sections on *"the farm",* and *"soil",* for example. In KiSwahili, parts of the syllabus cross reference with Civics (although there are political implications here) and Agriculture, such as marketing of crops and beekeeping. The topic of *"time"* appears in both the mathematics and English syllabi.

One teacher was observed to encourage his pupils to

become involved actively in an English lesson in which the topic was road safety. This involved the pupils learning the difference in right and left, and the rules for crossing the road. In order to demonstrate this, the teacher, recently qualified and obviously enthusiastic, took the class outside to parade around, and to imagine that they were crossing the road. All instructions were given in English, and the pupils appeared to enjoy the practical activity. The teacher explained that the previous lesson was based on the preparation of breakfast, and pupils had made tea for themselves.

Other teachers said that they routinely brought in objects or asked pupils to bring in items which would then form the basis for a lesson. Examples were given of oranges divided into segments for Mathematics and different foodstuffs for Domestic Science. Pupils were also asked to describe how their mothers cooked the family food, with an aim to inform pupils (especially girls) about ways in which the cooking could

be adapted to avoid loss of nutrients. In particular, pupils were encouraged to tell their mothers to wash food before cooking it, so that the water in which it was cooked could be used as a stock base rather than being thrown away. One teacher said that she had visited some of her pupils to find out if this was happening, and, apparently, mothers were taking up the advice. Several girls also cited this example, and clearly had given a good deal of attention to it, possibly because, according to them, it was the only practical activity they had carried out in the subject. Another teacher described how in English lessons she would refer to household or other familiar items when introducing new vocabulary. Other examples mentioned by pupils were talking about what they did in the morning from when they got up, or bringing in clothes for washing. They thought that such activities were good because they were familiar to everyone and *"everyone can see it".*

Teachers interviewed stated that they thought pupils enjoyed

lessons which involved something with which they were familiar, and their motivation increased as *"the subject becomes more lively".* They noted too that pupils who could see a link between the home and school environments appeared to understand better, would tend to experiment on their own and remember what had been learned for a longer period. This was said to be indicated by improved test scores at the end of each month. Pupils were not asked to describe their home life, however, either verbally or in a written form, because it was felt that this could be intrusive and discriminatory towards those who came from the poorest families. As noted above, in the matrix ranking exercise, both pupils and teachers gave a low priority to pupils talking or writing about their own experiences as a means of encouraging learning. When questioned, pupils seemed unsure whether this was really *"learning".* Teachers said that they were more concerned about the risk factor, since pupils might *"talk about anything",* including things they do which are

bad. Smoking was cited as an example of a bad activity. When asked if pupils talking about *"good"* or socially acceptable activities could form a basis for effective learning, teachers were more enthusiastic, but still were worried about how to control what they felt was a potentially dangerous situation. They thought that in-service training could help them to refresh and develop new skills in this area, since they acknowledged that their tutors in pre-service training courses encouraged them to use this practice, but faced with the realities of primary schooling in a rural area, most teachers lapsed into traditional methods. Although the head-teacher felt that integrating pupils' experience into the learning process was particularly suitable for younger children, he noted that the pressure to use chalk and talk increased towards Standards V, VI and VII. As the threat of examinations becomes imminent, teachers said they felt that it is necessary to hammer the content home as much as possible.

Parents interviewed thought that linking school and home must be a good idea in principle, saying that they were interested in the idea and how teachers might manage to do this.

2.4.8 Using agriculture as a means of contextualising teaching and learning

With regard to agriculture being used as a source of familiar material, some teachers interviewed felt that their knowledge of local agriculture was insufficient. This problem was heightened by the fact that there was no Agriculture teacher in the school who could act as a resource base for other teachers. The presence of such a resource person was thought to be very desirable, particularly as it is very common for teachers to help each other when faced with academic problems. The head teacher thought that agriculture was a very good medium to use in a range of subject areas, for *"They (pupils) live with those things, coffee, cows; they have*

already got a picture in their brain".

One teacher stated that he had used an agricultural theme to teach an English lesson. This was actually a topic included in the teachers' guide, entitled *"A visit to a farm",* for which the teacher intended to take the class on a visit. The content of each topic was given in the textbook, but the teacher was developing strategies himself which moved away from the chalk-talk-chant approach. As he said, *"My teaching aids are outside".* He illustrated this with the example of teaching the English word *"bunch"*; pupils had difficulty grasping the meaning of this until they were taken outside and shown a bunch of bananas on a nearby tree. According to the teacher, *"it makes a picture and the pupils understand".* Parents also said that they thought that agriculture was a good way of linking school and home learning, since they liked their children to practice at home what they had learned at school.

2.4.9 Issues Arising from School B Case Study

It was ironic that School B was selected as the "average" school rather than the "innovative" school for the Tanzanian case study, since in terms of the focus of this research, there is evidence that contextualisation of learning is actually being practised by some teachers at School B. Abstract concepts are sometimes based on the experience of learners, and use is made of the local agricultural environment for the teaching of non-agricultural subjects. Also, a more immediate understanding of the concept of contextualising learning seemed to be reached by teachers, pupils and parents. This could, partly, have been due to the researchers becoming more skilled at explaining the concept, but the fact that some teachers were using consciously the local environment and pupils' experience as a resource for learning must have been an enabling factor. This does raise an important point, that many teachers need help to recognise which of their daily practices are valuable in improving the effectiveness of

teaching and learning. The lack of support and guidance meant that this rarely happens at School B. It was pleasing to discover during the final visit that the staff of the school felt that they had learned something themselves from the research process, and were viewing it as an unexpected and unusual form of inservice training. A demand was expressed very strongly for further training and professional support which would enable teachers to develop their capacity to contextualise learning.

A particularly important factor observed at School B was the collegial atmosphere amongst teachers. The welcome in the cramped staffroom from all teachers was extremely warm; teachers appeared to involve their pupils more actively in classes, and tea and lunch breaks with the researchers became small, cheerful parties. Even the interest from onlooking pupils during the data collection sessions became almost overwhelming. The head-teacher had attended two inservice training courses relating to management issues, and

even though this is very little in a 17 year career, lessons appeared to have been learned. He continues to read about educational issues by obtaining various literature, although this is difficult, and a willingness to reflect on his practice does appear to be paying off. As a result, teachers may feel more comfortable and supported, and hence more prepared to adopt alternative approaches to teaching and learning. As mentioned earlier, there seemed within the school to be a commitment to education as a good in itself, as well as a means to an end, from teachers, parents and pupils. The creation of such an atmosphere is clearly important for the introduction of innovative practice.

Still, certain problems remained to be overcome. Books, pictures and other resources are still conspicuous by their absence from classrooms. Teachers are concerned about the risk of encouraging pupils to take more than a minimal degree of control over their own learning. Pupils feel also that teacher-knowledge equals learning, and do not seem to

recognise that their own experience is both useful and valid. Parents are concerned about the potential breaking of boundaries between the home and school environment but, encouragingly, acknowledge the potential benefits of building closer links between school and the local community as a whole. It is clear from this case study that the development of these links should encourage the contextualisation of learning, since a greater knowledge and understanding of school and community life would be shared. In turn, using experiences familiar to the lives of learners, notably agriculture, should enhance the development of these links. A reciprocal relationship emerges, therefore, between the development of contextualised learning and improved school-community links.

The warmth and determination displayed by teachers at School B was impressive, and indicated a desire to provide the best possible education for their pupils under conditions made difficult by disorganised bureaucracy and local poverty. Teachers, pupils and parents alike have high aspirations for

the future of themselves and of others, but frequently noted was the awareness that the problems being faced by villagers were national and overwhelming. It appears that the local community is doing much to support its primary school, and the desire was expressed by many of those interviewed that teachers should be given the opportunity to overcome at least some of the obstacles through the provision of support and professional development programmes wherever possible.

3 Findings from the country study

The findings of this research indicate that, in Tanzania, a very large gap exists between the plans made by centralised curriculum developers and educational policy makers on one hand and the reality of daily life in schools on the other. Problems exist in both urban and rural schools, some of which are very similar, such as dilapidated buildings and a lack of equipment, and others which are more area-specific.

Urban schools tend to have much larger class sizes, of up to 150 pupils. Rural schools still suffer from large class sizes, but not to the same degree. On the other hand, rural schools suffer because their development depends largely on parental contributions, which in turn depends on parental perceptions of the value of education; many rural people have very little cash income and are becoming more reluctant to spend it on education which seems to be failing their children and themselves. This is because the goal of many parents is for their children to give them economic support in future years. This is less likely to happen if their children do not gain a place in secondary school, are unable to find employment, or lack the skills and knowledge which would enable them to set up business on their own. Hence the anticipated rates of return are much less, and the investment dries up from the grassroots. Teachers also are becoming demotivated as their salaries remain low and are difficult to obtain, especially in rural areas where transport is lacking or extremely expensive.

Schools in rural areas also lack access to information, there being few radios or newspapers available, and even fewer visits from schools inspectors who have no transport to reach the remoter schools.

Many of the teachers who contributed their views in this research are disillusioned with their working conditions and the lack of opportunity for professional development. Constant curriculum changes, an inflexible examination system, few secondary school places and an over-reliance on books and materials which cannot be obtained are strangling the process of teaching and learning. Teachers resort frequently to physical punishment. Teachers' salaries are insufficient for normal living expenses. In order to ameliorate this situation, headteachers may try to reward their staff in some way, perhaps by giving them small presents occasionally, funded by proceeds from the school *shamba,* but this is impossible where a school has no land or opportunities for income generation. As a result, teachers

"cannot afford life", as one head-teacher put it, and look for other opportunities for income generation to the disadvantage of their pupils. For all these problems, some teachers are committed to their profession and *"love teaching",* saying that they would like to continue their careers as teachers. Many teachers interviewed, including some of those who are frustrated with their lot, mentioned that teaching is an important way of serving the community and of helping others.

A particularly worrying issue is the evidence for a link between parental income and educational progression of school children. Those who can afford it will pay for extra tuition for their children. If their children fail to gain a place in government secondary schools, they may pay for a place in a private school. The rate at which private schools, and even community-built day-secondary schools are increasing is worrying in itself, as the pool of experienced secondary school teachers is becoming more and more thinly spread.

Thus the quality of teaching may be threatened at this level also. There is even the suggestion that teachers may deliberately underteach during normal lesson time to ensure that enough pupils will demand that their parents pay for "tuition". The quality of "tuition" itself is also suspect in some cases. According to one respondent, teachers advertise themselves as *"good"* teachers by dressing well and appearing confident in order to impress parents. *"When they see us with good clothing, they think we are good teachers".*

Contextualisation as a means of improving learning is close to Nyerere's original concept underlying "education for self-reliance". Teachers like the idea of it, as long as they feel in control of the situation to some degree, and are encouraged to adopt it as a strategy during their pre-service training programmes. The benefit of having a *"picture in the mind"* when learning was mentioned on several occasions. Parents appreciate the idea of linking schooling to the home

environment, as long as intimate details and confidentialities are not betrayed. Pupils describe the learning process at home as easier than at school because there is the absence of pressure from time, and because they are not called upon to deal with complex abstract concepts. If these preconditions for effective learning could be incorporated partly into school learning, the level of achievement might be improved; many respondents cited overloading of teachers and pupils resulting in exhaustion and boredom and the complexity and irrelevance of the curriculum as major obstacles to learning and performance. The obstacles are sometimes increased by schools inspectors, who, on their rare visits to schools, are likely to be focusing on achievement of educational objectives through transmission of content rather than through an integrated learning process. Teachers may even be reprimanded for attempting to use innovative teaching methods which stray from the rigid structure of the teacher's guide.

There is certainly potential for agriculture to be used as a means of contextualising learning in rural Tanzanian primary schools where it is common that more than 95% of pupils come from an agricultural background. An important point arising from this country study, however, is that agriculture varies tremendously from region to region, and even from village to village. The income of farmers may also vary considerably, as does the level of their education. There are implications here for the strategies a teacher must adopt in order to relate a child's agricultural experience to the content of the curriculum, since it is essential to take into account this diversity of experience as well as to be sensitive to the nature of the child's home environment, be it financially and educationally supportive or quite the opposite.

It is important to note that a gulf between community and school priorities will have a deleterious effect on the effectiveness of teaching and learning practices. As stated by the District Academic Officer, *"if authority at school is with*

the teachers and at home is with the parents, the pupils are caught in the middle". It is necessary to enable parents and teachers to work more closely together, in order to create a healthy climate in school. Appropriate teaching and learning strategies which link the home and school environments may help to bridge this gulf but in order to do this, teachers require training and support, and pupils and parents require information and reassurance that those aspects of their culture which they value are not threatened.

This study adds strong support to the idea that professional development of teachers is seen as a key to improving pupils' learning. Parents want to see the teachers of their children equipped to perform to their full capacity. Pupils expect teachers to be able to deliver the goods, enabling their children to progress to secondary school. Teachers rank training and support as the most important inputs they need. Policy makers want to see the teachers in their region receive training in order to motivate them and enable them to

be more effective. Developments are taking place in other regions and districts to try to address this, such as the creation of teachers resource centres (funded by Dutch and Danish aid programmes), and the development of locally relevant curricula (funded by German aid programmes). Interventions such as these in the District where the research was carried out would be of great value to everyone involved in teaching and learning.

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Sri Lanka

1 Education in Sri Lanka

Sri Lanka has a long history of education with the recorded history being traced back to sixth century BC. Since the granting of complete adult franchise in 1939, special emphasis has been given to the expansion of educational activities existing from pre-colonial times. Since 1945, education has been offered at no cost to all pupils from year one to the university. The constitution of Sri Lanka provides

universal access to education for all, and equalising educational opportunities has been achieved to some extent by strengthening both formal and non-formal education. However, the government has placed more emphasis on economic growth of the country. Public expenditure on education was Rs. 9450 million or 8.2% of government expenditure in 1990. By 1995 expenditure was Rs.12204 million, but had dropped to 6.4% of government expenditure. Of the estimated 4.2 million school pupils, 49% belong to the primary sector where the pupil-teacher ratio at primary level is 28.7 pupils per teacher (School Census, 1994).

1.1 The education system - Past and present

The education system in Sri Lanka classifies schools according to the level of classes in the school and whether the school is located in an urban, semi-urban or rural area (Table 1). In addition to this schools may be classified as 'disadvantaged schools'. These schools are often difficult to

access, such as remote rural schools or those in the plantation sector. Families are usually poor and parental literacy rates are generally low. Consequently the disadvantaged schools tend to experience high drop-out rates and low attendance rates, poor teacher retention, low motivation and infrequent visits by educational officers.

Table 1: School Classification

Type 1 AB	schools having classes GCE (A/L) science
Type 1 BC	schools having classes GCE (A/L) arts/commerce (other than science)
Type 2	schools having classes up to year 11
Type 3	schools having classes from years 1-5 or years 1-8
Small schools	schools with 1-2 teachers and less than 150 pupils in each school

Urban	schools within municipalities
Semi-urban	schools within urban councils
Rural	schools within Gramoda Mandalayas

The present school system consists of a five year primary cycle from year one to year five, secondary education for six years from year six to year eleven, and collegiate level from year twelve to year thirteen. General education at these levels is the responsibility of the Ministry of Education and Provincial Ministries of Education through the school system (Figure 1). National curriculum, teacher recruitment and teacher salaries are the responsibility of the Ministry of Education. Teacher training, infrastructure facilities and teacher transfers are the responsibility of both the Ministry of Education and the Provincial Ministries of Education.

Schools in Sri Lanka have three terms, January-March (term

1); May-July (term 2); September-December (term 3). The Year 5 Scholarship exam takes place during August at the end of the second school term. School hours are 8 a.m. to 2 p.m. for years 4 to 9, and 8 a.m. to 12 a.m. for years 1 to 3. Lesson periods are forty minutes each.

In year five (end of primary school) all pupils must sit a national scholarship exam. Up until 1994 the exam was only for Language and Mathematics. Consequently, teaching concentrated on these areas to the detriment of other subject areas and the pupils obtaining a general education. In 1995, the exam was modified to two general question papers, one is an aptitude test and the other assesses the knowledge and skills on all subject areas in the primary curriculum, except Religion. Maths and Language still account for a large percentage (50%) of the total mark. Great emphasis is placed on this exam as the prestige of the school depends partly on the number of pupils who pass the exam. The scholarship exam determines which pupils go to Type 1AB

and national schools. The scholarship exam is an issue of much debate and Little (1996) outlines a number of issues that have been highlighted by a range of stakeholders, which include:

- the distorting influence of the year 5 scholarship examination on the curriculum and pedagogy of primary education;

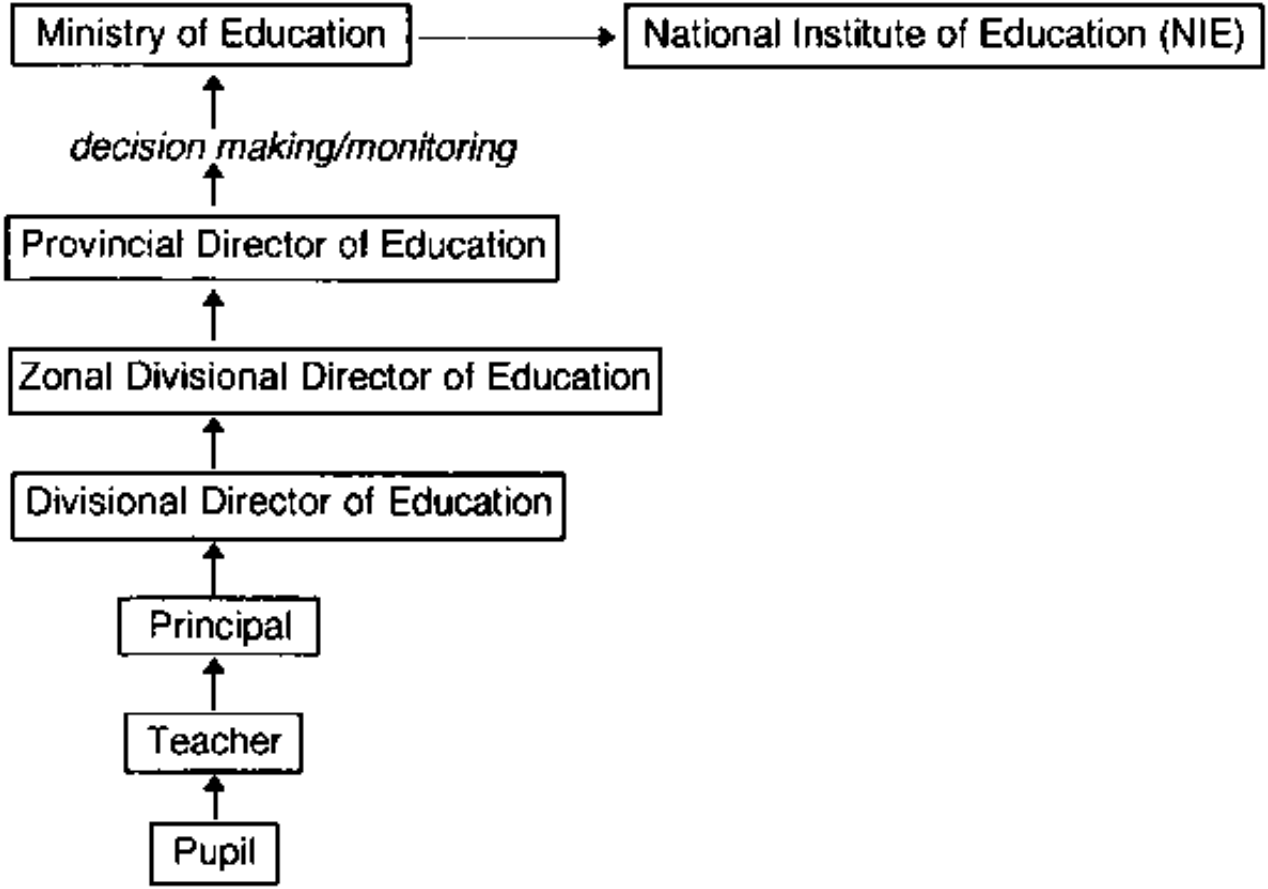
- low levels of 'mastery' in literacy and numeracy among year 5 primary pupils, combined with wide variations between schools, divisions, zones and provinces;

- substantial amounts of time spent by primary cycle students in private tuition;

- the concentration of resources in many schools on the post-primary classes and examination classes,

and pressures on schools to upgrade to the next higher type.

Figure 1: Monitoring of the Education system


Ministry of Education
National Institute of Education (NIE)
decision making/monitoring
Provincial Director of Education
Zonal Divisional Director of Education
Divisional Director of Education
Principal
Teacher
Pupil

In 1972 major reforms took place in the education system which included an integrated curriculum at primary level and the provision of teachers guides, in all subjects and for all schools. The main objectives of the 1972 reforms (implemented between 1974 and 1978) were: learning to learn; flexibility; creativity; critical thinking and the ability to work in a group. A change in government led to the end of these reforms in 1977.

Revisions to the primary curriculum took place in 1985 and 1993. The need for reform was realised following the results of two research studies (Nagy, 1988; Kariyawasam, 1991) which revealed that achievements of primary school children in Mathematics, Language and Life Skills (Environmental Science and Basic Science) are disturbingly poor (Table 2) and that disparities in achievements are usually high between urban and rural pupils and between those belonging to different provinces. The new curriculum introduced in 1993 will run for five years to 1997. It is designed to promote

learner-centred education with a view to creating a 'learning culture' which breaks away from the traditional 'teaching culture'. Emphasis is on activity based learning and active physical participation and an attempt has been made to select the content to suit children's interests, experiences and maturity levels while taking into consideration the demands of the twenty first century.

Table 2: Percentage of year 5 students attaining mastery level

Literacy	**%**	**Numeracy %**	**Life Skills**	**%**
Vocabulary	33	problem solving 9	health skills	20
Comprehension	27	knowledge of procedures 13	elementary science	9
Writing	21	Understanding concepts 32	environmental skills	13
			duties and	43

			duties and responsibilities	40

Source: NIE, 1994

The National Institute of Education (NIE) was established in 1986 as an advisory body to the Ministry of Education and Higher Education and has made a valuable contribution to the school education system of the country. NIE is responsible for the design and development of the national curriculum. NIE consists of a number of departments including a department of primary education. The main focus of national goals are on equality of educational opportunity and quality improvement of education by moving, as stated previously, from a teaching culture to a learning culture. In 1990 a National Education Commission (NEC) was established. It formulated a set of nine goals and five basic competencies on education as outlined below:

The Goals

1. The achievement of a functioning sense of national cohesion, national integrity and national unity.

2. The establishment of a pervasive pattern of social justice.

3. The evolution of a sustainable pattern of living and a sustainable life style.

4. Seeking a livelihood and work opportunities that are at the same time productive and give avenues of self-fulfilment.

5. Participation of human resource development that will support socio-

economic growth of the country.

6. Involvement in nation building activities and learning to care.

7. Cultivation of an element of adaptability to change learning to learn and adapt, developing competency to guide and change.

8. Coping with the complex and unforeseen and achieving a sense of security and stability.

9. Securing an honourable place in the international community.

The Competencies:

1. in communication;
2. in relation to environment;
3. in relation to ethics and religion;
4. in play and use of leisure;
5. in relation to learning to learn.

1.1.1 Department of Primary Education, NIE

The Department of Primary Education is responsible for developing the whole primary school curriculum. Although the primary curriculum is integrated, it is developed in nine subject areas: Mathematics; Language (mother tongue); We and the Environment; Aesthetic Education; Creative Activities; Religion; Physical Education; English (from year 3) and Beginning Science (from year 4). Agriculture is not taught as a separate subject at primary level, but is integrated into Environmental Studies and Beginning Science.

At primary level there are nine educational objectives to be

met:

1. Literacy

To acquire the ability to exchange ideas clearly, read, write and carry out simple computations. The ability to recognise the alphabets of national languages other than that of the mother tongue.

2. Healthy living

To develop, from very young days activities and attitudes leading to physical, mental and social health.

3. Orientation to vocational skills and work experience

To develop manipulative skills needed for the future

world of work, and to acquire a knowledge of work skills through appreciation of modern technology and its maximum utilisation.

4. Awareness of heritage associated with history

To recognise national heritage and personal identity. To acquire knowledge of national heroes who built that heritage, and appreciation of and sensitivity to it.

5. Attachment to religion and respect for virtue

To gain understanding of religions - practices, attachment to one's religion and respect for other religions. To develop virtues of a good citizen. Obtain practical experience in religious practices.

6. Knowledge of the environment

To gain basic knowledge of gifts of nature, things created by man and one's environment, and as a result being directed to think scientifically. To develop attitudes that natural resources should be used, with due care and a sense of conservation of nature.

7. Nourishment of children's needs and aspirations

To develop appreciation and enjoyment of spending leisure time fruitfully and meaningfully. To make the school a place of happiness through aesthetic experience.

8. National unity

To live together with others of different religions and languages while protecting national identity.

9. Development of values

To get adjusted to a life of love and affection for the animate and inanimate environment, living in a society with a sensitivity for each other.

Integration of subject areas is emphasised in the curriculum. Throughout the primary cycle a theme is visited and re-visited several times, to increasing depth. Teachers are encouraged to identify situations where intra-subject as well as inter-subject integration is possible. For example, under the subject *'We and the Environment',* 'our food' is one of the themes that is discussed at all levels (years 1 to 5). The themes are, in year 1 'the necessity of food for work and growth'; year 2, 'eating a variety of food is healthy'; year 3, 'nutrients that we get from our food'; year 4, 'how does the market affect our nutrition and home gardening as an alternative solution'; year 5, 'food wastage from production to consumption and measures to avoid it'. From years 2 to 5,

twenty themes are discussed in the subject *'We and the Environment',* such as: Plants around us, Patterns in the Environment, The Way we Grow, Human Behaviour, Animals Around us, Our Festivals.

The teachers' guide gives examples to enable the teacher to relate to and draw examples from the local environment. It also illustrates flexibility in the curriculum, as it enables the teachers to use what is available to them. Table 3 gives examples from two subjects in the curriculum. Teachers are trained through a system of Master teachers. The Master teachers are trained at the Department of Primary Education, NIE.

Table 3: Examples from the curriculum

Year	**Subject (theme)**	**Example**
5	Environmental	Endemic, endangered and exotic tree

	Studies (Plants around us)	species in Sri Lanka, find a few examples.
4	Environmental Studies (Plants around us)	Protecting Trees - types and uses of forests
3	Environmental Studies (Plants around us)	Looking for places where plants grow and find out the needs of a plant.
5	Environmental Studies (Our food)	food wastage at production, transportation and consumption.
4	Environmental Studies (Our food)	Study the market and nutritional value of produce. How do children view the importance of having a home garden?

		Characteristics of a home garden. A lecture/demonstration by an agricultural extension officer.
5	Beginning Science (Plants)	Pupils should observe changes that are taking place in the surrounding environment. Identifying matter that decays naturally in the environment. Relate this to the experience gained from doing experiments on decaying matter (composting/mulching) in the experimental agriculture plot.

In 1995 a primary education unit was established in the Ministry of Education and Higher Education and a policy on primary education was drawn up. Following the curriculum changes in 1993, a new Master Plan for Education is at present being drawn up, which includes measures for monitoring the quality of primary education. The plan is

designed to contribute to the improved efficiency, increased equity, increased participation and improved quality of education in the primary sector. These changes will begin to take place from 1998 as feasibility studies are already underway. The changes will affect both primary and secondary levels.

1.1.2 The Current State of Education

According to a recent report (UNICEF, 1996), "with the long-standing commitment to free education for all, Sri Lanka has achieved near-universal access to primary education. Over 90% of school-entry aged children enter school, and over 90% of them complete the primary school cycle". Around 10 per cent of the 5-14 age group do not participate in formal education. Non-enrolment is mainly in pockets of disadvantaged areas such as urban slums, deprived rural areas and the plantation sector. At Jomtien 1990, Sri Lanka pledged to achieve 100% literacy rate by the year 2000. It

also vowed to achieve access to basic education and the completion of primary education by at least 99 percent of the primary school going age children by the year 2000. This will entail near total elimination of drop-out at primary level. Mastery in literacy, numeracy and life-skills at basic education level are to be achieved by improving learning levels. In order to improve goals were set to:

1. reduce repetition rate in primary school to 11 percent by 1995;
2. reduce class-size to 30 and teacher-pupil ratio to 1:26 in primary school; and
3. reduce area-wise disparities in distribution of facilities. (Gunawardena, 1996)

The literacy rate in Sri Lanka is also high at approximately 91% for males and 83% for females, with an overall rate of 87% (MOE, 1991). A recent study by Gunawardena *et al* (1996), has found that actual literacy and numeracy rates are

lower than those claimed, especially in socially and economically disadvantaged groups (e.g. urban slums, plantation sector). They found that, for example, rural peasant communities claim a literacy rate of 92% and the plantation sector claims a literacy rate of 73%, whilst the actual rates are closer to 60% and 58% respectively. Literacy and numeracy rates in the urban slums showed the highest disparity, with an actual rate of 31% literacy and 51% numeracy as opposed to claimed rates of 68% and 81% respectively. In 1991 the overall repetition rate was 9.25% and the dropout rate was 4.37%. At primary level the repetition rate was between 5.4% and 8.7% and the dropout rate was between 0.3% and 2.5% (NIE, 1995).

Present donor funded projects in the primary education sector are:

- engaging in an exercise to identify the essential levels of knowledge and skills in Language and

Maths that pupils in years 1 to 5 should possess prior to reaching the next grade, (responsibility of NIE, funded by UNICEF);

- implementing a programme, funded by UNICEF, on "education for conflict resolution" (a programme to 'promote peace and harmony between children of various groups), in Western, Central and Southern provinces (NIE, 1996);

- process and learning experiences based on an experimental agriculture plot and the introduction of a nutritious mid-day meal in schools (responsibility of NIE, funded by UNICEF);

- developing material and methodology for multi-grade teaching (UNICEF);

- trying out a project to popularise English through

reading (Wendy Pye, New Zealand);

• designing a project for Improving the Quality of Primary Mathematics Education (DFID);

• assessing the equality of learning in two developing countries. (Bristol University);

• publishing material based on experiences gathered through innovative projects (responsibility of NIE, funded by UNICEF);

2 The schools

2.1 Selecting the schools

The schools were selected, following the indicators in the research guidelines, by officers in the Primary Education Department at the National Institute of Education. School A was chosen because of the use of its agriculture plot in teaching and learning in the school. This school is part of a pilot project in an externally funded primary education programme, which initiated the use of agriculture in the schools learning activities.

Table 4: Summary of schools A and B

Factor	*School A*	*School B*
• school grounds	school experimental plot	no school garden
• years	years 1-9	1-11

• type	type 3 difficult school	type 2 school
• Number of pupils m:f (total)	112:101 (213)	124:167 (291)
• average monthly family income	Rs. 250-750	Rs. 2500-3000 (uncertain)
• main source family income	rice/maize/chena farming	vegetable/rice farming
• % main income is farming	98%	90% (70%)*
• % samurdhi	50% (+29% on other grants)	60%
• attendance	70% girls, 85%	65%

rate	boys	
• drop-out	1.3%	10.0%
• repetition	7.5%	no data
• teacher:pupil ratio	1:23	1:18
• major social problems	poverty	poverty; mothers abroad; alcoholism and drug abuse
• adult literacy rate	30%	98%
• number of families	233	30-40/village, 7 villages close together
• number of teachers m:f	8:2	2:14
• no. years principal at school	7 yrs	5 yrs

• donor support	yes (international donor)	none

2.2 An 'innovative' school - School A

2.2.1 The Community Environment

The village lies in Uva Province, South West Sri Lanka. It is a poor, remote rural area where the majority of families are engaged in semi-subsistence farming. Average monthly incomes are estimated [1] to be Rs. 400 (range between Rs. 250 and Rs. 750 per month) which includes Rs. 250 given under the *samurdhi* [2] programme. Sinhalese is spoken in the community and all are Buddhists. The school was built in 1979, which accounts for the low literacy rate of thirty per cent amongst adults over twenty five years old.

[1] *no official figures available estimates are from principal of the school*

[2] *poverty alleviation programme, formerly known as 'Janasaviya'*

Health standards are poor and malnutrition is a severe problem. There is a high percentage of cases of stunted growth and underweight children. According to a baseline survey carried out by NIE and UNICEF (1994) only 45% of the district population has access to safe drinking water (national average 57%). There are 2 tubewells and 6 common wells (bucket) in the village. There is no electricity and the majority of families rely on kerosene lamps. There are a total of 123 families who receive support under *samurdhi poverty* alleviation programme; another 56 families receive food stamps, and 12 families receive a charity allowance.

There are 12 disabled adults in the village and three children at the school with physical disabilities (thought to be caused by polio). No provision is available for mentally handicapped children or adults, though there were no recorded cases in the village. Both the community worker and health worker are known in the village. Infrastructure is poor, the village is 2 km from the nearest bus route. The largest town in the area, Mahyingana, is 14 km away.

Agriculture

Farmers in this community are very traditional in their agricultural practices and use few modern methods. Subsistence agriculture is the livelihood of 98% of families in the village and the average area farmed per family is three acres. Paddy (rice) is the main crop grown and maize, finger millet, sesame and cow peas are the crops grown after paddy. The system of growing cash crops as an interim crop to rice is known locally as *chena.* Previously chena was a

method of shifting cultivation in an upland area on encroached land, where cash crops were planted in an intercropped system. It is estimated that almost 80% of grain crops are cultivated under rain-fed conditions in chenas (MOA, 1995). The chena method of farming is causing serious problems in the country, especially where encroachment is on steep hillsides in upland areas. Soil erosion and land degradation are the results of clearing forested areas and the impact of heavy monsoon rains on these exposed areas. Recent policy recommendations (MOA, 1995), amongst other items, call for land allocation, improved land use and a programme of educational awareness.

The majority of farmers have little technical knowledge, which is evident in their farming practices. A report by NIE (1994), of a baseline survey carried out in a number of secretarial divisions remarks that *'the knowledge of cultivation practices among these farmers is found to be low; only about twenty*

per cent of them seem to have a good understanding of the practices they follow'. The report then comments that *the majority of them (74%) do not seem to have even a fair understanding of what they are doing. They are unable to adjust their practices according to changing climatic conditions and other constraints. They seem to be ignorant of evaluating their inputs against outputs and assess profitability of their activities. They need to be made aware of farm planning and techniques of preserving soil with their nutrients'.*

Yields for rice and maize are relatively low (a good maize yield was estimated at 350 kg per acre). Chemical fertilisers are applied where hybrid rice varieties are used but no herbicides or pesticides are applied so pests, diseases and weeds are a problem. One farmer mentioned some organic methods he uses. Bark from a specific tree is put in the water inlets to the paddy fields which deters caterpillars.

Mustard is sometimes planted amongst the millet to deter pests. Manure from cattle is used on the maize (collected and spread by hand). The farmers said that lack of water is a problem, although they appear not to store water, or have knowledge about water conservation and management. Whilst visiting farmers, it was noticeable that they all grow the same crops, and possibly in the same sequence; that is maize, followed by sesame, finger millet and cowpeas. Some vegetables (pumpkin, chillies) and fruit (bananas, oranges and limes) may be grown for home consumption.

October to January is *maha* season (north-east monsoon), March to May is *yala* season (south-west monsoon) and the dry season is between July and October (Table 5). Planting and harvesting depends on the weather; therefore, if one or other is delayed, children may be kept at home to help in the fields or look after younger brothers and sisters. During a visit to local farmers, one farmer said that *'due to later rains,*

planting of maize will have to take place at the same time as planting the rice, so I may keep my children at home to help'.

Table 5: Agricultural Calendar

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
plant maize										•		
plant rice											•	•
harvest maize												
harvest rice		•										
plant sesame/millet			•	•								
harvest sesame/millet					•	•						

dry season

The farmers said that they receive no support from the agricultural extension officer. One farmer said he had contacted the extension service but no one had ever turned up. There is no marketing system for produce in the village. As the farmers all grow the same crops and they have no post harvest or storage facilities, they always get the lowest market price for their crops. Most of them sell to the local village stores, who provide extremely high interest loans to the farmers. The village shop gives them Rs. 3 per kg for maize, the market price is Rs. 18 per kg. Many families buy on credit, using the next harvest as collateral, if the crop fails they fall into deeper debt.

School and Community Relations

The teachers and principal are well respected in the village. The principal considers that relationships between the school

and community are essential in children's learning. Understanding the community and a specific family's problem will make it easier for the staff, who will know how to ask parents about things that are happening at home. For example, a specific family may have problems with labour on their farm, or a new child in the family, which means a child may be absent from school. If the staff know about these situations they will be more understanding towards the child. Staff get involved in community activities through, for example, attending village funerals, weddings and festivals. The parents and community members also say that there is a very good relationship between the school and community.

Part of an externally funded donor programme provided training in good farming practices to two parents and two teachers from the school. Following this, good relationships have been established between the school and community. The community know what is happening in the school, as pupils are used to relay messages and the community use

the school as a centre for meetings. The parents and community members are able to borrow agricultural tools from the school. The community provides voluntary labour to repair buildings, and to do heavy work such as ploughing and fencing on the agriculture plot.

The principal said that he does not get invited to meetings if it is an outsider coming to talk to the village. He believes there are many officials who are corrupt and do not treat the villagers fairly. Only 30% of the villagers are literate and often they do not understand what is going on during these meetings, or what their rights are. The principal believes that if he was invited to these meetings, the community would get a better deal.

Photo 1: School A

2.2.2 The School Environment

The school was built in 1979. It provides for nine grades of pupils and is classed as a grade 3 'difficult' school due to the rurality of its location. It is well equipped, with enough wooden desks and chairs for every pupil. There are single and double desks, of two heights. Textbooks are supplied free to all pupils by the Government but pupils must provide their own exercise books. There is one main classroom (Photo 2), measuring approximately thirty metres by eight metres which is used by all years except year 5. There are few teaching aids on the walls, primarily because they are removed or destroyed when outsiders use the school for meetings, and there are three free-standing blackboards. Year 5 has a separate classroom, which was built, with the help of parents, by the teacher of year 5. The walls of this room were covered in various teaching aids, including a plastic globe suspended from the ceiling. The principal has a separate office, which appears to be open to anyone, as staff and pupils freely wander in and out. There is an obvious

feeling of trustworthiness amongst the staff and principal. The principal's room had two large metal locking cabinets, which contain teaching materials. On the walls of the office are posters listing pupil enrolments, timetable, school plan, calendar, and a poster of the earth and planets (in English). There is also a height measure and a set of weighing scales for pupils to keep records of their growth (provided by external donor). The principal keeps accurate records of attendance and pupils attainment levels as required by the government.

Enrolment, Pupil Numbers, Attendance, Drop-out and Repetition

There are 213 pupils enrolled in the school, 101 girls and 112 boys. The attendance rate is around 70% for girls and 85% for boys. During peak levels in the agricultural year attendance will drop as pupils stay at home to help on the farm or in the house. It has been noted that the attendance

rate usually rises to around 90% on the days that cooking activities take place, as pupils know they will get a free meal; most days they arrive at school without lunch and without having eaten breakfast and the nutritional content of these meals is usually insufficient.

Photo 2: The main classroom - school A

The number of drop-outs in 1996 was three, one boy went into the priest hood, another went into manual labour and a girl married. The usual reason for drop-out are to help at home or on the farm. Where there are five or more children in a family, the eldest usually drops-out to help look after the younger children, as the majority of mothers help in the fields. Repetition rate is 7.5% over all years (16 pupils out of 213 last year). Year 3 has the highest number of repeaters at 4, but it also has the highest number of pupils in the class at 46 pupils. Drop-out often follows repetition, as pupils do not like to repeat a class, and as many of them will not continue their

education after year 9, many of them see no point in repeating. To prevent drop out the principal moves them to the next year, even though their marks are not sufficient, in the hope that their marks will improve. Many pupils finish school after year 9 because parents cannot afford travel costs (despite subsidisation by the Government) to send their children to secondary school; the nearest is more than 5 kilometres away.

Monitoring, Assessment and Examinations

The principal is not satisfied with the examination system. Examinations are held for years 2 to 9 twice a year (mid-term and end of year). At present exams are set by the district office and the principal believes they are unfair and not relevant to pupils' backgrounds. The major problem with the present exam system is the pressure put on pupils to pass the year 5 scholarship exam, the marks of which are used by the district office to evaluate the standard in the school.

Teachers say the exam tends to inhibits the use of problem solving and social skills as pupils can pass the exam if they are able to mechanically repeat facts and figures.

There is no fair monitoring and evaluation procedure at present although NIE have recently devised an informal monitoring system, in Language and Mathematics, for years 1 to 5 of primary schooling. Ten pupils are picked at random from a class and then set a short test. The teacher then evaluates the papers on a scale of six indicator points and the results are used to evaluate competencies of that class. The evaluation can take place as and when the teacher feels it is necessary to monitor the competency levels in Maths and English of their class. Project work and practical activities, initiated by the school with the aid of a donor project, are continually assessed and added to the pupils end of year mark. The pupils know about this and it is an informal process.

2.2.3 The Teachers

There are ten teachers in the school, eight male and two female. In 1994 there were only four teachers, but by 1995 five new staff had been appointed. Recently one teacher was replaced at the wish of the principal who was not happy with his teaching. All of the teachers, apart from one male teacher and the principal, are under thirty five years of age. This school is the first posting for four of the teachers, and of these four two have been here for seven years. The other teachers have been at the school for between two and three years, and one teacher had just started. All of the teachers live within a 10 km radius of the school and three teachers live in the village. At present a house is being built for the principal in the school grounds. The principal already has a house in the village so he is allowing some of the unmarried male teachers to move into the new house. Out of the seven teachers interviewed only three had teaching qualifications to degree or diploma level. The other four have trained 'on the

job' through a distance education programme; they complete modules over three years, with some practical training at teacher training colleges. In 1994 the donor project held a short (four days) training course in innovative teaching methods; this was attended by the four untrained teachers only. The zonal education office organises INSET training on the national curriculum. This is held twice a year; the first session (four days) is general and the second session (two days) will be in specific subject areas.

The principal has been head of the school for seven years. He is a highly motivated, enthusiastic and innovative person who provides much support to his staff. The school has seen many changes in the past four years due to the school's selection for the donor funded project. As the total number of pupils in the school is low (213) the Government does not officially appoint a deputy principal, however the principal has, under his own initiative, appointed his own deputy principal who is responsible for educational activities

(improving pupils' achievement levels) and making provision for absent teachers. Both groups of teachers were thoughtful about their roles as teachers and identified some of the following points as their main problem areas. The principal says that donor support over the past four years has put the school in a very good position. During the past year the number of teachers has almost doubled and he states that this has been an important impact on the effectiveness of teaching and learning in the school. However the school still has many problems:

- lack of training about different teaching methods, for example the use of games;

- lack of training in classroom organisation, specifically how to organise teaching and learning in a limited area with few resources;

- lack of training in materials development;

- need for specific training in physical education, music and drama education;

- need for training in first aid and health (recently a boy and his father were burned very badly in the village and no one knew what to do. There have been accidents at school and the teachers feel they would not be able to cope if there was a serious accident);

- lack of information on new agricultural technologies;

- need for finance for landscaping the school grounds;

- need for better information systems. The teachers feel very isolated, they rarely have a newspaper and feel that they are not informed of events by

provincial and zonal education officers. Post takes two weeks or longer to reach the school from Colombo;

- need for musical instruments, physical education equipment, science equipment;

- need for community education programmes. The community relies on natural health cures, particularly traditional ceremonies. They need more scientific information and education on specific diseases to improve the health of the community (scabies, malaria and diarrhoea are common);

- insufficient classroom space which makes it almost impossible to walk between the desks. There are no partitions between the classroom areas (apart from year five class which is in a separate building);

- limited teaching and learning materials, especially teaching aids, exercise books, and extra reading material, all of which are necessary to motivate staff and pupils;

- need for funding to provide educational visits for the pupils, which the principal views as being extremely important, especially in developing a social and awareness skills of the pupils. He also feels that the pupils would benefit from visits to efficient farms, so they would be acting as a type of extension service for their parents;

- lack of proper assistance for talented pupils or those requiring special needs (although there are no pupils with mental disabilities, three have physical disabilities, one of which is considered to be very bright);

- there is lack of parental awareness and support in the school environment and in their children's schooling despite great efforts to get parents involved in the school. The principal states that this is a major problem.

All of the teachers feel they need more training and support in order to improve their teaching methods. They quoted methods in classroom organisation, strategies for change and forward planning, career planning and training in new teaching methods as important areas and ones in which they would like to go for training now. The majority of the teachers want to stay in teaching at the level of a teacher because they enjoy working with children and the satisfaction of seeing former pupils doing well. Only one teacher wanted to progress to the level of principal. Only one wanted to move to an urban school. Despite the problems listed above, the principal has no desire to move to another school, though he stated that had it not been for donor support he would not

have stayed at this school. He believes he now has excellent staff and that together they can develop the school further.

What is a good teacher?

The principal believes the pupils are satisfactorily motivated in the school, especially since the introduction of the experimental agriculture plot, cooking and project work. The staff all participate in weekly staff meetings and they are involved in all decisions in the school. The good relationship between all of the teachers and the principal was very noticeable and the atmosphere in the school was friendly, relaxed and happy between the pupils, staff and principal. The situation was summed up by the principal who said *'I like my staff - I have quality people'.* Table 6 illustrates responses, by pupils and teachers, to the question on characteristics of a good teacher. From the list it is evident that there is a strong emphasis on the personal relations between teachers and pupils. A possible explanation for this

is that parents spend very little time with their children, especially when it comes to giving them advice and helping them with school work (parents interview).

Table 6: What are the characteristics of a good teacher? (School A)

Pupils' response	***Teachers' response***
A teacher should:	*A teacher should:*
• love the pupils	• love the pupils
• explains things well	• listen to the pupils
• come to school everyday	• be a role model to the pupils
• smile	• be dedicated
• not beat the pupils	• be aware
• corrects exercise	• understand pupils and know their

books and advise them when they have made mistakes	backgrounds, especially if a pupil may be absent because they have to work at home
• write things on the blackboard	• help pupils in other activities (e.g. visits)
• draw diagrams	• make pupils more aware of their surroundings
• ask pupils to come closer (then the pupils will feel that the teacher likes them)	• help pupils at any time for any problem (e.g. if they are sick or have problems at home)
• tell stories and sing	• be active and enthusiastic
• allow pupils to tell stories	• know pupils names
• use textbooks	• be able to diagnose pupils' ability
• set homework	• be happy
• not shout	• have the ability to motivate pupils

• makes the pupils work in groups	• treat all pupils equally
• speak nicely	• only punish when necessary
• give out extra reading material	• have the ability to make decisions
• call the pupils by their names	• have a good relationship with the community
• give good examples when explaining things	• be honest, trustworthy and cooperate with others
• not smoke or drink alcohol (in front of the pupils)	• get priorities right - put school first and personal matters second
• be clean and wear nice clothes	
• take the pupils	

outside to work and do practical lessons	

2.2.4 The Learners

According to observations the pupils seemed to be very happy and motivated in their school environment. All of the pupils were wearing school uniform (provided free by the government), and the majority looked clean and healthy (note pupils response to characteristic of a good teacher 'to be clean and wear nice clothes'). The majority of children come from very poor families and parents cannot afford to buy them exercise books or provide facilities for learning at home such as magazines, newspapers, a desk or lighting.

When pupils were asked why they go to school, they all agreed it was *'to learn!'.* When asked to give more specific reasons, the list in Table 7 was generated. The reply *'if I don't go to school I can't go anywhere because I can't read*

the bus stop sign' was mentioned a number of times; few if any of the pupils have ever been on a bus. The reasons pupils give for not going to school appear to focus around parents keeping children at home, especially during peak times in the agricultural year, such as during rice harvest (Table 7). Concerning what pupils like and dislike about school, it is interesting that 'the garden' is mentioned on both sides. Other activities (Table 9) indicate that visual aspects of the school, especially in terms of plants and flowers, are important to the pupils. Pupils say that what they learn about agriculture at home is different from what they learn in the school plot (photo 3). At school they learnt to make compost and learn that it is important for plants to grow strong and healthy.

Photo 3: Experimental agriculture plot

Pupils from year 4 all said they would like to continue with their education. When they finish primary school, their

aspirations are to be in professional occupations such as a teacher, a policeman, doctor and priest. Year 5 pupils gave a similar response, except one girl who said she wanted to leave school and become a *'good farmer';* this girl is very bright and is expected to pass the year 5 scholarship exam.

Table 7: Why do some children go to school and others don't? (School A)

Why do children go to school?	***Why do some children not go to school?***
• to learn	• not good at school
• to be a good farmer, teacher or nurse	• have to stay at home to work on the farm
• to learn subjects - maths and environment	• when they are sick
• to learn letters	• don't like to go to school

• to learn right from wrong	• not interested in learning
• *if I don't go to school I can't go anywhere because I can't read the bus stop sign'*	• *'when my parents go to the fields 1 must stay at home to look after the house or cattle'*
• to learn to work - *'if I don't go to school 1 won't know how to weed, how to make compost and how to cook'*	• have to stay at home to look after their younger brothers and sisters
• to play	
• to learn songs and dancing	

Table 8: What children like and dislike about school (School A)

What do you like about school?	***What do you***

	dislike about school?
• the teachers	• don't like the big classroom
• learning will help us in the future	• the garden is not pretty
• to be given homework	• being bullied and beaten by older pupils
• to play and learn	
• working in the school garden because we want to learn about the garden	

Pupils activities at home and school

Mapping diagrams (figure 2) were used to find out what

pupils did at home, what they did in school and whether they were able to link the two learning environments (Photo 4). The diagrams revealed a number of interesting points and were used to substantiate responses to questions as well as to generate further questions about the learning environments of the pupils. Diagrams were extremely expressive and detailed and gave a clear outline to the type of activities pupils are involved in. The most common task at home for boys and girls was collecting water. Agricultural activities and going to the toilet were also mentioned frequently by both boys and girls. At school, again, fetching water was a common activity, along with working in the experimental agriculture plot. It was very interesting to note that some of pupils put going to the toilet, and collecting green leaves as daily activities. This may be due to the nutrition programme, introduced by an external donor, in which children were taught the importance of sanitary health, especially using a toilet (43% of families have no latrine), and the importance of

a balance diet, especially eating green vegetables. Both of these practices were illustrated in the mapping diagrams.

Photo 4: Pupils' mapping activity

Another interesting activity which came out in the mapping diagrams was the prominence of the flower garden. On visits to the school there were only a few flowers to be seen; previously there had been a flower border near the entrance to the school, but it was removed to enable lorries into the school grounds. The pupils liked the flowers, which were also a natural vector crop in deterring pests on the experimental plot. When it came to linking the two learning environments, pupils were unable to go beyond physical linkages such as *'I take manure from home to school and take seeds from school to home'* and *'I take green leafy vegetables to school'* (2 pupils). One girl has her own plot at home and in her mapping diagram she linked different types of plants in the agricultural experimental plot to her plot at home.

Figure 2: A pupil's mapping diagram - school A

Table 9: Activities at home and school (School A)

(Summary of mapping diagrams by 12 pupils from year 4 and 5 (by frequency of occurrence of each activity in the mapping diagrams)).

Activities I do at home	***boy***	***girl***	***Activities I do at school***	***boy***	***girl***
prepare flower nursery	1		dig experimental plot	1	
work in home garden		2	play	3	3
fetch water	5	5	fetch water	4	2
pray			cook	3	4
private tuition class	1		work in experimental plot	5	5
go to reservoir	1		go to toilet	1	1

go to reservoir (bathing)	1		go to toilet	1	1
wash face	1		collect firewood	2	
play	3	3	pick flowers	2	
sweep garden or house			sweep school grounds	1	
work in house		1	work in flower nursery	1	
herd cattle	1		learn		3
weed	2	1	water plants		1
let chickens out	1				
eat at home	1				
go to shops	2	4			
collect firewood	1	1			
go to medical centre		1			
work in (rice) fields	3	2			

work in chena	1	3			
collect green vegetables	1	3			
bird scaring in paddy field	3				
wash clothes	1	1			
go to toilet	3	2			
eat	1				
go to hospital	1	1			
pick flowers	1				
cook	1				
dig in paddy fields	1	3			
pick vegetables		2			

The pupils all said that they thought learning in school was easy; however, on asking which were their favourite and least

favourite subjects, mother tongue (Sinhala) was a favourite because *'it is a subject we already know'.* Maths and English were least favourites because *'they are difficult'.* Subjects pupils believed to be of most use to them in the future included religion (boy who wants to be a priest); English (*'because it is good to speak another language'*); and environment (*'because it is beautiful to learn about!'*). Year 5 gave similar responses to year 4 - English, maths, religion and Sinhalese. The subject areas they least liked included science, English and environmental studies; the latter two they said were *'too difficult'.* When asked if learning in school was difficult in general there was a general consensus (year 5 pupils) that it is all easy, *'except English!' and,* without thinking they said that *'it is not easier to learn things at home'.* However, Year 4 pupils said *'in school it is easier to learn things because we have text books. We do not have books at home so we cannot stay at home and learn'.* The question was intended to discover whether pupils learnt new

things at home; however, it was misinterpreted as learning from textbooks at home. On further questioning, pupils came up with the following about relationships between learning at home and school: *'working in the school experimental plot is similar to work at home. We learn more at school because at home parents only allow us to do simple tasks such as sweeping or weeding. At school we do more, such as making compost and measuring plots'.* The pupils emphasised that they have gone home and told their parents what they have been doing in the agriculture plot at school. Following this a few parents had been down to the school to have a look at composting in the agriculture plot, and were now trying the practice on their farms. Year 5 pupils also mentioned the use of vegetables at home in cooking and the use of the same vegetables at school in the nutrition programme.

2.2.5 Teaching Learning Processes

The curriculum and content of learning

The curriculum is rigid with a heavy work load and allows for no extra curricular activities during school time. Pupils have no choice over what they learn in class, because the teachers believe the curriculum does not allow them any flexibility over what is taught and how it is taught. Lesson plans are arranged at the beginning of the year and cannot be altered. Due to the school's involvement in a donor project, the principal has made allowances in the timetable to accommodate the extra activities (e.g. cooking and agriculture programmes). The principal values these activities highly and consequently he has ensured that they are incorporated into the timetable. Years 4 and 5 have ten periods each week for environmental education. Two of these have been allocated to activities using the experimental agriculture plot. Higher years do not have environmental education as a subject, so their activities involving the use of the experimental plot take place when teachers are absent,

or when the pupils have free time. They are set projects or exercises and the work is not supervised. The cooking activities have been incorporated into the standard curriculum by sending groups of pupils out of their normal lessons for fifteen minute periods.

The school has no input in curriculum development and the teachers felt that the curriculum is generally not relevant to the lives and backgrounds of the pupils they teach. Through bringing in the nutrition and experimental agriculture plot, teaching methods have improved, as these extra activities have made learning more relevant to the backgrounds of the pupils. Teachers said that they try and make a topic relevant through using local examples and experiences in their teaching methods if the textbook does not give a relevant example. As one teacher stated: *'textbooks need changing, they should be more flexible so that they can be made relevant to the child's environment.* A case was stated about

a textbook in which there is a problem to solve about speed. *It (the textbook) uses buses and trains in Colombo as the problem example. The majority of rural school children have never seen a train, never been on a bus and never been to Colombo'.* During visits to the school it was noticeable that children frequently draw and sing about flowers; they name carnations and roses as pretty flowers. However, few of these children have ever seen these types of flowers and there are only a few flowers at the schools and in the surrounding area.

Teaching learning practices in the school

During the interviews held with pupils at the school, the year 5 pupils were not as open and forthcoming with ideas and suggestions as the year 4 pupils. Replies to various questions from year 4 pupils were more informative and varied compared to the replies given by year 5 pupils. A possible reason for this is that the year 5 pupils had recently taken the

scholarship exam (August) and prior to this were involved in a strict programme of rote learning. If a pupil gets a scholarship to a type 1 AB school, it is a great credit for the primary school.

Pupils are encouraged to work in groups, especially for project work. Nutrition classes are held in groups. Years 1, 2 and 3 work in groups most of the time, though lack of space prevents them working in groups all of the time. Fortnightly pupils group together by class (years 1,2 and 3; years 4 and 5, years 6-9) and conduct their own meetings where they can sing, speak, act etc. They also take their own minutes, so as well as being entertaining and enjoyable, it is also a language exercise. Project work appears to be important in the school, illustrated in a book produced by year 5 pupils for some maths work on drawing graphs. They had carried out a survey in the school on various topics, such as what is your favourite flower, favourite animal, parents occupation. Each pupil had drawn a graph on the responses to a question. The

pupils, as a group, then had to grade each others work and the best graphs were put at the front of the book. Other examples of project work included finding the English name of a tree, making a name board and fixing it to the tree for English. In Science, make different types of compost and testing the effects the types have on the growth of plants.

Pupils say they discuss their school work with each other when they are doing practical activities (mainly on the agriculture plot); they also mention that they ask the teacher questions both in the classroom and outside. At home they can talk to their parents (usually their mother) about school work when it relates to agriculture (many of the parents are illiterate and agriculture is the subject they are most familiar with). One pupil said *'my parents like me talking about practical activities, such as cooking, that they know about; they will not discuss a maths class'.* Pupils say that they only ask questions during practical classes such as cooking.

Parents cannot, and do not have time, to help pupils with school work, though brothers and sisters may help them. Compared to other schools in the area, there is a great demand to go to this school, not just from pupils and parents, but recently teachers from other local schools have asked for transfers. The school is a common topic amongst the villagers and is well known for its innovation practices throughout the area. Even though the exam marks are not high, the motivation of teachers and pupils is extremely high.

Table 10: Methods of Learning Matrix Ranking Activity (School A)

Rank	Teachers' response (group 1)
1	pupils doing practical activities
2	teacher giving examples
2	pupils asking questions
3	teacher talking or reading to pupils

3	pupils helping each other
3	pupils singing or reciting
4	pupils talking about their own experience
5	pupils writing about their own experience
6	teacher asking questions
*	teacher beating pupils

Rank	Teachers' response (Group 2)
1	pupils doing practical activities
2	pupils asking questions
2	pupils talking about their own experience
3	pupils writing about their own experience
4	teacher asking questions
4	teacher giving examples
5	pupils singing or reciting

5	pupils singing or reciting
6	teacher talking or reading to pupils
7	pupils helping each other
*	teacher beating pupils

Rank	Pupils' response (year 5)
1	pupils doing practical activities
2	teacher giving examples
2	pupils talking about their own experience
3	pupils writing about their own experience
4	pupils asking questions
4	teacher talking or reading to pupils
5	pupils singing or reciting
5	teacher asking questions
5	pupils helping each other
*	[illegible]

*	teacher beating pupils

Rank	Pupils' response (Year 4)
1	pupils doing practical activities
2	teacher giving examples
3	pupils writing about their own experience
4	pupils talking about their own experience
5	pupils asking questions
5	teacher asking questions
6	pupils singing or reciting
6	teacher talking or reading to pupils
7	pupils helping each other
*	teacher beating pupils

* rank score = 0

In the matrix ranking activity 'pupils doing practical activities' was ranked most highly by both groups of teachers and pupils. In the school, practical activities are frequently undertaken in the agriculture plot and the school kitchen, and teaching and learning, through the use of these activities, was frequently mentioned as a motivating and enjoyable factor in the school by both pupils and teachers. Teacher giving examples is ranked highly again by pupils and teachers. Teachers say that generally pupils are shy to ask questions and this is evident in their rankings. The teachers rank this method highly and earlier in interviews said that *'it is a weakness in the school'* and that they are now encouraging the year 1 pupils to ask questions. In both groups of pupils they rank 'pupils talking or writing about their experiences' highly and above the 'teacher talking or reading to pupils'. It was noticed during observations that pupils are encouraged to speak out in class. They also have a session once a week where pupils present a speech, or song or what ever they

wish to all the other pupils. 'Pupils helping each other' is ranked low by pupils and highly by teachers. A possible reason could be that in class pupils cannot discuss work with each other because lack of classroom divisions makes it too noisy if they start talking.

2.2.6 The Home Environment

The principal and staff try as much as possible to get parents involved in the school, but generally they only come into the school when asked. They also provide the children with the raw ingredients for school cooking activities. When the cooking activities first started, parents used to come and help. However the principal had to stop them helping as he felt they were too dirty and he could not tell them this. Through teaching the children hygienic practices, he felt this may be extended to the parents. The recipe cards that the children follow, which include instructions for hygienic practices, are posted on the wall by the kitchen. Parents do

look at the cards but few are literate, therefore learning through their children appears to be a more effective method; the teachers feel it is difficult to change the parents attitudes and the only way of doing this is through the pupils. The school holds parents meetings once a month, but on average only 30% of the parents attend. Some of the teachers made house to house visits in an attempt to get more parents to attend, but attendance only increased by about 5%. Methods of enticing community members and parents to the school include holding a show of pupils performances (singing, drama, reciting) and a sports day. For the latter each pupil was asked to contribute Rs. 25 each. Asking for money from the pupils discourages parents from coming to the school. The school now asks for gifts rather than money after one case in which a parent refused to give Rs. 25 in cash, but instead donated a bunch of bananas worth Rs.150.

Parents' role in schooling

Four parents (three men and one women) were interviewed. All are farmers and have children at the school. These parents say that they always come to the school if they receive a message through their children. They like to get involved with the school and have helped repair buildings and plough the school experimental plot. Getting involved in the school is very important, as the school needs to be improved further. Therefore they must keep the school to provide better lives for their children. They say they are quite satisfied with the school, but don't know what their children should be taught, except reading and writing, as they never went to school themselves; they believe that hardship and problems in the village are caused by low literacy rates amongst adults.

Their children talk about what they do in school, especially cooking and agriculture, because they know that this will form a discussion. The parents say they do ask their children what they learn in school, but that they don't have much time to

listen. Often they do not know what the children are talking about, but they ask anyway to encourage them. One parent said *'it is good when they talk about cooking or agriculture because we can relate to these activities and learn from our children'.* The parents say that the new programme at the school has helped them to have friendly discussions with their children at home and has improved family bonds. The children now ask them more questions. From their children, the parents have learnt new agricultural practices, as one father quoted *'when planting a banana tree, I dug a small hole put the plant in and pushed some soil, using my feet, around the base of the plant. My son was watching and said to me "when you plant a banana tree you must dig a hole 2'x2', then put the plant in and replace the soil" - now my banana trees grow better'.* Another farmer has started making compost after his daughter told him about it and he had been down to the school to find out more.

Everyone in the village knows each other, so talking about home life in school is not a problem. One mother said that the children always go to each others houses and they all know about each other. The parents say they do not want their children to end up in the same position as them. They do not want them to be backward. They want them to be knowledgeable about the outside world and have the opportunity for a high level of education. They feel that there should be some sort of programme in the village to accommodate 'drop-outs', who at present tend to stay at home and help on the farm.

2.2.7 Contextualising teaching and learning

The principal believes that if the school is an enjoyable learning environment, pupils will attend the school. Pupils in this school enjoy and look forward to practical activities and project work. Through the introduction of these types of learning activities, the school environment has become more

conducive to learning. Teachers in the school use a number of teaching methods which relate directly to pupils' experiences, and the benefits of this approach include:

- the pupils enjoy project work as all pupils can participate and work together;
- pupils are more attentive to this type of work;
- pupils have more self-motivation and are happier;
- with project work you can see immediate results;
- pupils are more enthusiastic and will put in extra work;
- pupils learn from each other

Some further examples were given by teachers, which draw on the pupils' experiences in learning new concepts. One teacher was giving a lesson on measuring volumes of liquid. He was using a bottle that held a litre, to illustrate to pupils how much one litre was. After the lesson, pupils went into the village and discovered that a local trader was selling 1 litre of

kerosene in a 750 ml bottle. The pupils went to the teacher to ask him to confirm their finding after which they told the trader that the bottles were not one litre. In some cases, when learning about modern transport, it is difficult to explain to the pupils, as most of them only know about ox carts. The agriculture experimental plot and the nutrition classes are frequently used tools to relate lesson content to pupils' experiences. Games have been developed for teaching concepts such as time, speed and distance.

2.2.8 Agriculture in contextualising teaching and learning

The teachers say that they try to integrate subjects as much as possible. Where text books are used (for Maths, Sinhala, Tamil and English) the subjects are not integrated. One teacher stated that *'Maths should be taught as a separate subject because concept development is difficult when integrated'.* The experimental agriculture plot is an excellent

example of teaching Maths concepts in the context of agriculture. On one visit to the school a group of pupils (year 7), whose teacher was absent, had been set the task of 'drawing' circles in the school plot, using a piece of rope and a stake for a pair of compasses (Photo 5). They were then going to plant vegetables in the circles.

Photo 5: Contextualising learning in the school agriculture plot: a Mathematics lesson

The experimental agriculture plot and the cooking activities have been an immense success in the school, both for pupil and teacher motivation- Results from the matrix ranking activity were very interesting as each group ranked 'pupils doing practical activities' as the most effective method of learning. Evidence from the group interviews held with pupils shows that this is what they enjoy most and feel is very important in their learning process, especially where the activity is relevant to their home environment. Through

carrying out practical activities in the experimental plot, which has been used as a base for teaching other subjects such as learning Maths concepts or reading English, there have been improvements in farmers' agricultural practices. Pupils have passed on their experiences in the agricultural plot to their parents, hence some parents have become more aware of major issues such as soil erosion and other environmental problems. Consequently the introduction of the plot has produced a type of extension system and a three way learning triangle between parents, pupils, teachers and the community. Since using the experimental plot, pupils' curiosity and questioning has increased. There is a very low uptake of technology in agriculture in this region, and pupils have been asking such questions as *'how do we increase the yield of this crop?', 'what new technologies can we use?'.* There is now an increased awareness in the community of the need to improve agricultural practices. One specific practice employed at the school that is now starting to diffuse into the

community, is composting.

The main problem with using a practically based approach to learning is time. Lessons are only 40 minutes long and this is a major constraint. Practical sessions that involve group work are important because they can involve all pupils and pupils' motivation levels are increased. Teachers feel that this approach, which relates the content to the pupils' experience, is suitable for all pupils because the majority come from the same type of background with the same type of experiences and problems. Another constraint to using this approach is the lack of materials; pens and paper (pupils erase what is in their exercise book when it is full). The teachers have regular meetings to discuss problems and develop new ideas. There is no teacher of agriculture at the school; however, there is a master teacher specifically for agriculture in the area and the principal has recently asked her to come to the school.

2.2.9 Issues arising from school A

Although the school has received a substantial amount of funding and support from a donor project, it still faces a number of serious problems, especially in the supply of materials. The government is meant to supply such items as blackboards, but they never reach the school. Because the school at present has donor support, the district education office neglects to supply the school with materials it should receive from the government. The school is noticeably innovative compared to the other schools visited. The principal could immediately identify factors which he believes makes his school innovative; for example, project work is important; project work and practical activities are continually assessed and added to the pupils' end of year mark; pupils learn from each other; pupils are encouraged to work in groups; allowances are made in the timetable to accommodate extra activities; and teachers try to integrate subjects as much as possible.

There are a number of physical resource problems in the

school that directly affect classroom learning, such as insufficient classroom space and no partitions between the classroom areas. There are few teaching and learning materials, especially teaching aids, exercise books, and extra reading material, all of which are necessary to motivate staff and pupils. There is no funding available for educational visits (to develop social and awareness skills, visits to efficient farms) and no proper assistance for talented pupils or those requiring special needs. Teachers are very motivated in this school and much of this can be attributed to the dynamism of the principal. The outside influence of the donor project has also helped in raising the image and improving conditions in the school. The teachers are young and relatively well qualified and there is good teacher collegiality; again it is most probable that the principal plays a large part in ensuring his staff work together well. There are fortnightly staff meetings, teachers share responsibilities and are very trustworthy.

Teachers face problems with the curriculum, mainly that they have no input in curriculum development; the work load of the curriculum is too heavy to allow them to have any flexibility in what is taught and how it is taught; the curriculum is generally not relevant to the lives and backgrounds of the pupils; textbooks are 'urbanised' and appear to neglect the rural learner; in order to carry out practically based lessons a 40 minute lesson period is too short; and, exams set at district level are unfair. Teachers would like also to see improvements in teacher training. They would like more opportunities to attend training especially in different teaching methods, such as the use of games; in classroom organisation, specifically how to organise teaching and learning in a limited area with few resources; in materials development; and specific training in physical education, music and drama.

There appear to be good community-school relationships, and teachers are well respected in the village. The principal

and some of the teachers live in the village, so they understand and know the backgrounds pupils come from. This enables them to be more understanding to pupils' specific problems. Understanding the community and a specific family's problem will make it easier for the staff, who will know how to ask parents about things that are happening at home. Teachers try to accommodate and help pupils if they must be absent to help at home, rather than continually blaming the parents. The major problem in the village is poverty and many children are malnourished; few children come to school having eaten anything for breakfast other than hot tea. At peak times in the agricultural year children must stay at home to help in farm work. Teachers believe low literacy rates of parents is likely to cause disinterest in their children's' schooling. There are few facilities in the home for learning: no reading materials, no writing materials and little lighting mainly because parents cannot afford to purchase them and the school cannot afford to lend pupils books.

Learners in the school appear to be happy; they tackled activities, especially mapping diagrams, with enthusiasm and their diagrams were colourful and detailed. They are able to relate and use what they learn at school at home, especially when it relates to the school plot and the cooking activity. Overall they say that learning in school is enjoyable. It appears that the subjects they enjoy are the ones they already know, mother tongue (Sinhala) is a favourite subject because *'it is a subject we already know'.* Maths and English were least favourites because *'they are difficult'.* The school experimental agriculture plot and the nutrition programme are seen as a means of getting parents involved and interested in their children's education. Now children talk at home about cooking and agriculture in school because they know that this will form a discussion as parents can relate to these activities. Parents say they do not have much time to listen to their children because of their demanding workloads, and they often spend many hours working in the fields away from

the home. Parents say that the new programme at the school has helped improve family bonds and that now they have more meaningful discussions with their children at home. Parents also learn new agricultural practices, and better hygiene practices from their children. This is very important in an area where the farmers receive little help from government extension workers.

2.3 An 'average' school - School B

2.3.1 The Community Environment

School B is in a small village barely 40 km from Colombo. It lies within Horana Secretarial Division in Western Sri Lanka. The village lies amongst six other similar villages, all within the catchment area of the school. Each village has between thirty and forty families, with an average of five persons in each family. Average monthly incomes were estimated in verbal interviews with parents to be Rs. 400 per month plus

Rs. 500 from *samurdhi* programme, but incomes are very insecure. The principal of the school, estimated the average family income to be around Rs. 2500 - Rs. 3000 per month. The majority (60%) of families receive support under the *samurdhi* programme. The village is Sinhalese Buddhist and Sinhala is the spoken language. There is an evident segregation in castes within this village. The literacy rate in the village is high, at approximately 98%.

Over 90% of the community is engaged in some form of agriculture, although many have extra income sources due to the low income received from farming. Few have jobs that take them outside the village and unemployment in the village is around 20%, even of educated school leavers. There are many social problems in the village, especially drug and alcohol abuse and adults working overseas. A percentage (approximately 40%) of pupils at the school are looked after by grandparents, older brothers and sisters, or fathers, because the mothers are working in the Middle East and

Singapore. The majority of houses have latrines and all have access to well water but few have electricity. None of the parents interviewed (all farmers) mentioned any type of forward planning or future vision. They all appear to live from day to day and are heavily reliant on the *samurdhi* programme for extra income.

Agriculture

The majority of farmers have a small area near the house that is a home garden. Many of the farmers rent land, usually about two acres, on which to farm. Approximately one quarter of the income may go on land rent. This area was previously a paddy farming region, but high input costs and low market prices have caused most of the farmers to move over to vegetable production. Vegetables also provide a steady income throughout the year. The market for the produce is good, but poor infrastructure prevents the farmers from marketing their own produce. There are no farmer

groups or marketing organisations in the area, so farmers have little choice but to sell to a middleman who collects the produce direct from the farm. The middleman may only pay the farmer half the retail market price of the produce. There is no support from agricultural extension agents. At present they have problems with pests and disease on the vegetables. Peak periods in the agricultural year are April and October (paddy land preparation and planting), and February and August (paddy harvesting). During these times the parents may keep their children at home to help in the fields. Most of the parents said that the reason for poor incomes from farming is the high cost of inputs. They all say they have sufficient knowledge (gained through experience) to farm.

School and Community Relations

The school lends furniture, free of charge, to the community for special occasions such as weddings and funerals. The

community provided some materials for prize giving (the first one was held in 1995) and occasionally help with the maintenance and cleaning of the school. Carpenters in the village had been asked to help repair furniture at the school, but they never turned up. Empty rooms at the school are hired out for self employment programmes and money obtained through this has enabled electricity to be connected and a night-watchman employed (there is a problem with theft and vandalism at the school). Many of the parents are past pupils of the school who tend to give donations to the school rather than get involved in school activities. The principal believes that understanding the community and better links between the school and community will help overcome the pupils' learning problems; however, there was no evidence to suggest any effort was being made to involve the community in the school activities. Teachers attend community functions such as festivals, and if the teachers are asked for money or voluntary help by the community

members, they always help if they can. This is never reciprocated by the community when teachers ask for help at the school.

Photo 6: the school

2.3.2 The School Environment

The school was built in 1902. It is a type 2 school with classes from years 1 to 11. The school site covers 3.5 acres and there is no agriculture plot. There are a few flower beds, but generally the school grounds are bare and unattractive (see pupils' responses, Table 13). There are three large buildings (50 x 9 metres) and two smaller buildings (35 x 8 metres) of the type illustrated in Photo 6. At present one of the large buildings is being re-roofed, but there appeared to be adequate space for all of the classes, although years 2 and 3 have small rooms. Only one of the large buildings can be completely locked (metal wire on the sides, Photo 7), the

others are completely open; therefore, work, books etc., cannot be left in them. The school is well equipped with plenty of desks and chairs, although a large number are in disrepair. The principal's office contains a number of secure metal cabinets. There is a large school library in which books are kept in locked cupboards. At present the library is being used as a staff room.

There is one latrine for girls and no provision for boys. A well was provided by the parents, but this dries up during the dry season. The parents mentioned that the quality of the water is very poor, so they must provide their children with drinking water to take to school. It is interesting that the principal has recently had electricity connected to the school and has employed a night-watchman, yet there are no adequate sanitary and water facilities. The principal said that electricity is needed for using equipment in the science laboratory, and he also mentioned that previously pupils had brought electric cookers to the school to make cakes. This is hard to believe,

considering the poverty that is prevalent in the village. It seems that the electricity supply is not, as yet, fully utilised.

Photo 7: classroom of year 1 pupils

Enrolment, Pupil Numbers, Attendance, Drop-out and Repetition

There are 291 pupils enrolled in the school (124 boys and 167 girls). The average attendance rate is low at only 65%. The principal stated that he does not consider the low attendance rate to be a problem. He continued, *'if the pupils do not want to attend school that is their problem, we will concentrate on getting the good pupils through their exams'.* There was no available figure for drop-out, but reasons are given as major social problems in the village, poverty, broken families and mothers working abroad. Self-motivation of pupils in the school is low which, according to the principal, can be attributed to the many social problems children face

at home. About 10% of the pupils drop out and become child labourers (see Table 12) whilst another 30% tolerate the problems at home, but lack of family support demotivates them.

Assessment and Examinations

The principal does not agree with the present exam system. He believes that the school should have more control over the system because pupils from rural school have different backgrounds to those from urban schools. The exam system needs to accommodate the differences in the background and experiences of rural children compared to urban children.

2.3.3 The Teacher

There are sixteen teachers (two male and fourteen female) for 291 pupils (124 boys, 167 girls) which equates to a low pupil:teacher ratio of 18:1 as compared to a national average

of 23:1 in type 2 schools (NIE, 1993). There are numerous problems in this school and, according to observation, one appears to be poor relationships between the teachers and the principal. Teacher motivation appears low, which is not helped by the school only having had one inspection in the last four years and rare visits by the Master teachers. The principal said there were a number of problems at the school including the fact that teachers are taking too much leave. Although teachers are entitled to forty days' leave a year, the majority (87%) of teachers are female and they tend to take all of their leave because of family responsibilities. The principal then said he would like more male teachers in the school because they *'do not have responsibilities at home and would get involved in extra-curricula activities, such as teaching cricket'.* The principal also complained of a general lack of trained primary education teachers and a general decline in the standard of teachers. One teacher said that she wanted to teach primary level (Maths) because *'I find it*

very difficult to teach pupils at secondary level that have been taught incorrectly at primary level'. Altogether the principal is not happy with the overall performance of the school, he attributes this to the decline in parents' and pupils' social and moral values.

The teachers gave a comprehensive list of the problems they face in this school. Major problems include dealing with children from disturbed backgrounds; lack of parental involvement in the school; and, lack of parental support at home (*'they don't make the children do homework'*). These problems in turn lead to low motivation and absenteeism of pupils. During the interviews one teacher made the comment *'until we improve children's motivation, it is not worth doing anything else',* she gave no suggestions as to how motivation could be improved. Other related problems include poverty, health (congenital diseases, bad teeth and eyes) and poor nutrition (children frequently faint from lack of food and

water). Teachers complained of no permanent staff room, small classrooms, broken furniture that is never mended and, in terms of resources, a lack of materials as children don't bring exercise books and pens to school. Getting new teachers is also a problem as the school is not easily accessed by public transport (teachers must walk 3 km to the nearest bus route).

The attitude of some teachers in the school appears to be that if the pupils don't come to school it is because they don't want to come to school. Consequently some teachers stated that they concentrate on the better pupils and neglect those that attend infrequently and are slow learners. When the teachers were asked whether it would be possible and useful to give pupils self-learning materials to use at home, that could be based on the child's work at home, one teacher replied, *'children who stay at home, don't want to come to school; self-learning materials are not appropriate. Children*

who want to come to school do so anyway, even if their parents tell them to stay at home'. The main assistance the teachers would like, apart from training, are: diagnosis of children's problems and special needs education to support these children; awareness programmes for parents to support and motivate their children; seeing a model school; use of the media, such as television and radio, in teaching and learning; and provision for school visits so that pupils have the opportunity to gain practical experience about what is around them (although the school is only 12 km from the sea, most pupils have never seen it).

Of the eight teachers interviewed, all had formal training and seven of them were over thirty five years old. Three teachers had more than twenty years' teaching experience, with the rest having between four and seventeen years' experience. Length of service in the school ranged between one and sixteen years, the latter being for the deputy principal and teacher of year 1. All of the teachers are experienced and

consequently they made few comments about the need for further support in training. The teachers of the higher grades felt their training was adequate and most said they had attended recent INSET courses, though primarily because of changes in the curriculum. At the primary level they need more training. One comment was made about the quality of some INSET courses, *'it all depends on the trainer or Master teacher. The quality is usually all right but the courses were sometimes disorganised and not relevant to what I teach'.* If they had the opportunity to go for training now, teachers identified the following areas: integrating the curriculum using environmental themes; INSET in primary science (year 4 teacher) because she finds this area difficult; INSET course for year 4 and 5 and year 10 and 11 English; and training course in the use of practical activities in teaching mathematics for years 1 - 6.

What is a good teacher?

Due to many of the children coming from disturbed backgrounds, the teachers are under pressure to provide sympathy and attention to these pupils (see comments in table 11). The principal believes teachers are motivated to care for and love the pupils, because they know it will be the only attention some of the pupils will get. One teacher said she gives special attention to pupils in her class with special learning needs (there are two children with learning disabilities for which there is no form of special education). From the pupils responses to 'what are the characteristics of a good teacher?', all pupils mentioned *'affection'* and *'paying attention to them'* as important characteristics.

2.3.4 The Learner

All of the pupils interviewed have some sort of agricultural background. Some of their parents have other jobs as well as being farmers, for example one does building work and another makes wooden face masks. Three of the parents are

involved in marketing agricultural produce (mainly vegetables) and one parent is a salesman for traditional medicines.

The subjects the pupils identified as the ones they liked the most were, Maths, *'because it is easy', 'because I get the highest mark in it'* (this boy only got 28/100). Religion and Environment *'because we like the teacher',* Art *'because I draw well'* and Music *'because I sing well'.* Subjects they liked the least tended to be the ones they were not good at or didn't understand well, such as English and Science *'because they are difficult'.* Music *'because I can't sing'.* The subjects believed to be most useful in the future are, Maths *'so I can go into business',* English, and Sinhala *'so I can read a bus timetable'.* All of the pupils said that generally, learning things in school was not difficult. However, at home learning things is easier *'because there is more time for someone to explain something they don't understand'.* None of the pupils could remember a time when the teacher asked

about their home experiences. One pupil gave an example from a lesson in which they were growing seeds in pots in the classroom. He said that the teacher had never asked them how they grew seeds at home. Generally school work is only discussed at home if their parents ask, or something special has happened (such as the research visit). The overall impression we gained was that pupils feel their parents are not interested in their school work. A few pupils said their parents were interested because they send them to extra lessons (in preparation for the year 5 scholarship exam). All of the pupils want to continue their education, most at this stage looking towards professional occupations such as army, police, teacher, nurse and doctor.

Pupils responses to the question 'why do some children go to school and others don't?' (table 12) revealed some interesting information, which supported points raised by teachers such as the number of pupils who have mothers working abroad, one boy mentioned that *'one boy is working*

in a garage to earn money for his family. His father is an alcoholic and does not work', another said that, *'some work in the local market and village shops'.* Pupils responses to the reasons for going to school, were generally *'to learn',* one girl said *'to communicate', 'if I didn't come to school I wouldn't have been able to ask the foreigner questions'* (because the pupil would not know English).

Pupils were slow to say what they liked, or disliked, about school. Their responses (Table 13) were of a general nature and mainly concerned with the appearance of the school *'I like the colour and smell of flowers and they attract butterflies'.* Due to poverty few pupils have any facilities for learning at home, therefore books and good facilities would probably be a motivating factor for attending school.

Table 11: What are the characteristics of a good teacher? (School B)

Pupils' response	***Teachers' response***
A teacher should:	*A teacher should:*
• be strict	• look after the pupils needs
• teach well	• be punctual
• be kind	• love all the pupils
• explain things well	• pay attention to the pupils
• beat them if they are not listening	• be a role model
• not be absent	• be duty conscious
• should give orders and check that they have done the right thing	• take less leave
• dress well and be clean	• be a friend to the pupils
• talk about their home (one boy said his teacher came	• dress well (the pupils hold a daily vote on which teacher is

to his house when he was in year 1, they would like their teachers to visit their homes but they never do)	wearing the best sari, pupils like the teachers wearing saris because most of their mothers wear western clothes)
• love the pupils	• show no favouritism
• teach the pupil right from wrong	• committed to teaching
• correct their work and make marks in their books	
• teach them songs and poems (though they also learn these from their parents)	
• take them on trips - they learn by looking	

Table 12: Why do some children go to school and others

don't? (School B)

Why do children go to school?	***Why do some children not go to school?***
• to learn subjects	• they are lazy
• to play	• they are sick
• to communicate	• they have to look after younger brothers and sisters because their mother is not at home.
• to make friends	• they have to earn money
	• their mother works abroad
	• their clothes are wet (only have one uniform).
	• because they don't have money

	• because they don't have money

Table 13: What children like and dislike about school (School B)

What do you like about school?	***What do you dislike about school?***
• Facilities to learn - furniture, text books	• appearance of the school, there are no flowers
• The teachers	

Pupils activities at home and school

Praying was the most frequent activity illustrated by girls both at home and school and the only activity that pupils linked between the two learning environments; one pupil wrote that she learnt prayers in school that she used at home. Sweeping the classroom and the house was another activity

mentioned frequently by girls. The girls also wrote 'obey the teachers' and 'obey parents' as activities. Although these pupils come from farming families, few of them appear to carry out regular work in agriculture. Girls mention 'planting flowers', maybe because it is an activity they enjoy (Table 13) rather than one they carry out frequently. A few boys mentioned agricultural activities (weeding, let chickens out), but the frequency of occurrence was more for 'sweep the house', 'play' and 'read books'.

Table 14 summarises mapping diagrams and one pupil's diagram is illustrated in Figure 3.

Table 14: Activities at home and school

(Summary of mapping diagrams by 12 pupils from year 4 and 5 (by frequency of occurrence of each activity in the mapping diagrams)).

Activities I do at home	***boy***	***girl***	***Activities I do at school***	***boy***	***girl***
play	3	4	play	3	3
plant flowers		6	learn	3	6
read books	3	4	plant flowers		3
help parents		2	obey teachers		4
sweep the house	4	7	sweep classroom	3	6
clean the garden	3	5	clean garden	2	5
obey parents and adults		2	pray	3	7
watch television		2	collect water	1	1
listen to the radio		2	tell stories and poems	1	
collect firewood	1		draw pictures		1
go shopping	1		read books		1
bring in the washing	1				

collect water	1	4			
pray	3	7			
go to the temple	1				
brush teeth	3	1			
wash face	2				
comb hair	1				
weed	2	1			
learn		1			
water plants	1				
let the chickens out	1				
put vegetables into bundles	1				
practice writing		1			
eat		1			
bathe		1			

Figure 3: A pupil's mapping diagram (School B)

2.3.5 Teaching Learning Processes

The curriculum and content of learning

The principal believes that the school would function better if more decision making was at the school level. For example the school terms could be made more suited to local conditions as during the monsoon flooding in the village keeps many pupils at home. The school has no input in curriculum development. Because the content of the curriculum is so full, the teachers do not have time to fit extra activities into school time; however, teachers believe the curriculum is relevant to pupils backgrounds. One example given in the curricula there is a section on factories in this area it is easy to go and visit a rubber processing factory. Few teachers could give examples or illustrate the use of other materials. Year 1 teacher had made some learning cards (numbers and letters) that she

learnt at a recent INSET.

Pupils are given no choice over what they learn. There is a yearly plan with set lesson times and subjects, and this must be adhered to. Teachers follow the teachers' guide word for word and believe it allows for no flexibility. At this point it was mentioned that the teachers guide does allow flexibility in the lesson content and they were asked which they preferred, giving only a title such as "learning about soil by classification", or giving all activity steps like, (1) take the children to the garden; (2) ask them to collect soil samples; (3) let them sort out and differentiate soil types. All of the teachers said they would prefer to follow a set lesson, as in the teachers' guide, because they don't feel competent and confident enough to develop their own activities.

A very important point was brought up by one teacher who mentioned that in the curriculum there are many practical activities that can be done with the pupils. However, there are

no follow-up lessons related to these activities. The activity suggests follow-up work but there is no time allocated in the curriculum to do them. They would have to be done in extra time, which is not possible because of the heavy content of the syllabus.

Teaching learning practices in the school

The teachers say they integrate subjects where it is possible but textbooks do not allow for integration of subject areas; in Maths and Religion no integration takes place. Pupils rarely work in groups in the classroom, except for art and craft subjects. Project work is not undertaken because, said one teacher, *'the pupils are not clever so they need to pay more attention to lessons. Project work is not important'.* They do not do project work because it is not in the curriculum or the training programmes they have had.

Generally pupils only ask questions in class if they don't

understand something; however, teachers say they normally ask questions first to ensure that pupils have understood, even though their rankings do not place this high as a method of learning (Table 15). Teachers say that pupils in the higher grades do not ask questions, because they are shy and have no confidence in themselves. It appears that the teachers make no attempt to encourage the pupils to ask questions, although year 5 pupils give this a relatively high rank (Table 15). Pupils are not encouraged to discuss in class unless they are working in groups and then only the better pupils work in groups, *'because the less able do not like working in groups and do not work well in groups'.*

'Pupils writing about their own experience' receives a relatively low rank by teachers and pupils. Teachers say that approximately 20% of year 4 pupils cannot write and 15% of year 10 pupils can neither read nor write to even a basic level of competency. Teachers place 'pupils doing practical activities' and 'pupils helping each other' as the best methods

of learning. It is likely that this comes from their teacher training rather than what they actually practice in the school as year 5 pupils give both of these activities a low rank, and year 4 pupils give the former a low rank. Responses to other questions, by teachers and pupils, also indicated that few practical activities are carried out in the school.

Table 15: Methods of Learning matrix ranking activity

Rank	Teachers' response (group 1)
1	pupils doing practical activities
1	pupils helping each other
2	pupils singing or reciting
3	pupils asking questions
4	pupils talking about their own experience
5	teacher giving examples
6	teacher asking questions

6	pupils writing about their own experience
7	teacher talking or reading to pupils
*	teacher beating pupils

Rank	Teachers' response (Group 2)
1	pupils doing practical activities
2	pupils helping each other
2	pupils talking about their own experience
3	pupils writing about their own experience
3	pupils singing or reciting
4	teacher giving examples
5	pupils asking questions
6	teacher asking questions
7	teacher talking or reading to pupils
*	teacher beating pupils

*	teacher beating pupils

Rank	Pupils' response (year 5)
1	teacher talking or reading to pupils
2	pupils talking about their own experience
3	pupils writing about their own experience
3	pupils asking questions
4	teacher asking questions
4	teacher giving examples
5	pupils doing practical activities
6	pupils singing or reciting
6	pupils helping each other
*	teacher beating pupils

Rank	Pupils' response (Year 4)
1	teacher giving examples

2	pupils helping each other
2	teacher asking questions
2	teacher talking or reading to pupils
3	pupils singing or reciting
3	pupils doing practical activities
3	pupils writing about their own experience
4	pupils talking about their own experience
5	pupils asking questions
*	teacher beating pupils

* rank score = 0

2.3.6 The Home Environment

It was difficult organising a meeting of community members and eventually the deputy-principal arranged for some of the

parents that brought their children to school to be interviewed. Seven parents volunteered to stay, and another parent arrived near the end of the interview, so was spoken to separately. The parents interviewed (all female) are engaged in farming and they all have pupils at the school between years 1 to 10. The parents said that there were good relationships between the community and the school and that they always come to the school when they are asked. Many parents cannot come to the school because they have younger children to look after or they have to work. Getting a daily income is more important than going to their children's school. They commented that they didn't really have time to answer questions but had come in specially to do so.

The teachers say the relationships are not good, there is little parental support and parents think that by coming to the school when asked they are getting involved with the school; the parents give nothing to the school. More than half of the

parents never turn up for parents meetings, the only time all parents come to the school is when uniform material is being handed out. Some of the parents used to come and help in the *kola kanda* [3] programme; however, the programme ended when parents stopped coming to the school. If a parent is asked to come into the school, for example if their children's progress needs to be discussed, and does not turn up, teachers said that usually the pupil will be absent that day. Another case was quoted where a mother had asked the teachers to give her child extra lessons. The child then got bullied by other children saying that he must be stupid if he needs extra lessons, hence the child refused to attend the lessons. It appears that the many social problems in the village may account for poor relations between the school and parents, there seems to be little attempt by either side to resolve the situation.

[3] *school nutrition programme*

Parents' role in schooling

The teachers believe that more involvement by the parents in school activities will improve the pupil's motivation. One teacher mentioned the case of a boy in year 4 whose mother is working in Singapore. The teacher has sent a number of letters to the father asking him to come into the school, but he has never turned up. She believes that if the child is helped at home he could do very well at school as he will work if someone stands over him. Although parents state that it is important to be involved in their children's school because the get to know their child's strengths and weaknesses, there is no evidence of them being involved. They are happy with their children's schooling, but despite being asked numerous questions about what their children actually learn in school, parents were unable to give a clear answer. The general response was *'the teaching is good'.* When the group were asked whether their children talk about what they do in school

a parent said *'yes, they talk about their homework and if they have to take something into school'.* They talk about special events that happen at school, e.g. *'they talked about your (research project) visit and taking photographs'.* As a final statement one parent said, *'the children learn what is in the syllabus; they learn what should be taught:*

'What do you learn from your children?' was a question put to the group of parents. *'I have learnt model making'* and *'I know about the metric system'* were examples quoted by the parents. Their children do ask them questions, though often they cannot answer the question or they do not have time to sit and talk to their children. One parent said the best time for talking to her children is when they are watering the plants. The parents believe it is good that their children talk about what they do at home in school. If this happens they believe the children are being encouraged in school and it may encourage them to do more homework. One parent believes

that *'doing practical work and learning what is around them is better than looking at pictures in books'.*

Concerning improvements the parents would like to see in schooling, they emphasise the standard of the school. If the standard were to be improved, more children would come to this school. They feel the school needs a laboratory but they say nothing about the lack of materials (reading and writing), or the lack of adequate sanitary and water facilities. One parent said that her child came home and complained that his classroom was too small, the child is in year 4 and the room was observed to be spacious and well equipped. Possibly parents view items such as a laboratory as an indicator of the wealth of the school, as is having electricity and a night-watchman, which would improve the schools popularity and status. This would lead to an increase in pupil numbers and hence more resources, as the larger schools receive more equipment and resources.

Parents say more attention should be given to gifted children, and again this relates to the status of the school. If more pupils get through the year 5 scholarship exam, the school receives a higher rating and parents seem to more concerned with this than what their children actually learn. However they did mention that there should be remedial classes for weak pupils and the parents should be given more recognition. Regarding the last point there seems to be a conflict as parents say they have no time to be involved in school activities and teachers indicated that generally parents are not interested in school and are one of the major problems for the school (parents did not mention the social problems in the village).

For their children's futures they wish for them to have good jobs, such as teaching. Being a farmer is good as you are independent, if you are educated you can be a good farmer. The parents do not want their children to be the type of farmers they are. The idea of having a school agriculture plot,

purely for the use of contextualising learning, was put to the parents. This caused a lively discussion amongst the parents and they all agreed it was a good idea. *'Yes, they would come to the school to be involved with this',* was the general response. The parent who was interviewed separately has four boys at the school (in years 4 to 9). All of them are considered to be backward and their reading and writing skills are very poor. Unfortunately the discussion was held in the principal's office because he requested it, and he was also present throughout the discussion. The mother knows all of her children are weak in school. They are farmers and the children stay at home often to help on the farm, especially at peak periods. She feels that her children's schooling is not suitable for them, whilst the principal was out of the room for a few minutes she mentioned that her children should be taught to *'do something useful with their hands so that they will gain beneficial skills which they can use in their future'.*

2.3.7 Contextualising teaching and learning

To contextualise teaching and learning in this school, where there are many social problems, teachers believe 'common experiences' rather than individual experiences should be used. The principal, on the other hand, said *'this can't be done because the curriculum is too rigid'.* Teachers agreed that contextualisation would be a good approach to learning - pupils can remember things better, especially subjects like Science, *'if we try to teach Science from a book it is a completely new subject. If we relate it to the pupils home environment it is more relevant'.* An example was given where pupils were taken outside to stand under a tree when they were discussing the effects of shade in a science lesson. In one year 5 Environment lesson, pupils planted a banana tree and used compost as a fertiliser to see how well the plant grew. They also planted flower beds. The latter two activities were done by a teacher who has now left the

school. The teachers say that pupils enjoy practical sessions; their motivation and participation by all is greater, but they do not do much practical work in school (see Table 15). Pupils ask questions and remember things better when they do practical activities; however, teachers say they cannot do practical activities unless they are in the curriculum, because there is not enough time. Also, pupils would not bring materials required for practical lessons. The teachers said they would need more training to use such an approach of contextualising teaching and learning.

2.3.8 Agriculture in contextualising teaching and learning

Pupils were asked a number of questions that tried to find out whether, in their learning, there was any evidence that a contextualising approach had been used, either knowingly or unknowingly by the teachers. Various pupils made the following comments *'in school we learn subjects, at home we*

do not. In Science we learnt how to plant a seed. I learnt how to do that at home but the method is different. School teaches the wrong way; they use pots in the classroom which is not real. My father shows me how to plant seeds in a paddy fields'. This boy also mentioned that the teacher did not ask them about their experiences in planting seeds. *'At school we learnt how to preserve limes, but our parents already know how to do this', 'at home and at school we learn how to sew, but at school we must sew how the teacher wants us to, while at home we can do what we want. At school we learnt a new stitch'.*

During a classroom observation, a informal discussion took place with some year 4 pupils, regarding a banana plant outside their classroom:

> 'What can you use a banana plant for in school?' *'To measure height. To measure width. You can use*

the stem to make printing blocks'

'Why did you mention these uses?' *'In class we measured the blackboard. In class we learnt how to make printing blocks'.*

'Do you prefer to work in the classroom, or outside?' *'Outside'*

'Who planted the banana tree?' *'Last years' year 5 class'*

'Would you like to plant a banana tree?' *'Yes!'*

'Which do you prefer - to measure the blackboard or the banana tree?' *'The banana tree!'*

Pupils had never actually carried these activities out in practice, although it was understood that previously a teacher

(who has now left) had done something similar with the previous year 4 pupils. If agriculture was to be used as a means for contextualisation teachers feel they would need more agriculture training as generally pupils know more about agriculture than they do. They feel that utilising pupils' agriculture would be good, but at present can't visualise it being used in any subject other than Environmental Science. At this point a lively discussion ensued in which the following was said by a year 4 teacher, *'for weak pupils this would be a good method as they would get more recognition. If it could be incorporated into Maths and Science, such as measuring out a hole in which to plant a banana or coconut tree, or using them to measure the effects of shade. In Language the instructions for digging the hole could be in English. Reading and writing skills could be developed when writing a report monitoring the tree.'* The teacher then said, *'I've only just got this idea -1 think I will try it out!'.* The other group of teachers were not so certain about the approach,

especially when relating it to agricultural experience. They were dubious about the approach as pupils want to get away from agriculture; being a farmer is seen as failure, a job for 'backward pupils'. The attitude to agriculture would prevent this approach being used in grades higher than primary level. Teachers said that it would be good if the school could do more to make the pupils aware of the importance of agriculture, but another problem would be making the pupils understand that they would be learning in the context of agricultural experience, not learning about agriculture.

When evaluating pupils progress using such an approach, there were two conflicting views. One group of teachers (relatively older teachers with more teaching experience) said that the approach is difficult to evaluate as some criteria of assessment are not clear. They say the approach is suitable for all pupils, as all standards can participate in practical activities. The second group of teachers (younger teachers with less teaching experience) said that evaluating the pupils

progress is not difficult as they were taught in INSET. They state that with practical activities the pupils are unlikely to write anything in exercise books. If parents see their children's exercise book empty they are not happy. This group of teachers also believe that practical activities, although the pupils enjoy them, do not help the pupil get good end of term marks. Because of home backgrounds the approach is not suitable for all pupils.

2.3.9 Issues arising from school B

The school has many problems, identified by the teachers primarily as the lack of involvement and concern by parents in their children's schooling. Parents have little involvement in the school and consequently know little about the schooling their children receive. Parents seem to view the status of the school as more important than what their children actually learn. Teachers believe self-motivation of pupils is lacking due to the many social problems pupils face at home and that

children's education is not a priority. Overall, teachers appear to be happy with the training they have received, but in order to be more innovative in their teaching methods they require further and frequent training specifically to do this. Generally teachers in the school follow the teachers' guide step by step and although it allows for teachers to use other methods, teachers do not know how to do this.

There appears to be low teacher motivation and lack of visits by Master teachers and education officers, and poor relationships between the school and community probably contribute to the problem. Pupil motivation is also low; the average attendance rate is only 65% and, according to teachers, due to the lack of parental support from home. Teachers are more concerned with getting good pupils through the year 5 scholarship exam than ensuring that all pupils leave the school having reached basic competency levels in reading, writing and arithmetic. The school lacks teaching and learning resources as well as materials such as

exercise books and pencils, because pupils don't bring these items from home. There are no adequate sanitary and water facilities but there is electricity and a night-watchman.

There is not enough decision making at school level, especially, for example, in the timing of the school terms. In this area, at certain times of the year, flooding keeps many pupils at home. It is believed that the exam system should be made to accommodate the differences in the background and experiences of rural children compared to urban children. Teachers identified areas they need help in, and many centre around training in new teaching methods. Training in assessment procedures also would be an important and beneficial area. Teachers believe that the curriculum is relevant to the lives and backgrounds of the pupils; however, practical activities cannot take place unless they are in the curriculum, because lesson time is a constraint. If there is an activity in the curriculum there are no follow-up activities on the same subject to do at a later stage.

Teachers mention also the importance of an awareness programme for parents. This may help them understand the value of educating their children and the possible benefits they may receive from their children's education (e.g. improved hygienic and agricultural practices).

Pupils appear unable to relate learning environments at home with learning environments in the school. It was mentioned that practical work at school is 'not real' because it takes place in the classroom, when realistically it would only take place outside. In this school pupils appear to have little contact with agricultural practices, considering most of their parents are farmers. This could be due to pupils not thinking it was 'right' to mention the agricultural tasks they were involved in daily, as during interviews a number of examples of their agricultural activities arose.

Overall there appears to be little evidence of the use of a contextualised approach to teaching and learning in this

school. It may be attributed to a number of factors:

1. the curriculum is rigid and teachers feel they must follow it step by step;

2. teachers have not been exposed to such an approach to teaching and learning;

3. teachers have little confidence in themselves to enable them to adapt what is in the curriculum to the local environment;

4. the principal does not motivate teachers into improving the general standard in the school;

5. there are poor relationships between the community, parents and the school.

3 Findings from the country study

Sri Lanka's education system has been developed over many centuries, and at present offers free education for all from year one through to university level. It has made concerted efforts to improve the quality of education, and a high literacy rate (88%) and low drop-out rate (4%) are among some of the country's achievements. Despite these and many other high achievements, the problem of remoteness and difficulty of access to rural primary schools still remains an unresolved problem, which in turn affects the effectiveness of these schools.

At present rural primary schools in Sri Lanka face many problems and the case study findings revealed the following general problems:

- Inequitable distribution of resources, both human (lack of trained teachers) and physical (lack of equipment), exist between urban and rural primary school;

- Many disparities in the education system, especially between urban and rural schools;

- Poverty and health (malnourishment) are major problems which affect the pupils education;

- Handwriting skills are very bad because the pupils have no facilities in order to practice at home;

- Few reading materials are available to the pupils, such as newspapers, and many RPSs have no library;

- There are no media facilities such as television and radio;

- Many of the pupils will be unable to continue their schooling after year 9 because there are no transport facilities available;

- Classes are overcrowded and teachers are unable to manage in large schools due to poor skills in classroom organisation;

- Rural primary schools are getting smaller and teachers are not motivated in these schools as they receive no attention from school authorities (inspections or Master teachers);

- In some cases there is little parental support and lack of co-operation from the community;

- There is high absenteeism of pupils and teachers;

- Lack of infrastructure. Although transport on public buses is subsidised, often the problem is lack of bus service;

- Substantial variation between schools, divisions

and provinces in the availability and deployment of primary teachers;

- Lack of incentives for all teachers, including primary level teachers, to serve in disadvantaged areas;

- Restricted opportunities for primary teachers to develop their careers within the field of primary education.

Apart from these general problems there are many macro problems which specifically affect the effective functioning of rural primary schools, and especially those found in the poor and disadvantaged sectors of society. Interviews with officials from the National Institute of Education and findings from the field work identified many areas that need urgent action. Recent studies (NIE, 1995) have revealed that achievements of primary school children in Mathematics,

Language and Life Skills are disturbingly poor and that disparities in achievement levels are usually high between urban and rural pupils and between those belonging to different provinces; less than 30% of primary level pupils complete schooling with mastery levels in numeracy and literacy.

Often teachers working in rural schools view their pupils as being ignorant because they come from low level socio-economic groups. These pupils, the majority of whom are likely to come from farming backgrounds, lead harsh lives in which their contribution to the family income must often come before their education. This leads to high levels of absenteeism during peak times in the agricultural year. The case studies illustrate that many children have very responsible jobs working on the farm, looking after the home and caring for younger brothers and sisters. They often work long hours and survive on low nutritional diets. They have little time and often no facilities for studying at home. No special

support is offered to teachers in rural primary schools, and only a few selected schools get support from private donors. Many rural primary schools rarely, if ever, get visits from educational inspectors or master teachers who are often overworked, especially in rural areas where accessibility is difficult.

At present the education system is very examination oriented with children in years 1 and 2 already attending private lessons in preparation for the national scholarship exam in year 5. Many of those interviewed stated that the year 5 exam put too much pressure on pupils and should be eliminated. Consequently, slow learners, disadvantaged groups and the majority of the rural population are neglected in terms of the resources for their schools and by an urban biased curriculum. The learning needs of the rural sector are often different from those of the urban sector in terms of pupils' ambitions, opportunities available to them (many are physically unable to continue with their education because of

transport problems) and parental attitudes to their education.

In the past few years, Sri Lanka has revised the primary school curriculum in an effort to move towards a 'pupil-centred' approach to learning. Teaching is, however, still 'teacher-centred' and this is primarily due to the pressure on teachers to cover the curriculum and prepare pupils for the national year 5 scholarship exam. Although the curriculum has been revised, the country is still working under the same education system, which needs to adapt in order that curriculum changes may be implemented successfully. Some educationalists believe there is an imperative need to modify the curriculum so that it is less academic and more orientated towards life skills and social skills. In academic subjects there needs to be more self learning, experiments and problem solving skills. More community involvement is needed along with more exposure to external situations so that children's general knowledge is improved. At present the curriculum is not really relevant to the lives of rural school children.

Although the curriculum allows for some degree of flexibility by the teacher, during the fieldwork it was evident that few teachers knew this, or had any idea how to go about implementing their ideas. Teachers frequently stated that a contextualised approach to teaching and learning is a good idea, but they need more training and support in methods for implementing such an approach.

Contextualising teaching and learning is not recommended specifically in Sri Lanka's educational policy. The country is looking towards 'life long learning' with activity based curricula and self-learning activities, but these are not being practised. An external donor has undertaken a pilot project, which closely follows the theory and practice which underlies the contextualisation of teaching and learning, through the use of an agriculture plot and nutrition programme. Generally agriculture is considered to be a poor and uneducated person's livelihood. Using agriculture as a means for contextualising teaching and learning could lead to parents

interpreting this as school agriculture lessons, which are unpopular in some countries. During the case studies, however, this was rarely given as a constraint by parents. In fact, on a number of occasions, parents said that such an approach would make their children *"better farmers".* There is clear evidence from the pilot study in school A that such an approach makes learning more enjoyable for pupils and teachers, and parents seem also to appreciate it. During interviews members of the local community, the agricultural experimental plot and the nutrition programme in this school were referred to constantly. The community also is involved through the school providing a type of extension service following experiments it carries out on the agriculture plot.

Home"" """"> ar.cn.de.en.es.fr.id.it.ph.po.ru.sw

India

1 Education in India

India, a union of 25 states and 7 union territories spread over

3,287,269 km^2, is a parliamentary democracy with a federal structure. The Indian constitution which came into force on 26th January 1950 provides the basic legal framework for governance. India is the second most populous country in the world with 846.3 million people (1991 census) accounting for 16% of the world population. More than 74% of the population lives in rural areas and the majority are poor.

India was under colonial rule until 1947. During this time it had inherited an educational system that had become totally irrelevant to the lives of the people. Almost 50 years after independence, it is still struggling to realise the goal of an indigenous educational system. Basic education was one of the important goals of the freedom movement and Mahatama Gandhi, the Father of the Nation, even while leading the epic struggle against colonial power, advocated the adoption of an educational system that centred around agriculture, spinning and other forms of socially relevant productive work.

Article 45 of the Indian Constitution enjoins that *"the state shall endeavour to provide within a period of ten years from the commencement of this constitution, for free and compulsory education for all children until they complete the age of 14 years".* Over the last few decades the country has seen an increase of spatial spread, infrastructure, and increased coverage of various social groups. However, the goal of redeeming this constitutional pledge continues to be elusive.

1.1 Elementary education

The elementary education [1] system in India is the largest in the world (Figure 1)

[1] The period of compulsory education from standard I to standard VIII is known as elementary education as illustrated in **Figure 1**.

In 1994/95, 149 million children, aged 6 to 14 years, were enrolled in primary and upper primary schools, accounting for 82% of the country's population of school age children. Primary schools within a walking distance of 1 kilometre are available to 95% of the rural population, 84% have upper primary schooling facilities within a walking distance of 3 kilometres. Of the total number of children enrolled in school at the primary stage, only 42.8% are girls. Current retention rates are 62% at the primary and 47% at upper primary stage.

With reference to most indicators of educational development - literacy levels, enrolment of school going age children, access, quality of facilities, participation and learning achievement - there are differences between states and within states across regions, gender, rural/urban populations and social classes. Nearly half of the country's illiterates live in the four low literacy and high population states of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh. In these

states it is estimated that only one third of 6 -14 year old children attend school. The current rate of adult literacy is 52% but only 40% of women as against 64% men are literate. Rural female literacy is half the rate of urban female illiteracy and 70% of non-enrolled children are girls.

1.1.1 National Policy on Education (NPE)

A major development in education in the past decade was the adoption of a new national educational policy in 1986. The NPE rightly identified universalisation of primary education; education of women and the disadvantaged; emphasis on the acquisition of minimum learning levels; and, vocationalisation of education, as its major thrust areas. Specifically, the following targets are fixed for the eighth Five Year Plan (1992-97):

1. Universal enrolment of all children including girls and those from schedule castes (SC) and schedule

tribes (ST);

2. A primary school for all children within a distance of 1km; non-formal education facilities and priority for the education of the girl-child;

3. Increasing the ratio of the primary school to upper primary school from the existing 1:4 to 1:2;

4. Reducing the drop-out rates from the existing 46% (I-V) and 60% (I-VII) to 20% and 40%;

5. Achievement of minimum learning levels by almost all children at the primary level and introduction of this concept at the upper primary stage.

Figure 1: Structure of Education in India

1.1.2 Education for All (EFA)

Education for All continues to be the focal point of current endeavours in education. To achieve EFA a two-pronged strategy of universalising adult literacy and universalisation of elementary education (DEE) in a mutually supportive manner are being followed. EFA in the Indian context implies expansion of early childhood care and education (ECCE) activities; DEE; reduction in illiteracy; provision of continuing education and skills training for neo-literates; empowerment of women; improving the content and process of education to better relate it to the environment; and enhancement of people's ability to learn and cope with problems of livelihood and environment. Current strategies to achieve the goal of EFA are based on a broader functional view of education. That is, providing a wide diversity of learning opportunities and a dynamic, cumulative, lifelong process which applies to all people but lays special stress on girls and those from disadvantaged sectors of society. The strategies include:

- a large, systematic programme of non-formal

education with quality comparable to formal education;

- linkages between ECCE, primary education, adult literacy, post literacy and continuing education;

- forging an alliance of teachers, NGOs, voluntary agencies and community to further the cause of elementary education;

- professional upgrading of teachers.

1.1.3 Strategies for the Universalisation of Elementary Education

Specifically, the strategies for UEE include:

- a disaggregated approach with focus on the preparation of district specific, population specific

plans through micro-planning involving people's participation;

- introduction of Minimum Learning Levels (MLL) in schools to improve learner achievement;

- strengthening alternatives to schooling;

- convergence of different schemes of elementary education and related services;

- improving teacher competence.

The country has launched several major initiatives during the past few years to achieve UEE. Operation Blackboard is one such project whose aim is to provide all rural primary schools with essential facilities like classrooms, blackboards and other basic equipment. More than 300 Navodaya Vidyalayas (special schools) have been set up in rural areas throughout

the country. They seek to provide good quality education to talented children from the rural areas and the disadvantaged population groups, virtually free of cost. Implementation of pre-vocational and vocational programmes and generous financial allocation for the purpose is also a major action that has been taken to impart to education a relevance to contemporary social life. Non-formal education programmes for school dropouts, working children and girls who cannot attend formal schools have been established. Teacher training has been strengthened through programmes such as the Special Orientation Programme for Primary Teachers (SOPT). District Institutes of Education and Training (DIET) have been established to provide training and resource support for primary teachers in all districts.

1.1.4 District Primary Education Programme (DPEP)

Another major development is the District Primary Education Programme with its emphasis on decentralised and

participative planning and management, capacity-building and integrated, locally relevant curriculum. The goals of the DPEP are: to reduce differences in enrolment dropout and learning achievement among gender and social groups to less than five per cent; to reduce overall primary dropout rates for all pupils to less than 25% over measured baseline levels; to ensure achievement of basic literacy and numeracy competencies; and to achieve a minimum level of 40% in other competencies by all children. DPEP is currently being implemented in 42 low female literacy districts in 7 states and the objective is to cover 110 districts by the end of the eighth plan. DPEP is supported with loans from the World Bank, European Commission and the Department for International Development (UK).

1.1.5 Towards decentralised management of education

National parliament as well as state legislatures have concurrent legislative powers on education but the executive

powers remain with the states who are primarily responsible for the development of education, especially universalisation of elementary education. Within a state there is generally a four tier structure of administration - region/zone/range, district, taluka/block/mandal, and village. Traditionally the district has been the most important unit of administration and planning.

Under *Panchayati Raj,* a three tier structure of local self government in rural areas at the village, block and district levels exists in many states. Two landmark constitutional amendments were recently enacted which bestowed on the local bodies in rural and urban areas constitutional status and specific functions including provision of primary education. Accordingly village education committees (which are sub-committees of gram panchayats) have been constituted to promote decentralised management of education. The recommended roles and functions of the Village Education Committees (VECs) include:

- supervision over adult education, early childhood care and education, non-formal and primary education;

- generation and sustenance of awareness among the community, ensuring participation of all segments of population;

- promotion of enrolment drives;

- reduction of dropouts in primary schools by initiating measures and services (e.g. mid-day meal programme);

- assisting in smooth functioning of primary schools;

- seeking support of teachers and others for educational and other linked health and welfare programmes;

- mobilising resources and helping schools through the provision of water supply, sanitation, playgrounds;

- preparing plans for development of education in the village to attain total adult literacy and UPE;

- co-ordination with other social service departments.

1.1.6 Curriculum Reform

Designing a curriculum that is responsive to the diverse needs and aspirations of the people has remained a major challenge for Indian education. The experiments to develop such a curriculum began with the Basic Education scheme of Mahatma Gandhi in the early thirties. The scheme accorded a central place to productive work (usually agriculture, spinning) around which other subjects constituting general

education were to be taught to the learner by correlating them with the craft. After the country became independent, the efforts to develop a curriculum that is socially relevant continued and several large curriculum research projects, most of them supported by UN specialised agencies, were launched. All those projects, in their own way, aimed at the development and implementation of decentralised, target group specific curricula, built around real life needs.

A major outcome of the NPE (1986) is the framework for a national curriculum for elementary education (NCF). The NCF recommended a common scheme of studies with core contents and a common ten year structure of school education. It highlights common core components for the promotion of: national identity; flexibility in the selection of content and learning experiences; emphasis on defining minimum learning outcomes for each area of learning at all stages; adoption of child-centred, activity-based approaches in curriculum transaction; and, continuous comprehensive

evaluation. One outstanding achievement is that the NCF triggered curriculum research and development activity in the states on an unprecedented scale. The NCF highlights basic issues in curricular reform which are necessary to improvement the quality of schools, for example, MLLs, activity-based teaching, continuous evaluation, and flexibility to meet learner's needs. These issues will continue to inform and influence curriculum thinking and practice in the country for years to come.

Another recent significant contribution to curriculum thinking and practice is a report by the National Advisory Committee on Curriculum Load (1993) titled *'Learning without burden'.* The committee was to advise on the ways and means to reduce the load of the curriculum, particularly on young school pupils, while improving the quality of learning including capability for life-long, self-learning and skill formulation. In its analysis of the problem the committee has drawn attention to the deeper issues underlying the problem and in particular:

neglect of understanding (as against ability to reproduce information in examination) as an aim of education; the centralised character of curriculum planning and textbook production; a poor grasp amongst teachers of their role as translators of the curriculum into classroom activity; non-interactive teaching; convention of teaching from the textbook; competition based social ethos; and the craze for English medium education.

The Committee's recommendations included decentralisation of curriculum planning and textbook preparation and increased involvement of teachers in these tasks. A major positive outcome of the report has been the need to adopt an attitude of 'joyful learning' and to reduce the academic burden as national guidelines for curriculum and textbook revision.

1.2 Karnataka state

Karnataka is the eighth largest state in India in terms of area

(191,791 km^2) and population (44,977 million). It is situated on the Western edge of the Deccan plateau and opens out on the west to the Arabian sea. The state is predominantly rural and agrarian. About 70% of its population lives in rural areas and 65% of its total labour force is engaged in agriculture and allied activities which generate about 49% of the state income. Karnataka accounts for 59% of the country's coffee production and 47% of ragi production. Rice, jowar, millet, groundnut, sesame and sugarcane are some of the major crops grown. Kannada is the official language of the state is spoken by more than 65% of the people. Selected indicators of quality of life in Karnataka are given in Table 1.

Table 1: Selected Indicators of Quality of Life in Karnataka

Indicator	***Unit***	***1981***	***1991****
Birth rate	per thousand persons	28.3 (33.9)	26.8 (29.3)

Death rate	per thousand persons	9.1 (12.5)	9.0 (9.8)
Life Expectancy			
males	years (1981-88)	59.8	55.9
females	years (1981-88)	62.4	55.9
Infant mortality	per thousand	69.0 (110.0)	77.0 (80.0)
Literacy rate	per hundred	46.21 (43.6)	56.04 (52.21)
	males	58.73 (56.4)	64.13 (63.9)
	females	33.17 (29.8)	39.29 (39.4)

Source: Mahajan et al, 1994
** provisional (all India rates)*

1.2.1 Education in Karnataka State

The educational structure in Karnataka (Figure 2) consists of four years of lower primary, three years of higher primary and three years of high school or secondary education. The state has registered significant progress in the development of elementary education with respect to facilities, enrolment levels and teachers. The total enrolment at primary level was 7.478 million (5.117 million boys and 2.361 million girls) in 1994. In 1991, 28% of teachers in lower primary and 39% of teachers in higher primary schools were women. The required pre-service training for elementary teachers is the Teachers Certificate Higher (TCH), a certificate course of two years duration taken after 12 years of schooling; 95% of the teachers are trained. In 1990/91, the number of pupils per teacher was 46 (all India 42) and 54 (all India 37) at the primary and upper primary stages. Karnataka has a literacy rate of 56% (67% male, 44% female) and this is above the national average of 52%. Drop out rates in classes I to IV are

36% for boys and 37% for girls (all India 35% and 38% respectively) (1994/95).

To promote enrolment and attendance of children and prevent drop-outs, especially amongst children from SC/ST and backward classes, the Karnataka government implements several incentive schemes. Free uniforms are given to SC/ST children studying in government schools from classes I to V. Under the Akshaya and Vidya Vikasa schemes free textbooks are supplied to all children in primary schools. Under the Akshaya Food scheme, primary school children are provided with 3 kilos of rice or nutritious processed food for every twenty days of attendance (classes I to V). This encourages parents to send pupils to school, especially in classes I and II in which drop-out is highest.

Figure 2: Karnataka Education Structure

1.2.2 Primary School curriculum

Policies relating to curricular objectives, structure, content and evaluation for the whole state including design and development of curricular materials like textbooks, workbooks and teacher guides are formulated centrally at the secretariat level (highest policy making body of the government under the leadership of the Minister of Education) and executed by committees of teachers, psychologists, writers and educational experts. The curriculum and textbooks developed centrally are commonly adopted throughout the state.

The current primary school curriculum was developed in 1989. At the lower primary level it provides for the study of one language (mother tongue), environmental studies, mathematics, socially useful productive work (SUPW), physical and health education, art and creative expression, value education and remedial work (Environmental Studies is differentiated into social science and science at classes III and IV). At the higher primary level it provides for three

languages, mathematics, science, social science, SUPW, physical and health education, art and creative expression, value education and remedial work.

The salient features of the syllabus are stated as: *"It is child centred and comprehensive, teachers are given scope for innovations in educational research and experimentation in the syllabus, it is competency and activity based for effective learning through an integrated approach, equal weightage is given to the content for both urban and rural children, science syllabus emphasises the relevance of scientific knowledge and method in daily life following an integrated approach, art and creative expression emphasises exposing the child to a variety of media of expression stimulating creative thinking and self expression".* The curriculum time allotted per week is 45 periods of 40 minutes each. The school year runs from June to April, with mid-term vacations during October. School teaching hours are 10.20 to 16.30

Monday to Friday. Exams up to class VII are taken at the school level. This year (1996) a district level public exam was introduced for class VII to enforce teacher accountability. The evaluation scheme consists of six tests, one mid-term and one annual examination in a year. The relative weight given to oral and written assessment is illustrated in Table 2.

Table 2: Oral:written assessment

Class	**I**	**II**	**III**	**IV**
Language	75:25	50:50	25:75	25:75
Core subjects	100:00	100:00	25:75	25:75

A minimum average mark of 40% between core subjects and language is required to pass the annual examination. Evaluation in non-academic subjects (SUPW, Physical and Health Education, Value Education and Art and Creative Expression) is done internally and achievement indicated in

letter grades. Repetition generally occurs when pupils fail to meet compulsory attendance levels laid down by the Department of Education. These are 50% for classes I to III and 75% for classes IV to VII.

1.2.3 Panchayati Raj (*Local Self Government*)

Karnataka has taken a leading part in establishing local self-government institutions. Currently a three tier system of fully elected decentralised governments at the village (Gram Panchayat), *taluk* (Taluk Panchayat) and district (Zilla Panchayat) levels is functioning. Under this arrangement responsibility for taking decisions regarding activities at the grassroots level, which affect people's lives directly, would rest upon the elected members of the people themselves.

The Panchayat Raj bodies are expected to play a very important role in the reconstruction of the education system. At the village level VECs have been set-up in which the

headteacher has the role of member secretary. They are to actively involve the local community in improving enrolment, attendance, learning achievement and school environment. The VECs are sub-committees of the Gram Panchayats and enjoy statutory powers. For example, the utilisation of financial assistance to teachers and schools at the rate of Rs. 500 per teacher and Rs. 2000 per school per annum provided under DPEP requires the approval of the VEC. The money is to be deposited under a joint account in the names of the VEC president and secretary. The specific roles and functions of the VECs however are yet to be defined.

1.3 Education in Mysore district

The selected schools for the case studies are in Mysore district. It is one of the larger districts in the state with a population of 3.17 million accounting for 7% of the state's total population and 6% of its area. The district has a high percentage population from SC/ST. More than 70% of the

population lives in villages. The main crops grown in the district are paddy, ragi, jewar, pulses, cotton and sugar cane. It is also one of the largest cocoa production centres in the state.

Although the city of Mysore, the erstwhile capital of the Mysore State ruled by the Maharajas, is a well known centre of learning, art and culture, the district as a whole is educationally backward. Its literacy rate of 47% is much lower than the state average of 56%. There are 2411 government primary schools (out of a total of 2767 primary schools), 8039 teachers and 394,887 children enrolled in classes I - VII. Mysore is one of the new districts to come under the DPEP. The *taluk* to which the case study schools belong has 221 government primary schools, 1 aided school and 16 unaided schools making a total of 238 schools. There are 19 single teacher schools. The number of primary teachers in the *taluk* is 791 of which 710 teach in government schools. A total of 36,562 children are studying in primary

classes of which 33,588 study in government schools.

2 The schools

2.1 Selecting the schools

A pre-survey of ten schools was carried out by the co-researcher for the project, with the aid of Deputy Director of Public Instruction (DDPI), the Principal and a lecturer from DIET, Mysore. In total ten schools were visited and assessed in terms of their location, the number of pupils and their backgrounds, teaching-learning practices, co-operation of teachers, the community environment, and the overall

suitability of the school in terms of specifications laid down in the project guidelines. The 'innovative' school was selected from this survey of ten schools. The 'average' school was identified by DIET and chosen because of its location near the 'innovative' school. The one-day school visits were identified by DDPI and lecturers at DIET. Table 3 gives a summarised background to the schools to illustrate the similarity in structure and surroundings.

Table 3: Summary of case study schools

Factor	***School A***	**School *B***
• type of school	government higher primary school	government higher primary school
• class	class 1 -7	class 1 - 7
• number of pupils	241:192 (433)	202:214 (416)

M:F (total)		
• average monthly family income	Rs.1000	Rs. 3000
• main source family income	agriculture	agriculture
• poverty alleviation programmes	state aid programmes	
• attendance rate	80%	80%
• drop-out	10%	no data
• repetition	10%	10%
• teacher:pupil ratio	1:48	1:52*
• major social problems	poverty (see 1.3)	poverty
• adult literacy rate	33%	20%
• number of families in	415 (1543:1432)	520 (1828:1508)

village (m:f)		
• number of teachers m:f	3:6	4:4 (inc. principal)
• experience of teachers		
• principals length of service at this school	6 years	2 years
• donor support	none	none
• caste structure	80% SC, 20% other	80% Vokkaliga, 16% SC, 4% other

2.2 An 'innovative' school - School A

2.2.1 The Community Environment

School A is in a village located over 30 km to the East of Mysore in a poor rural area where agriculture is the main livelihood. There are 415 families in the village and the total

population is 2975, of which 1543 are male and 1432 are female (Census, 1991). The average family size is three to four children and six to eight members in total. Although the Karnataka State average literacy rate is 44% for females and 67% for males (Department of Education, 1993(1)), the literacy rate in School As village is only 33%, and 54% of the illiterates (Census, 1991). The caste structure is 80% Scheduled Caste (SC) and 20% Lingayats, Kurubas, Nayakas and other castes.

Only 20% of the villagers own land with the average farm size being 2-3 acres. Those who do not own land work as agricultural labourers, fishermen, brick makers, lorry drivers (transporting sugar cane) and sand loaders. Each male labourer receives Rs. 30-35 per day and female labourers earn Rs. 20-25 per day when working in agriculture. Male labourers earn Rs. 200 per lorry load of sand, estimated to be around Rs. 80 per day (this work is only available for three to four months a year). Average monthly incomes are

estimated to be in the region of Rs. 1000 per month per family.

There are only 306 houses in the village so some have more than one family living in them. Some houses have water (200 houses have tap water) and electricity but sanitation facilities are poor. Only 20-25 houses have toilets, though under a government Village Sanitation Improvement Scheme, families were given cement and materials to build their own toilets. Most of them, however, sold the cement and materials without building the toilet. The nearest health centre is in Gargeshwari 1 km away. There are no centres for food grain distribution or financial (credit) assistance because the taluk headquarters at T. Naraispur are only 6 km from the village and Gram Panchayat headquarters are only 1 km from the village.

In the village there is the *'Ambedkar'* Sand Labourers Association and a People's Awareness Association which

organises cultural and social activities. The village has no community centre, so most activities take place at Siddappaji Temple. Approximately nine households have a television set and less than 150 households have a radio. About forty five households receive a district level newspaper and four to five receive a state level newspaper (in Kannada). Transportation is good with frequent buses to T. Narasipur (the *taluk* headquarters) and Mysore.

Social and Economic Background

Along with the many programmes undertaken by the state to encourage SC/ST children to attend school, there are also a number of community aid programmes. The village receives aid under *Ashraya,* a poverty alleviation programme to build houses for the homeless. Under the Integrated Rural Development Scheme, the government gave farmers money to buy cows, bullocks, buffalo and sheep. Although community members and parents say there are no social

problems in the village, interviews with the headteacher and another villager revealed otherwise. They inferred the following as reasons for the village remaining socially and economically backward:

- There is a high level of female illiteracy;
- There is heavy abuse of locally produced alcohol amongst women and men (the state government is planning a prohibition of locally produced alcohol);
- The immediate area surrounding villagers' houses are unclean and unhealthy;
- There is a lack of nutritious food;
- There are many health problems;
- 95% of the village population belong to SC;

- There is a heavy belief in tradition and superstition;

- Villagers do not put government assistance to good use.

Agriculture

Two rice crops can be grown each year because of channel irrigation facilities. 1094 acres of land is under cultivation of which 206 acres are under dry land cultivation and 687 acres are irrigated. The farmers are very traditional with a basic farming system growing paddy (yield estimate is 2 - 2.5 tonnes per acre), ragi and groundnuts. Coconuts (59 acres) and mango trees are also grown. The dry season is February to May and sugar cane and paddy are grown in irrigated areas; otherwise, ragi, groundnuts and vegetables are grown. July to December is the rainy season. On irrigated lands sugar cane and paddy are grown, in dry land pulses (lentils) and vegetables are grown. The peak times in the

agricultural calendar are December to January (harvesting and land preparation) and June to July (harvesting and land preparation). There is no farmers' group or agricultural extension service in the village.

Agricultural land owners receive many benefits from the government. Seeds, fertiliser, electricity for irrigation pumps and no tax on agricultural produce are a few of these benefits. They also receive preferential interest rates for loans, special insurance and the use of agricultural marketing societies to ensure a fair price for their produce. In this village the landowners (20%) are the wealthy families.

School and Community Relations

The community is interested and aware of what goes on at the school, which was revealed in the number of people who turned up for group interviews with community members. The headteacher, teachers, community members and parents

who attended the group interview say that there are good relationships between the school and community. Any problems or improvements that need to take place in the school are put to the VEC. For example, the school requested a flag pole which was duly provided by the community. They have also provided furniture, drinking water and electricity (used for evening classes, PA system for fairs and events, radio for class VII science lessons). During national festivals the community gives sweets to the pupils. Very poor pupils are 'adopted' by members of the community, who will look after their basic necessities, such as books and stationary. Some homeless children or those from one parent families, are put in a hostel (five pupils in the school). Some of the community members provide materials for the school, one donated musical instruments and another has promised to buy school uniforms for those that do not receive them under the government incentive scheme (uniforms are provided free to SC and ST pupils in classes I

to VII).

2.2.2 The School Environment

School A was established in 1950. The school is considered a model Kannada school under the government scheme (started in 1992) of supporting selected schools catering to disadvantaged children in each assembly constituency. Under the scheme the 'model' schools receive additional financial and material support. The school has received furniture and other equipment for its development under the scheme.

Surroundings and Resources

First impressions of the school are very pleasing. The school is very well maintained and the buildings and grounds are clean and tidy. A border of trees (mainly eucalyptus) marks the school boundary, with a wall and main gates at the front of the school. A few flower beds and fruit trees line the

walkways to the classrooms. There are a few trees planted in the school grounds including, coconut, sandalwood, teak, jackfruit, mango, guava, pomegranate, tamarind, and papaya. There are some shaded areas which enable teaching to take place outside comfortably (Photo 1).

Photo 1: The School Grounds - School A

There are three main teaching blocks with a total of six classrooms. The buildings are brick and painted green and brown. Although the rooms are quite dark, they provide a cool learning place. There is insufficient classroom space so some classes, usually IV and V, must work outside (Photo 2). The problem has been enlarged by the recent addition of a high school class VIII which has taken over one classroom. Consequently classes I and II have been combined (more than 80 pupils in a room approximately 10 meters x 7 meters). There is a general lack of furniture in the school; none of the classes have desks. Pupils sit on the floor or on

benches too low for them (Photo 3). The community has donated some equipment including a few tables and benches, a wall clock and bell, as well as providing electricity. All classrooms have a black board and many of the rooms have charts, posters, diagrams and pupils work on the walls. The school has a number of teaching aids for science (microscope, skeleton, balance, pipette, chemicals), a model of the planetary system, a band kit and sports equipment. Pupils have made a number of teaching aids such as a models to illustrate how a lung works and how the kidneys function. Pupils can borrow books from the school library run by one of the teachers. The books, provided by the government, are kept in locked steel cabinets. There is no playground at the school due to lack of space and finance.

Enrolment, Pupil Numbers, Attendance, Drop-out and Repetition

There are 433 pupils enrolled in the school; 241 boys and

192 girls. The immediate catchment area for the school is the village with about 90% of children enrolled in the school. Children for classes V, VI and VII also come from the nearby villages all within a 2 km radius of the school. There are seven year classes with approximately sixty pupils per class (Table 4). Class VI is divided into two sections because of the large number of pupils. This year a high school has been sanctioned to the village and has started functioning in one of the primary school rooms with a class VIII class. A separate building is at present being constructed for the high school on a separate block of land (though this may take more than one year to complete).

Photo 2: Holding a class outside - School A

Table 4: Pupil Numbers 1996 - School A

Class	***I***	***II***	***III***	***IV***	***V***	***VI***	***VII***
Number of Pupils	60	67	56	52	68	*79*	51

Within the classes there are no divisions according to ability. Some children may be older than the class level, usually due to previous drop-out for reasons such as looking after younger brothers and sisters, helping in the home and working in agriculture. Repetition of pupils in classes I and II occurs when they fail to fulfil the 50% attendance requirement stipulated by the department. In classes III to VII repetition may occur when the pupil fails to attain minimum achievement levels. Overall repetition is about 10% and mainly in classes V and VI, said to be due to irregular attendance. Attendance rates are on average 80%, but are lower during peak labour periods in the agricultural year, such as the rice harvest in December and January and transplanting during July and August. Drop-out is highest at the end of classes I and II (around 10%), when the children may be kept at home to work, or to look after younger children when parents go to work in the fields. In an effort to stop this happening, early

childhood centres have been opened in many villages. They are free, enabling parents to leave their youngest children (ages 3 to 6 years) in safe hands and allowing their older children, who otherwise would be at home, to go to school.

Assessment and Examinations

The school follows the exam system laid down by government policy. There are no informal assessment procedures. The headteacher believes there should be public exams as class exams are not taken seriously by pupils or teachers. The headteacher says that the school is 'above average achievement' in the immediate area. More than 90% of pupils obtain pass rates in the year exams set by the teachers. Almost all of the pupils who pass out of class VII join the high school.

Village Education Committee (VEC)

The VEC has eleven members with the deputy chairman of the Gram Panchayat functioning as its president and the headteacher of the school as the committee secretary. This committee is made up of village members, department officials and teacher representatives. Generally there are no parents on the committee (if for example the village head has children at the school this is incidental). The committee meets at regular intervals to discuss what is happening in the school such as enrolment levels, availability of facilities and vacant teacher positions.

Photo 3: The classroom - School A

School complex

School A functions as the lead school for the school complex of seven schools. The headteacher is the president of the school complex. The teachers between the schools share resources (i.e. teaching aids), and also meet once a month to

discuss teaching and learning processes. The complex has arranged demonstration lessons, an evaluation workshop, a quiz programme and a general knowledge competition for teachers.

School Supervision

School inspectors should come to the school three times a year - prior to an inspection, for an inspection and after the inspection. Two visits are discretionary and may last up to half a day. The inspection is compulsory, lasts two to three days and examines attendance, programme of work, cash book, coverage of curriculum and talks to teachers and pupils.

2.2.3 The Teacher

There are six female and three male teachers at the school. This equates to an average teacher pupil ratio of 1:48. Some

classes however have higher numbers (class V, 110 pupils). There appears to be good teacher collegiality both with the headteacher and between teachers. Teachers all eat their lunch together. The school has daily staff meetings but the teachers who travel from Mysore also discuss school during the journey, which takes about 45 minutes.

All of the teachers have completed the compulsory teacher training course called the Teacher Certificate Higher (TCH). Most of the teachers said that their pre-service training was helpful. One female teacher is newly qualified (six months) and she said that pre-service training was helpful because previously, she did not know that children had to be motivated for learning, or what subjects should be taught at which age and which level. The other teachers have undergone a number of different training courses that have been introduced and changed over a few decades. In the early sixties, teacher training was a residential course. This course was different from many others as it taught the teachers

about agriculture, health and nutrition both in practice and theory. The teacher who had been on this course said she still finds the training she had then, helpful today. The physical education teacher at the school (completed training in 1994) said training was inadequate in terms of practical skills. Teachers have had in-service training of varying duration but it is irregular and infrequent. A few teachers had been on the intensive ten day training under the Programme of Mass Orientation of School Teachers (PMOST). Another teacher has been on the Special Orientation for Primary Teachers (SOPT) programme, lasting seven days, which was built around the use of maths and science kits. She admitted that she does not use the kit and does not know where it is in this school. The PE teacher has had a refresher course and is, at present, being trained to use the school band set which they have only recently acquired. Two of the teachers have recently undergone training in Minimum Learning Levels (MLL). Teachers have also undergone in-service training in

different subject areas to prepare children taking the class VII exam.

The headteacher is a person well accepted into, and respected by, the community and the pupils. He has been headteacher of the school for six years and according to verbal discussions with various community members has done much to change the school. The headteacher is a SC and was a victim of caste prejudice whilst teaching in another village school. In this school he is from the same caste as the majority of his pupils and is therefore very aware of their backgrounds and culture. Nearly all of the pupils in the school are from SC, fifteen are from ST.

The first group of teachers, despite the researchers' emphasising to them that this was not an inspection or assessment, appeared quite nervous. The second group of teachers were interviewed the following day and they were far more relaxed and open about the questioning. It is

assumed that the first group of teachers had spoken to the second group and told them there was nothing to worry about. Judging from responses to questions and activities, many of the teachers have obviously never thought deeply about their problems as teachers in relation to their training and resource needs. Initial responses to questions always came back to problems with lack of co-operation from parents. Eventually the teachers mentioned some important areas where they feel they need to improve their teaching practices.

Teachers at primary level must be generalists in all subject areas. These teachers said that their training was only in one or two subjects, they feel that they need further and recurrent training in all subject areas. As curricula change, the teachers want training so that they are capable of teaching the changes as, at present, they receive no specific training to teach revisions. The maths teacher emphasised this point stating that the training she received in 1963 was good then,

but now she cannot keep up with the frequent changes in topics and teaching methods; she would like regular in-service training. Teachers would like training built around what they do in the classroom. For example, bringing practical activities into teaching methods and building the lesson activity round the content of the textbook. One teacher said she would like to know how to use the environment (or 'things around us') in teaching practices, as she quoted (translation from Kannada) *'we see many shapes around us, fields, plants etc., that we could use in teaching Mathematics -1 would like to know what else I could use in the environment in teaching'.* English, Maths and Kannada (where the teachers mother tongue is not Kannada) were areas they identified in which essential further and regular training is needed. Previously one of the teachers had been in an Urdu speaking school where she had taught Kannada. She was then posted to this school where she must teach all subjects but is not trained to do this.

In terms of their problems as teachers, a number of issues arose. Many children come from poor families, therefore the parents cannot afford to buy them materials for school and they come to school ill-equipped. Often pupils may miss school to help at home. When pupils get behind in work, teachers allocate a 'good' pupil to them to bring them up to the standard in the class by working outside school time. The teacher then asks the pupil questions to ensure that they have caught up and to make sure that the good pupil has been passing on the correct information; this method is used in all classes. There is a lack of equipment at the school and one particular example was given by the sports teacher: *'the school was supplied with twelve sports kits, but there are sixty pupils in the class'.*

Lesson observations revealed that teachers are enthusiastic and make the most of the difficult conditions in which they must teach. One teacher is responsible for a large class of

around eighty pupils (class I and II combined). The classes were being held outside and class I was writing the alphabet whilst class II were reading from their Kannada text books (Photo 4). Because the group is so large, it is very difficult for the teacher to give all of the pupils the individual attention they need. The teacher adopts multiple class teaching methods, where the two classes are taught different subjects, not the same subject at different levels. The teacher and pupils are completely at ease with each other. The teacher moves around the pupils quite freely and the pupils enjoy her presence, being very attentive. The teacher has a pile of empty matchboxes and pieces of coloured plastic which she is going to use for counting.

In a previous lesson the teacher was playing a game with her pupils which involved one pupil chasing 'the leader' round a circle of the other pupils, the aim being to catch the leader. It appeared that one pupil was slow at running, so the teacher joined her running round the circle to try and encourage her.

Despite the many restrictions and poor conditions teachers endure, all of the teachers wanted to stay in teaching and only one had a desire to get further qualifications to teach at a higher level (high school teachers are paid more). Teachers that travel from Mysore said they would like to stay working in rural areas if houses were provided for them near the school.

Photo 4 Reading from Kannada text book (School A)

Pupils and teachers were asked what they consider to be the characteristics of a good teacher (Table 5). Teachers view their task, apart from teaching in school, as being a counsellor and role model to the pupils. This may be particularly important in an area of severe poverty where parents have little time to spend with their children and may not be interested in their children's schooling, for example on pupil in class 4 said: *'if I stay at home, the headteacher comes to my house to find out why I have not gone to*

school'. There is a deaf child at the school and his parents came to the school to ask the teachers whether he should be sent to a school for the deaf. The teachers had paid special attention to the boy (none of the teachers are trained to sign read) and they were pleased with his progress. The child was sent to the deaf school but ran away, back to this school, as he likes it better. Another pupil said a good teacher was one who told stories and taught them songs, he then said *'look Sir, he is even doing it now!'* (he was pointing at the sports teacher who was telling a story to his class)

Table 5: What are the characteristics of a good teacher? (School A)

Pupils' response	***Teachers' response***
A teacher should:	*A teacher should:*
• teach well	• be knowledgeable about the subject

• visit them at home	• observe school rules
• tell stories and teach songs	• be punctual
• gives them activities to do	• participate in all school activities
• provide materials if pupils do not have their own	• treat all pupils equally
	• be able to promote national unity
	• earn the trust of the children
	• have good relationships with parents of the pupils
	• know the names of all the pupils
	• know the backgrounds of the pupils
	• not be distanced from the

	• not be distanced from the pupils
	• be a 'model' in all respects
	• be a counsellor
	• give more to the school than take
	• get along with other teachers
	• respond to the children - treat them as their own
	• not be selfish

2.2.4 The Learners

Overall the children appear to be in good health. None of the pupils wear shoes and the majority wear the school uniform, a maroon skirt or shorts and a maroon and white checked

short sleeved shirt. Material for uniforms is provided free to SC and ST children. Most of the girls carry their books in brown canvas satchels which have been provided free (to SC/ST) by the government. At lunch time, children go home or bring food to eat in the school grounds. The pupils appeared happy in their lessons and the outside activities, especially physical education. Pupils are regimented to march to and from lessons in a line and when asked to speak, they automatically stand up with folded arms. Girls and boys sit on separate sides of the classroom and in separate groups when doing any type of group activity.

Teachers believe that children in the school are highly motivated and enjoy coming to school. Even when they are beaten they still come to school. Often at the end of school pupils will wait around to see if anything else is going on. In the higher classes pupils do activities, lower classes see what they will be doing when they move up to higher classes and this motivates them to stay in school. The majority of

pupils say that going to school is to become knowledgeable and to get good jobs; all of the pupils have aspirations for professional careers - teacher, policeman, army, doctor, engineer. If children don't go to school it is for a variety of reasons listed in Table 6.

Table 6: Why do some children go to school and others don't? (School A)

Why do children go to school?	***Why do some children not go to school?***
· to be knowledgeable - acquire wisdom, wealth and health (*Vidya Buddhi*)	· fear of punishment - prefer to stay a home than be beaten at school
· to get a (good) job	· not interested in school
• to study	· don't want to go to school
• to become intelligent	· prefer to work on farms

	and earn a livelihood
• to join the company of learned people	· sold into child labour (*jeeta*)
• to get a job	· drunken parents keep children at home to work in fields
• to become an educated person	• afraid of school because they cannot master the lessons
• to become wise and knowledgeable	• look after cattle at home
	• don't like to come to school
	• get beaten at school

(• indicates response from class 5; · indicates response from class 4)

Table 7: What children like and dislike about school (School A)

What do you like about school?	***What do you dislike about school?***
· The teachers are good	· fellow pupils stealing others' pencils, books, etc.
· the way they teach - the teachers take two to three days to cover a lesson, so that all the pupils understand the lesson	· other pupils swearing and using vulgar language
· work in groups, all pupils participate	• the well, because the steps are slippery and dangerous

• The trees and the plants round the school	• classrooms are too small
• lessons are interesting as the teachers tell stories	• not enough visits and activities
• the teacher only beats us if we do something wrong	• no opportunity to learn by ourselves in school
• the cultural programme (Friday) - sing and dance	• it is dirty outside the school entrance

(• indicates response from class 5; · indicates response from class 4)

Pupils activities at home and school

Information on activities at home and school was obtained

through asking pupils to do a mapping diagram (Figure 3), and these were followed up with questions based around what pupils had drawn.

Household cleaning tasks are the activities pupils do 'most frequently' at home and at school. At school pupils are assigned duties such as watering plants and sweeping the classroom. Boys tend to be involved in agriculture more than girls. If there are no girls in the family boys may do household tasks such as washing the dishes. None of the pupils were able to directly relate learning at home to learning in the classroom and vice versa. On further probing one girl (who should be in class VIII, but left school to look after younger brother, and has come back into class 4), said that she learnt how to cook at home, but learnt about nutrition in school. She said she knows the value of including more green vegetables in cooking and she does this at home. Pupils are able to describe in detail the agricultural activities they are involved in. A class 5 pupil who weeds paddy fields gave a vivid and

demonstrative show on how he weeds the rice field and how he harvests rice. A girl also in class 5 told us that her mother had taught her to put sand, red soil, salt and manure on the coconut plant. Another class 5 girl mentioned a specific plant, *tulasi,* that she waters. A written summary of the occurrence of activities on the mapping diagrams is given in Table 8, the first table refers to class 4, the second to class 5.

Figure 3: A pupil's mapping diagram (School A)

Table 8: Activities at home and at school (School A)

(summary of mapping diagrams by 12 pupils from class 4 and 5, by frequency of occurrence of each avitivity in the mapping diagrams)

Class 4 summary					
Activities I do at	***boy***	***girl***	***Activities I do at***	***boy***	***girl***

home			***school***		
fetch water	3	3	water plants	2	1
clean/sweep house	3	1	read	3	2
wash pots	1	3	write	2	2
throw away rubbish	1		clean classroom	3	2
go to shop to buy vegetables	2	2	play	1	1
play	1		recites multiplication tables		1
water plants	2	1	clean dishes		1
take rice and ragi to the mill	1		fetch water and milk for teachers		1
wash clothes		3			
prepares cooking stove for lighting		1			

Class 5 summary					
Activities I do at home	***boy***	***girl***	***Activities I do at school***	***boy***	***girl***
fetch water	3	2	water coconut plant	3	3
read	1		read	1	3
wash pots		3	write	1	2
go to shop to buy vegetables		1	clean classroom	2	1
water plants	1	3	play		
weeds paddy field (by hand)	1		clean dishes		
wash clothes		1	fetch water and milk for teachers		
prepares cooking stove for lighting		1	assembly round flag pole	1	
control irrigation in	2		arrange furniture in	2	

controls irrigation in paddy field	2		arrange furniture in classroom	2	
look after goats	1		put manure on coconut plant		1
collect forage for goats	1				

2.2.5 Teaching Learning Processes

Generally the school has no input in curriculum development, but the headteacher has brought some weaknesses in the curriculum to the attention of the authorities. The headteacher believes that the curriculum is partially relevant to the lives of the pupils, but that it should be decentralised. There should be more flexibility in school hours to allow for practical sessions and visits to take place. Overall it was thought that the curriculum was relevant to the lives and backgrounds of the pupils, though in some textbooks examples were

irrelevant, using for example, aeroplanes and reference to Mysore; most children have never seen an aeroplane or been to Mysore. In such cases the teachers will try to relate the topic to an area of relevance to the pupils. For example in this case a bullock cart may be compared to an aeroplane e.g. through comparing speed, number of people it carries etc. Pupils have no choice over the subject area they learn in class as the curriculum is too rigid to allow for this. In the lower primary classes (I to IV) there may be a limited choice within the subject in selecting which topic is covered.

Compared to other schools in the area, the headteacher states that his school is doing the following that is different:

- the school works punctually from 10.20 am to 4.30 pm;
- children's attendance is followed up with parents;
- every Friday is a cultural programme of songs, dancing, quiz's etc.;

- physical education classes are held on Saturday mornings to increase attendance levels;
- uniforms are stitched neatly;
- homework is given;
- children learn in groups, through play and activities;
- children are taken outside the classroom, to learn through observations;
- fairs and festivals take place at the school;
- radio programmes are used for teaching (children's programme and science programme);
- children's out of school experience is used in teaching when possible;
- children are encouraged to ask questions.

Teachers say that they do not integrate subject areas, as each subject must be taught individually in 40 minute periods. If the opportunity arises to bring in another subject area they

try to do this. For example if there is a language lesson that talks about distance they will bring in mathematics. They use connections between subject areas as examples, e.g. weather, season and temperature can be brought into social science, maths and language. Pupils are also encouraged to give their own examples and experiences. The class III teacher gave a recent example in which they were having a lesson about the festival of Mahadeshwara; pupils were able to describe how to get there and relate their own experiences, as many of them had been to the festival.

Group work is given for classes IV to VII, for two periods a week on a regular basis. In addition teachers say they organise learning in groups if it is suitable to the learning activity. An example was given where in a lesson the teacher may ask questions to the class, and allow the pupils to discuss in groups in order to answer the questions. In classes I to III the teachers have complete control of the timetable, which means that they can spend two time periods doing one

subject and allows them sufficient time to do project or group work. The class III teacher stated that her class works in groups everyday for 80 minutes. In classes IV and above, the teachers must follow the timetable within the set time periods. Project work takes place to the extent of asking pupils to collect things (e.g. seeds and birds nests) to be used in lessons. They do not do continuous project activities. In the learning process, pupils are asked what they do at home, or whether they can give an example. They are also taken on visits to rice mills and sugar cane processing plants, but these are detached from the lessons as they are fitted in only when it is convenient rather than at the appropriate time in the lesson.

To further support teachers' responses to questions, a matrix ranking activity was used to find out about teachers practices in the school (Table 9). All of the teachers are trained and this training has shown through in their rankings. They have ranked 'pupils doing practical activities' highest, their

interpretation of this most likely being pupils doing project work, individual assignments etc. These activities however, are not carried out in the school according to the teachers' interview. 'Pupils writing and talking about their own experiences' are also rated highly but again does not happen frequently in the school according to teachers' interviews. 'Pupils helping each other', through group work where a high achieving pupil is the leader, is a common method of teaching in the school, so this receives a relatively high rank. The method was observed during an arithmetic lesson for class IV; *The class is held outside, where pupils are sitting in groups of six, with boys and girls separated. Each pupil has been given a card with multiplication sums on it. There is a leader in each group who is nominated to guide and supervise the group and pupils are expected to help each other with the sums. The teacher moves between the groups and monitors learning.*

'Teachers asking questions' receives a low rank by both teachers and pupils. Lesson observations revealed that pupils do not respond to teachers' questions. Pupils say that they only ask questions when they don't understand something. A class V lesson on prime numbers was in progress and the teacher was explaining and illustrating numbers with and without factors. She asked questions to which pupils did not respond (*'can you give an example of a prime number?'*), she tried coaxing them further (*'why is 12 not a prime number?'*) but pupils did not respond. She then told a pupil to come to the board and write a prime number, it was wrong, so the explanation of a prime number was given again. Pupils were involved in the activity and the teacher encouraged their participation. It is a difficult concept to teach and the teacher was trying very hard but there was little response from pupils.

In this school pupils are generally low achievers and the

teacher must spend time following up a non-response to a question through giving more examples and coaxing. Unless it is a rote question pupils do not respond to the teacher's question. Usually pupils only ask questions when they do not understand something. As a method of learning, it is ranked somewhere in the middle by both pupils and teachers so it is favoured as a good method of learning. Pupils rarely ask inquiring, exploratory questions according to teachers' interviews and observations. Teachers do try to involve the pupils in lessons, through bringing them to the blackboard to give examples (see Photo 2). An arithmetic lesson for class III was observed. Again this lesson was being held outside in the shade of coconut trees, where children are called to the blackboard to work out subtraction problems. Children are active and the teacher encourages the pupils to participate in learning.

Pupils from classes IV and V carried out a matrix ranking activity. The rankings (Table 9) indicate what pupils do in the

classroom. Class 4 pupils rank singing and reciting as the 'best method of learning', possibly because this method of teaching is employed on a wider scale in the lower classes. Another reason could be that the primary stage is divided into the lower primary which ends at class IV. Above class IV methods are more formal and examination oriented. Class V on the other hand ranks 'pupils doing practical activities' as the best method of learning. This may be interpreted generally as doing manual labour in the school and at home (e.g. sweeping, cleaning), activities which were predominant in the mapping activity (Table 8). These methods are reinforcements of classroom learning, rather than exploratory, investigatory learning experiences in their own right. Both groups rank talking or writing about their own experiences highly teachers try to relate, where possible, to pupils' own experiences, according to teachers interviews. Pupils' rankings indicate that this does actually happen in the school.

'Pupils helping each other' receives a relatively high rank by class IV and V. In this school teachers assign better pupils to the low achieving pupils to help them with their work both in and out of school. In all rankings, 'beating pupils' has a zero rank. Teachers asking questions' receives a low rank, possibly because the pupils are afraid when the teachers asks questions. During interviews with one group of pupils, the mapping activity was carried out in the morning and discussions and questions about the diagrams were to take place after lunch. In the afternoon one boy from the group was absent. The girls' explanation was that this boy was *'afraid we would ask him questions.* 'Teacher talking or reading to pupils' is the most prevalent method of teaching in Indian schools and is disapproved of generally because it keeps the learners passive. In this school pupils and teachers give this a low rank. As the pupils rank pupil-centred activities highly as methods of learning, this indicates that there is evidence of a child-centred approach to learning in the

school. Teachers talking or reading to pupils, and asking questions receive low ranks as methods of learning. Class IV pupils found it difficult to relate or connect learning in home with learning in school. They could only relate activities that were the same at school and at home, for example one pupil said *'I play at home and at school'.* The pupils were responsive to questions which dealt with something they enjoyed. When inquiring about whether they talk to each other in the classroom about things they are studying, all of the pupils tried to answer the question *'yes! The teacher organises us into separate groups of boys and girls'.* The idea that learning means learning from books and teachers is so deeply ingrained in the pupils that the methods of 'learning by doing' and 'leaning through practical activities' was interpreted as doing homework set by teachers (which again is a reinforcement of book learning conducted in the classroom), or reading books, or doing sums, etc., by themselves. While teachers did mention some practical

activities they engaged the pupils in (e.g. watering and manuring plants, visit to rice mill, fields, zoo) these were considered extra curricular activities for 'enjoyment' purposes. These activities run parallel to the school activities and do not converge with curricular learning objectives. No evaluation of the learning outcomes of these activities, or any follow up, is done by teachers which confirms this observation.

Table 9: Methods of Learning matrix ranking activity (School A)

Rank	Teachers' response (group 1)
1	• pupils doing practical activities
2	• teacher giving examples
2	• pupils writing about their own experiences
2	• pupils talking about their own experience
3	• pupils singing or reciting

3	• pupils singing or reciting
4	• pupils asking questions
4	• pupils helping each other
4	• teacher talking or reading to pupils
5	• teacher asking questions
6	• teacher beating pupils

Rank	Teachers' response (Group 2)
1	• pupils doing practical activities
2	• pupils helping each other
3	• pupils singing or reciting
3	• pupils talking about their own experience
4	• pupils asking questions
4	• pupils writing about their own experience
4	• teacher giving examples
7	• teacher talking or reading to pupils

5	• teacher talking or reading to pupils
6	• teacher asking questions
7	• teacher beating pupils

Rank	Pupils' response (class 4)
1	• pupils singing or reciting
2	• pupils talking about their own experience
3	• pupils writing about their own experiences
3	• pupils helping each other
4	• pupils doing practical activities
5	• teacher giving examples
6	• teacher talking or reading to pupils
6	• teacher asking questions
7	• pupils asking questions
8	• teacher beating pupils

Rank	Pupils' response (Class 5)
1	• pupils doing practical activities
1	• pupils writing about their own experiences
2	• pupils helping each other
2	• teacher giving examples
3	• pupils asking questions
3	• pupils talking about their own experience
4	• pupils singing or reciting
4	• teacher asking questions
5	• teacher talking or reading to pupils
6	• teacher beating pupils

2.2.6 The Home Environment

For the purpose of this research the headteacher sent

messages to parents through the pupils, asking them to come to the school for informal discussions along with other interested members of the community. The interview started with six male parents and two female parents. Over the course of the interview various people dropped in to see what was going on. Consequently by the end of the interview a group of about 30 persons had formed. Despite the large group the interview was primarily directed at the parents and the researchers' tried to ensure that their responses were noted.

Parents' role in schooling

Parents feel it is important to be involved in the school, but this generally means they will attend school festivals and functions. Teachers and children are more motivated if parents show an interest in the school and parents can also monitor the progress of their children. Parents say they are satisfied with their children's schooling and say it is better

than a government private school. However, they are unable to identify exactly what their children learn at school and what they feel they should be learning. Responses from parents included *'language well', 'to read', 'to write', 'to be numerate'* and *'to be empowered'.*

Parents come to the school when teachers ask them to, which is usually because of a problem with their child, such as low attendance, illness or wearing a dirty uniform. Parents say they visit the school at least once a week, usually to collect rice given under the mid-day meal programme. Some parents may monitor their children's learning by talking to the teachers. During one visit to the school a meeting was held with teachers and the headmaster after school had finished. Just as the meeting was about to start, a very angry father appeared and started shouting at the class I teacher. He was saying that his child wasn't doing any homework and that the teacher should be beating her to make her do the work at home. The teacher was very calm and explained to him how

much work the child should be doing at home. The other teachers were smiling saying that it was a regular occurrence. Every Saturday the headteacher visits the homes of problem children, to talk to their parents and suggest ways to help them. The parents are generally pleased that he shows interest in their children and that he comes to talk to them. Teachers may visit children's homes, after or before school hours, to talk to parents when their children are continuously absent from class and when they fail to make satisfactory progress in learning.

Parents say that their children talk about what they do at school in a general way, especially if they have been praised or something special has happened. For example one parent said his child came home and said he had learnt to count from 1 - 20, the parent then said he asked his child to write the numbers. Another said his child talks about the teachers she likes. One parent said her child had taught her basic literacy skills (e.g. the alphabet and signing her name). In the

pupil interviews one boy immediately answered *'I will go home and tell them that an English women came to school to speak to us'.* Parents are very busy and have little time to spend with their children. After working long hours in the fields, they are tired and do not have time to answer children's questions. When asked whether children would lean new things better if they can relate to their home life and experiences, the parents said 'yes'. They were unable to give any specific examples. Generally parents who are illiterate are less interested in their children's work than those who are literate. A few pupils' parents are teachers and they are interested and help them with their school work. Where parents are illiterate, elder brothers and neighbours were the people identified as helping them with their school work. Parents may ask about school, but not usually about what is learnt. They may, for example, ask whether their child received a prize or a good mark in a test and if not, why not.

Parents concerns about improvements needed in schooling are with regard to the newly established high school. They would like to see a high school that is above class VIII along with teachers trained specifically for the high school. The teachers there at present are only temporary. For the primary school they would like to see a playground, library and more sports facilities. Parents have high hopes for their children to have professional careers as lawyers, doctors and teachers.

2.2.7 Contextualising Teaching and Learning

The headteacher believes that it is important to use knowledge the pupils already have along with their experiences in learning something new. In some lessons, e.g. history, the local level will be discussed before learning about the country's history. If, for example, the science lesson is about coconuts, the pupils will be taken outside to look at coconut trees.

Teachers all agree that learning is more effective if what is already known or experienced by the pupils is used as a base for learning something new. Some said that this idea is given in their teacher training. The teachers say that they do use pupils' experience when learning a new topic. The following were given as examples:

- a lesson on architecture in Karnataka State - the lesson was about a building many miles from Mysore. The teacher built the lesson around local temples, the ones that the pupils have been to and know about. They also visit the temples in school groups;

- a lesson on heat and temperature in science. The lesson is based around heating water in the home and pupils direct experience of the activity;

- cleanliness as it relates to home life is brought into

an environmental science lesson;

- in a lesson on the sea, the teachers will relate to what the pupils have seen, such as a river or small lake, then describe the sea in relation to this;

- in social sciences lessons, the pupils talk about the family at home and parents occupations.

Teachers try and use what is available around the school as teaching aids and to relate the lesson to the pupils' experience. For example, they use plants in the school grounds, a paddy field opposite the school and make visits to sugar cane mill and a lime factory. Visits, however, are arranged when it is convenient, rather than when the subject area to which the visit relates is being taught. When there is going to be an outside school visit, attendance on that day will be noticeably higher than normal (90-100% attendance compared to 60-70%). Formal evaluation of these activities

does not take place, as they are outside the curriculum. Informally the teachers make observations and give 'a pat on the back' if the pupils do well. According to teachers, motivation and interest by the pupils is noticeably higher when they participate in activities. Learning is said to be more effective as the pupils ask more questions and get involved in the activity. After a visit they will ask more questions, especially amongst themselves. The pupils' responses to questions are more meaningful and they retain things longer. An example was cited in which the pupils were taken on a visit to Mysore Zoo last year; even now the pupils are able to describe vividly what they saw and did on the visit.

2.2.8 Agriculture in contextualising teaching and learning

Teachers agree that contextualising teaching and learning using, for example, agriculture, is a good idea but they do not know how they can do this. When teachers were asked

whether or not they used pupils' experience in teaching and learning they gave a number of examples some of which did related specifically to agriculture. In environmental science there is a lesson on crops and cropping patterns. Pupils are already familiar with these practices, so the teachers say they draw on analogies and metaphors made between home and the school. The maths teacher gave a very good example, saying that he has taken pupils into the rice field opposite the school to illustrate to pupils how, for example, straight lines and angles are used in practice. Another teacher said that in counting sheep may be referred to as many of the pupils herd sheep. In a lesson on plant parts, children are already knowledgeable about this so their experience is brought into the class lesson. To teach about wild animals, the starting point will be domestic animals, something all pupils are familiar with.

The teachers believe it is difficult to evaluate a contextualised approach to learning as it is difficult to keep track of individual

pupils and to observe all the pupils. They feel that assessment is difficult and there would not be enough time to cover the whole syllabus. In terms of suitability, class size and time may be the main barriers to using the approach. Some teachers said they would need organisational skills to do more practical teaching, although one teacher described how she handles a visit to a sugar cane factory. She makes the children stand in a circle, the factory manager then explains what happens in the factory, following which the teacher encourages the pupils to ask questions. She then asks questions to the pupils to make sure they have understood what they have seen and heard. Three of the teachers (one male and two female), say their own agricultural knowledge is good, as they come from farming backgrounds. Two female teachers said that they themselves have no agricultural knowledge and that in science they must teach agriculture. In this case they teach in the classroom and often the pupils' knowledge of agriculture is far greater

than their own.

2.2.9 Issues arising from School A

The school is impressive to look at. It is clean and tidy and the school grounds are attractive and well kept. The school is very active and frequently classes of pupils were seen having lessons outside. Despite the sheer poverty these children live in, and the lack of resources at the school, they appear happy, enthusiastic and enjoy going to school. At this school there is a noticeable air of good teacher collegiality, which is further supported through observing the teachers working, particularly during the Friday afternoon cultural session (Photo 5).

This school has a very good relationship with the community, which (according to interviews) it is continually trying to improve. An Old Boys Association has recently been formed and they come to the school to talk to pupils. Past pupils also

come and help in the school; at present they are giving extra tuition to class VII pupils to help them pass the district level exam. Previously the school was well known in sports and now past pupils come to the school to coach in sports to improve the school's position in local sports events. When the pupils are taken on outside trips, parents and community members come along to help look after the children. Teachers say that parents and community members should be involved in the school to deal with problems such as enrolment, and to follow pupils progress.

In terms of the curriculum, the teachers say that it is rigid and does not allow them to integrate subject areas. The main problems of the school, apart from a general lack of equipment and insufficient space, is a lack of parental support in terms of parents sending pupils to school without books or stationary. Other problems include lack of sufficient funds to improve the library and buy sports equipment. Free textbooks (for classes I to V) are supplied by the

Government but often these do not arrive on time.

There are a number of problems to using practically based teaching methods, firstly time, as lessons are scheduled to take place in 40 minutes for classes IV and above. If school visits are arranged some distance from the school, not all of the pupils can pay for transport. Parents' concept of learning is generally that it only takes place in the classroom; so they do not encourage school visits or practical activities. Although education is free to all, it is still seen as a luxury. Because of the opportunity cost of education, parents will keep children at home either to work in the fields or look after younger brothers and sisters. Consequently many children are infrequent attendees and drop-outs which means that is difficult to keep continuity in teaching as different pupils miss different lessons at different times.

Photo 5: Practising for the 'cultural session' - School A

In terms of their training, teachers do not feel confident or adequately trained to enable them to use a contextualised process of teaching. At present they do not feel their training is relevant to what they are expected to teach; primary level teachers must teach all subjects, but their training is only in one or two subjects. They need further and recurrent training in all subject areas. This is even more important as curricula are revised, for which they receive no specific training in content or teaching methods to help them implement the revisions. In some subjects, namely mathematics, teachers find it difficult to keep up with the frequent changes in topics, methods etc., without regular in-service training. Teachers feel that regular training would motivate them more.

Contextualising teaching and learning is not knowingly carried out as a teaching and learning process at this school. Pupils diagrams and interviews indicated that they did not knowingly link what is learned at home with what is taught in the classroom. Teachers do attempt to relate out of school

experience with classroom teaching, and they believe that a practical experience-based approach to teaching reflects in increased interest and involvement by pupils and responses to questions which are more meaningful. A number of factors are identified as constraining such an approach of contextualisation in teaching and learning practices. Primarily, teachers have never knowingly practised such a method because they do not know about the process of contextualising teaching and learning. The curriculum is rigid and does not allow for integration of subject areas. Teachers envisage that assessment would be difficult. Classroom organisational skills training would be a necessity. There are logistical reasons that would affect the method. The syllabus could not be covered using a contextualised approach due to this time factor. Large class sizes may also be a barrier. It was agreed, generally, that there is a good level of agricultural knowledge amongst teachers in this school.

2.3 An 'average' school - School B

2.3.1 The Community Environment

The village is situated approximately 23 km East of Mysore, in Karnataka State, Southern India. In the village there are 520 families with an average of two to three children in a family. The total population is 3336 persons; 1828 males and 1508 females. 80% belong to the Vokkaliga caste (farming community) and 16% belong to the SC, the remainder belong to other castes. The literacy rate is estimated at around 20%.

Water facilities are available to everyone in the village and 155 houses have running water, 180 houses have electricity, and only 25 houses have toilet facilities. There are five public bore wells. There are two *anganwadis* (Early Childhood Care Centres), a government high school, government higher primary school and a private convent school. The village has no community centre so meetings are held in the village temples. There is no health centre and the nearest facilities

are over 6 km distance from the village. The village has an Agricultural Co-operative Society (1500 members); Cauvery Grameena Bank, through which credit services are available; a post office; a veterinary centre; two flour mills and one rice mill; and, a women's welfare centre. Fifteen families in the village receive support under the governments Total Village Improvement Scheme, which provides monetary loans to buy such items as cattle, irrigation pumps, carts and ploughs. Eighty people receive old aged pensions from the government and ninety six women receive widow's pensions.

Agriculture

Agriculture is the main livelihood in the village and agricultural practices are very traditional; wooden rather than iron ploughs are used and there are no tractors. More than half of the villagers own land but there are also a large number (300) of landless agricultural labourers. The village has 990 acres of cultivated land and some land is irrigated using

water from the river Cauvery. Main crops grown are paddy, sugarcane, plantain, ragi, groundnut, coconut and mulberry. There are two seasons, July to December (rainy season) during which paddy and sugar cane are the main crops and February to May (dry season), during which paddy is the main crop. Irrigation allows for two rice crops a year to be grown.

School and Community Relations

The parents felt that good relations should exist between the school and the community, but that this is the job of the village leaders. The School Betterment Committee (SBC) has around fifteen members, but most members do not attend the meetings despite persuasions and efforts by the headteacher. He had called a meeting of the SBC to arrange for community members and parents to attend a group discussion for this project; only on member turned up. Requests made to shift the shops in front of the school

elsewhere have not yielded any results. Space available around the school has been lent to a private convent school and a non-school establishment (village accountant's office), when the same could have been given to the school.

The headteacher thinks that it is important to link school and the community and blames many of the problems at the school on the lack of co-operation from the community. He believes that until there is mutual co-operation from the community the school will not be able to function smoothly. The SBC has been asked repeatedly to supply a notice board for pupils to display their work but has not responded to this request. Although the school owns the land it is on, a high school has been established on the same ground and the high school pupils bully the primary school pupils and take over the playground. The authorities have been informed about the constraint on the school facilities, but nothing has been done to alleviate the problem. After school hours gamblers use the classroom balconies for playing cards.

School premises are dirtied and toilets built by the school for use by children and staff are unusable because they have been vandalised by community members. Shrubs were planted in the school grounds by one of the high school teachers and the pupils planted saplings to develop a school garden, but these were uprooted by members of the community. The same teacher also built a fence round the school grounds, but this was also destroyed. This high school teacher is very angry and he has vowed to *'teach the people a lesson'.* The teacher belongs to the locality and lives in the village. Between the villagers there are disputes, and during one visit to the school the police had arrived in the village to intervene in an argument that had developed over water distribution for irrigation; the situation was very tense.

2.3.2 The School Environment

School B Government Higher Primary School (Photo 6) was established in 1927 with classes I to IV. In 1950 classes V to

VII were added. The school is near the centre of the village on the main road. Although the school buildings look to be in relatively good condition, teachers complain they have been badly built and two of the classrooms are unusable during the rainy season, because the roof leaks. In front of the school is a bus stop and the village accountant's office is being built close by. There are no trees and little greenery in the school grounds. The school has no perimeter fence apart from a small wall at the front of the school. Donkeys, cattle and people wander freely in and out of the school grounds. The high school pupils are often seen playing volleyball in the school's playground and pupils from a nearby convent school also come into the grounds. There are three main teaching blocks and a total of 6 classrooms. All of the rooms have bare white walls. In classes VI and VII there are benches for the pupils to sit on and in the other classes pupils must sit on the floor. The headteacher shares his office with class I pupils and in this room there are a few posters, charts or

pupils' work on the walls. The school has no library, and books provided by the government are kept in a locked cupboard. Recently the school was supplied with some maps (of India and Karnataka state) and alphabet charts, which appear unused.

Photo 6 School B

Enrolment, Pupil Numbers, Attendance, Drop-out and Repetition

There are 416 pupils enrolled in the school; 202 boys and 214 girls. Enrolments (not attendance) by class for 1996 are illustrated in Table 10. The majority of children (80%) in the catchment area are enrolled in the school, but a large number have not enrolled, or have dropped out. It is compulsory for all children to enrol in school at the age of five years. Once they have enrolled, their names must stay on the school register until they reach class III. Consequently out of more

than 100 pupils who enrolled in class I, only 40% are regular attendees. Of the regular attendees the overall attendance rate is estimated at 80%.

Table 10: Pupil Numbers 1996 (School B)

Class	***I***	***II***	***III***	***IV***	***V***	***VI***	***VII***
Number of Pupils	47	49	96	51	65	57	47

Approximately 80% of pupils come from an agricultural background and there are periods of low attendance during peak times in the agricultural year. The busiest times are generally December to January during harvesting of paddy and land preparation, and May to June for the second harvest of paddy. Within a class there are no divisions according to ability. Drop-out is highest in class III, when pupils may stay at home to help in the fields. Repetition is about 10% and highest in classes V and VI. Pupils have to

repeat if their attendance is poor.

Assessment and Examinations

Excepting class VII, which will have a district level public examination from this year, other classes have a mid term and annual school level examination. Classes I to IV are assessed through both oral and written tests. The headteacher is fully satisfied with the examination system.

2.3.3 The Teachers

There are eight teachers, four men and four women, including the principal. There appears to be discord amongst teachers and the headteacher. Possible reasons for this situation could be that the headteacher is not local and he is from a higher caste (Brahmin). The headteacher has been at the school for two years following a promotion and transfer to the school. He lives in Mysore and commutes to the school every day.

The headteacher is an unhappy man. Since being posted to this school he has not been able to take full charge as one of the teachers, who for a short time was the acting headteacher, is aggrieved that he was not promoted to the position of headteacher. Presently the headteacher holds only the charge of finance. Two elder male members of staff who live in the village, resent working under the new headteacher and do not cooperate or work with him. The situation has been reported to the authorities and so far no action has been taken to improve the situation. The headteacher says that teachers do not cooperate and gave one example where the teacher of class I refused to combine classes I and II to make more classroom space (and a separate office for the headmaster). It was observed that this teacher was very good; she enjoys teaching but says that there are not enough resources to effectively combine classes I and II. Teacher motivation is very low although the headteacher is unable to identify the cause. A male teacher

admitted that he did not have the motivation to work well as he has been overlooked in promotions (he does not fulfil the requirements as he has not completed pre-service teacher training). Interviews revealed that there is little communication between the headteacher and his staff, and through observation there appears to be little teacher collegiality. The headteacher states that staff meetings are held five to six times a year. They are usually held to discuss a particular item, for example organising a function, national days and exams. The headteacher says that teachers just sit and listen at these meetings, they never discuss anything or bring in their own opinions.

Only one teacher is untrained, the others have TCH qualifications and two teachers are studying for MA's. The teachers are well experienced and two have more than fifteen years teaching experience. All of the teachers have been at the school for at least two years. The amount of in-service training these teachers have had is minimal, and

some have had no in-service training in the past four years. Two teachers have had SOPT training (five days) which they say is useful for ideas on the production of teaching aids (the training is based on the use of maths and science kits but there are no kits in the school). Three teachers have had in-service English language training. Two teachers have been trained to run Scouts and Guide groups; however, there are no groups in the area so their training has never been put into practice. Outside school hours, teachers try and visit parents whose children do not attend school. The teachers have, in the past, supported pupils if there have been specific reasons for them not attending school. For example, when one pupil dropped out of school because he had no uniform, the teachers clubbed together and bought him a uniform. If the teachers identify a child that needs something, they will tell the others and together they will decide how they may help.

The poor teacher collegiality in the school is emphasised when teachers say one of their main problems is that they

cannot request to transfer to another school. They feel that teachers should have the opportunity to transfer schools every three years and one teacher said *'people with the right connections work in Mysore which means that we have little chance of ever being transferred there'.* The teachers do not like travelling to and from Mysore. One stated *'if I was given a job in my home town (Mysore), I would be able to teach better'.* The teachers say that because they work in rural primary schools they have no exposure to new ideas. Although they visit schools in the area they believe this school is one of the best. One of the longer serving teachers said that he had visited school A and that it was only slightly better than this school because, *'it has been given 'model school' status by the government and so it gets more equipment'.*

Pupils and teachers were asked what they consider to be the characteristics of a good teacher (Table 11). Teachers' responses in this school are similar to school A, though not

as comprehensive. Pupils were not keen to respond to this question.

Table 11: What are the characteristics of a good teacher? (School B)

Pupils' response	***Teachers' response***
A teacher should;	*A teacher should:*
• teach well	• be punctual
• not beat the pupils	• be able to relate to the pupils
• teach songs	• cooperate with parents and the community
	• plan lessons before teaching
	• have a good personality

	• monitor individual pupil's learning
	• be knowledgeable about the subject
	• be 'service minded' - an attitude to help people
	• have a sense of humour

2.3.4 The Learners

The headteacher says that generally pupils in the school have no interest in learning. During the interviews pupils were quite shy and found it difficult to understand some of the questions. Class 5 was interviewed first as it was assumed they would understand the questions better and give a wider variety of responses than class IV pupils. Class IV pupils however, were more enthusiastic and ready to answer questions and they appeared bolder than the class 5 pupils. According to class teachers, the brightest pupils in the class volunteered

for the activities, but based on observation from the mapping diagrams the overall standard of these groups of pupils was poor.

It was difficult for pupils to identify the differences or relations between learning at home and at school. One pupil said they learn songs at home and at school. Another said that *"if I learn from books I forget, if my parents show me how to do it on the farm I remember'.* One boy then said that when a teacher is talking specifically about agriculture his parents have told him *'what your teacher tells you in school is false - we teach you better'.* Once agriculture came into the discussion the boys livened up and were very quick to answer questions. On one pupil's mapping diagram he had written he works in the field. On inquiring further he went into detail about growing tomatoes, including the types of fertiliser and pesticides they use. Another boy said *'we now use hybrid varieties, so pests are not a problem!'* and a girl said *'in*

science we learnt about soil erosion, at home I told my parents that they should use plants and roots when they make bunds, to decrease the risk of soil erosion'.

When pupils were asked whether they talk to each other about what they are studying, the response was that if they miss a class they will ask their friends to show what was studied In the lesson. Pupils then said that *'learning from the teacher is important',* compared to learning from friends. The most liked subject areas were Kannada - *'because it is easy',* and maths - *'I can use it when I go to the shops'.* In response to the question 'why do children go to school', most pupils in unison recited in Kannada *'to acquire "vidya" (knowledge) and "buddhi" (wisdom) and become a good person'* (Table 12). Reasons for not going to school included *'parents keep them at home to fish, graze sheep and watch cattle'* and *'they give lame excuses for not attending school, then they steal coconuts and sugar cane. They enjoy fishing and*

looking after the cows'. Children were reluctant to say what they disliked about school and after much probing they said 'bullying'. Nor would they say what they liked about school, the response was plainly *'we like school lessons'.* Possibly pupils still thought that the interview was some type of assessment, or maybe they did not want to say anything unpleasant about the school.

Table 12: Why do some children go to school and others don't? (School B)

Why do children go to school?	***Why do some children not go to school?***
• learn lessons	• not interested in reading and writing
• acquire knowledge	• afraid of being punished
• learn many things	• fear of being asked questions
• learn about 'good'	• parents prevent them from going to

· learn to read	· parents prevent them from going to school
· acquire knowledge and wisdom	· not interested in school
· get a job	· afraid of being punished if they have not done their homework

Table 13: What children like and dislike about school (School B)

What do you like about school?	***What do you dislike about school?***
• lessons	• nothing
· no response	· being bullied by the high school students
	· high school pupils tease the primary school teachers when we're singing

	· high school disturbs our classes

(• indicates response from class 5; · indicates response from class 4)

Pupils activities at home and school

Children are not used to drawing. They are not familiar with free drawing or pictorial representation of familiar actives (e.g. reading, cleaning, farming, cattle grazing etc.). After drawing a school and home for the mapping activity, they wrote the activities they did in (poor) Kannada, their first language (Figure 4). Their writing was full of spelling mistakes and the sentence constructions were faulty. Similar to School A, girls are primarily responsible for domestic chores at home and school. Whilst class 4 pupils were describing their mapping diagrams, one of the girls pointed to one of the boys saying *'Sir, he washes pots too but he is not*

telling you!'. Apparently washing dishes is a girl's job and where boys do it at home they do not like to admit it, especially before girls. The boys tend to be responsible for agricultural activities. One boy wrote he planted trees at the school; he then said *'but they have all disappeared'.* Table 14 illustrates the frequency of occurrence of daily activities by class 5 and class 4 pupils.

Figure 4: pupil's mapping diagram - School B

Table 14: Activities at home and school (School B)

(summary of mapping diagrams by 12 pupils from class 5, by frequency of occurrence of each avitivity in the mapping diagrams)

Activities I do at home	***boy***	***girl***	***Activities I do at school***	***boy***	***girl***
read and write	3	2	read and write	3	3

fetch water	2	2	water plants	1	1
clean/sweep house	1		play	2	3
herd cattle/goats/sheep	1	1	listen to teacher		1
wash pots		2	clean classroom	1	3
throw away rubbish	1				
go to shop		1			
play		1			
water plants	1	1			
water vegetables (chilli, tomato)	2				
cook		1			
transplant tomatoes		1			

(summary of mapping diagrams by 12 pupils from class 4, by frequency of occurrence of each avitivity in the mapping

diagrams)

Activities I do at home	***boy***	***girl***	***Activities I do at school***	***boy***	***girl***
read and write	2	2	read and write	3	3
fetch water	3	3	water plants		
wash pots	1	2	play	3	2
prepare stove for lighting		2	listen to teacher		
watch TV		1	clean classroom		3
play	2	2	clean playground	2	1
cook		1	plant trees	2	1
sleep	1		learn multiplication tables		1
bathe (daily)	1				
eat	1				

plant ragi		1			
works in paddy fields	1				
dig (in field)	2				
work in mulberry fields	2				

2.3.5 Teaching Learning Processes

The headteacher believes that the curriculum is only partially relevant to pupils lives, though he has never seen the curriculum or syllabus; his assumption is from examples in the prescribed text books. The headteacher believes the curriculum could be made more relevant by including more agricultural examples and learning skills of local vocations, e.g. agriculture, carpentry, etc. Under socially useful productive work (SUPW) there are activities related to school cleanliness, growing plants, but not any vocational skill

training. The headteacher appeared to be thinking about agriculture as a subject rather than its use in contextualising teaching and learning. Teachers initially assumed a defensive posture when they were asked whether they found the curriculum relevant to the lives of the children and teacher training helpful in carrying out their tasks. To both these questions their replies were affirmative. It was only after further probing (why do you think so?, are there any parts which you think are not relevant?, can you give examples?, do you think expressing decimal numbers in base 5 (a topic for class V in arithmetic) is very relevant?), that they said that the curriculum on the whole was not very relevant.

The headteacher identified a number of problems at the school, but he was unable to identify any strengths. He believes that his school is no different to others in the area, though he has had no contact with any other schools. Teachers do not integrate subject areas, though they may verbally relate one subject area to another, for example if

discussing population they may talk about maths and social science. Generally pupils do not work in groups as teachers say the time allocation per lesson is not sufficient to enable them do this. One teacher said that she sometimes gives an assignment on one day, the following day the pupils work in groups and ask questions amongst themselves on the given assignment. Classes V, VI and VII may work in groups when a teacher is absent. Project work is not given and school teaching and learning rarely takes place outside the classroom; classes are never taken outside to work. The response to *'do you encourage your pupils to ask questions in class?'* by one teacher was *'pupils are not intelligent enough to ask questions'.* Another said that they ask questions when they don't understand something. One teacher said pupils are very bold, in contrast to this another teacher said that if he tells his pupils they will be discussing work in class the following day they will not turn up to the lesson. Pupils responses (Table 12) support the latter remark

and also pupils give 'pupils ask questions and give examples' a low rank in the matrix activity (Table 15). According to the teacher interviews usually pupils only ask questions when they do not understand something; they rarely ask inquiring, exploratory questions. As a method of learning it is ranked very low by pupils, possibly because their level of achievement is low and their motivation levels are low in this school. Teacher explains, asks questions and gives examples' is ranked high as a method of learning by class IV pupils. At this level the pupils are not left to work on their own. Class V ranked this quite low, they are often left to work on their own.

The matrix ranking activity was carried out with two groups of teachers (Table 15). All of the teachers are trained, and this training has shown through in their rankings. For example a high rank is given to 'pupils learn by doing'. Teachers said practical activities are rarely carried out in the school. Pupils teaching each other is given a high rank by teachers. This

method of learning is through group work where a high achieving pupil is the leader, and the lower achievers look to them for guidance. In this school this generally takes place outside school hours. 'Teacher explains, asks questions and gives examples' is ranked very low by the teachers, possibly a result of their training, as in practice this method of teaching is predominant in the lower classes in this school. Teachers do not consider 'pupils ask questions and give examples' as an effective method of learning, because pupils have low achievement levels and low levels of motivation.

Teachers perceive that pupils are not able to ask questions or give examples and so they do not wish to spend their teaching time trying to get pupils to do this. An arithmetic lesson was observed in which the teaching was mechanical and bookish. There was little participation by pupils in learning other than repetition of verbal instructions without understanding. There was no evidence of understanding the process of the problem (taking the lowest common

multiplier), or why it was necessary. Pupils did not have the concept of fractions, as the teacher mechanically emphasised the rules of adding and subtracting fractions without checking the pupils' understanding. The teacher stood in front of the class away from the pupils and proceeded to shout at them. They responded automatically by shouting back in unison. Pupils then copy what is written on the board, whether they have understood the concepts or not. This example also illustrates why pupils may rank 'pupils repeat or recite' highly.

Table 15: Methods of learning - matrix ranking activity (School B)

Rank	Teachers' response (group 1)
1	• pupils learn by doing
2	• pupils repeat or recite
3	• pupils teach each other
4	• pupils read from text books

5	• teacher demonstrates
6	• teacher punishes pupils
6	• pupils write
6	• teacher explains, asks questions and gives examples
6	• pupils ask questions and give examples
7	• teacher reads from text books

Rank	Teachers' response (Group 2)
1	• pupils 'learn by doing'
2	• teacher demonstrates
3	• pupils teach each other
4	• pupils read from text books
5	• pupils repeat or recite
6	• pupils write

7	• teacher explains, asks questions and gives examples
7	• pupils ask questions and give examples
7	• teacher reads from text books
*	• teacher punishes pupils

Rank	Pupils' response (grade 4)
1	• teacher demonstrates
2	• pupils 'learn by doing'
2	• pupils repeat or recite
3	• teacher explains, asks questions and gives examples
3	• pupils write
4	• pupils read from text books
5	• teacher reads from text books

6	• pupils ask questions and give examples
7	• pupils teach each other
*	• teacher punishes pupils

Rank	Pupils' response (Grade 5)
1	• teacher demonstrates
1	• pupils 'learn by doing'
2	• pupils teach each other
3	• pupils repeat or recite
3	• pupils write
4	• pupils read from text books
5	• teacher explains, asks questions and gives examples
6	• pupils ask questions and give examples
7	• teacher reads from text books

*	• teacher punishes pupils

* rank score = 0

In both pupils' and teachers' matrix ranking, 'teacher reading from textbooks' is consistently ranked lower than 'pupils reading form text books'. The activity itself may not be an effective method of learning, but given a choice between the teacher or pupils doing it, the preference is towards the pupil doing the activity. A classroom observation of a Kannada lesson illustrates this point. The teacher started the lesson by asking the pupils a few questions to motivate them. She then read the text and the pupils listened. After a few minutes she asked a pupil to volunteer to read the text. A number of pupils, one after the other, stood at the front of the class to read the text. The teacher then attempted to develop skills of listening and reading with comprehension.

Photo 7: Kannada language lesson (School B)

'Pupils learn by doing', received a high rank by teachers and pupils. During classroom observations it was noted that this method of teaching was, to a certain extent, taking place in the classroom. A Kannada language lesson was observed in class II (Photo 7). The room was quite cramped and did not allow the teacher to walk easily between the pupils. A poem had been written on the blackboard which the pupils were to follow and sing. A pupil was then asked to come to the front of the room and lead the rest of the class in singing the poem by reading and pointing at the words on the board. The teacher moved round the children and helped them to pronounce words correctly. There was good participatory learning in a difficult learning context. In a class IV science lesson on sense organs, the teacher asked a pupil to walk towards a door and asked him whether the task was difficult. She then blindfolded the pupil and asked him to repeat the same task. 'Now do you find it difficult?'. All of the pupils

were laughing and paying attention to the lesson. The teacher has succeeded in arousing the interest of the children (Photo 8). Pupils may rank 'pupils learn by doing' high as in this case it may be interpreted as doing homework; reading and writing is a frequent activity in the mapping diagrams. In the school there is no project or group work. 'Pupils write' receives a relatively high rank from both class IV and V. This is evident from the mapping activity, in which pupils, despite being asked to draw pictures to illustrate activities, wrote (poorly) the activities they did.

'Pupils teach each other' is ranked low (7th rank) by class 4 and high (2nd rank) by class 5. There is no organised group work in class 4 and below. In classes V to VII, group work is undertaken outside lesson time and when a teacher is absent. 'Pupils repeat or recite' is a common practice in this school and is ranked highly by the pupils. The teachers however ranked this low as in their training this is not a taught method of teaching. Pupils gave 'teacher demonstrates' and

'pupils learn by doing' high rankings. Here the pupils appear to have linked these two activities. They may interpret 'teacher demonstrates' as the teacher talking to them, showing them how to read and write and illustrating methods for working out sums, because this demonstrative teacher-centred approach is used in the school. A social science lesson that was observed, illustrates this point. The children were being taught arithmetic but this was changed by the teacher to a social science lesson after we entered the classroom. One pupil was sent to the headmaster's office to fetch the map of India. The teacher then proceeded to hold the map up, rather than fixing it to the wall. We got the impression that this was the first time the map had ever been used as the teacher appeared nervous and there was nowhere to hang the map. The teacher stood at the front of the class and pointed to places on the map, he did not ask the pupils to participate and identify places on the map. The teacher stood at classroom in front of the pupils, it is unlikely

that there is ever any pupil participation in the lesson.

2.3.6 The Home environment

Ten community members, five men and five women, arrived at the school to be interviewed. Eight members have children at the school. Three parents were illiterate and four parents had education between classes III and V. Two community members appeared very enlightened and it was assumed that they were probably educated to college level. One of these members is on the SBC and the other has been nominated to stand as an elected member of VEC. Both of these members are involved in agriculture, one owning a fertiliser shop, the other is a farmer/agricultural contractor. All of the parents are engaged in some kind of farming practice.

Parents' role in schooling

Most of these parents are not involved in school activities and

they only visit the school when they take or collect their children or whenever they are sent for by the school. The illiterate parents say that they are fully occupied with their own work and find it difficult to make time to be involved with school activities. They agree that it is important for them to be involved in their children's schooling but are unable to say why they think this. Generally they are satisfied with their children's schooling. Pupils drawings from the mapping activity revealed that few of them could write basic Kannada words so how can parents be satisfied with such a situation?. In response to this question the parents said that their own educational levels were very low so they *are 'not in a position to judge the level of learning of their children'.* All they know is that at school their children should acquire *'wisdom and knowledge and become a good person'.*

Photo 8 Class IV science lesson 'the senses'

Parents say that their children do talk about what they learn

in school at home, such as the subjects they learn, but they could not illustrate whether or not they learnt anything from their children. After giving them an example (on the correct way to cook rice to get the maximum nutrition from it), they said there is something to learn from their children. They said children ask them questions and they felt happy about it, but they could not give examples of the kinds of questions or how they respond to them. Parents feel it is acceptable for children to talk about what they do at home and they think children learn better when their home experiences are related to what they learn in school. Again they are unable to give examples.

2.3.7 Contextualising teaching and learning

The headteacher agreed that learning is more effective when what is already experienced by the children out of school is linked to what they are taught in school. He said it is important that teachers relate children's experiences to the

subject they are studying. In the case of the school children their agricultural experience should be used. Only a couple of teachers may be doing this but generally it is not done in the school. Asked whether he did it, he said he did not know how to use these experiences in the teaching and learning process and he had no training in using such methods. One group of teachers could not quite grasp the concept of drawing upon pupils' experience in aiding the effectiveness and meaning of teaching a new subject, or area within a subject. They said it is very difficult to relate a child's background to what is taught in the classroom. Some examples were given; for example, in social studies there is a lesson about family relations, so teachers ask pupils about their families. The teachers have obviously never tried an approach which draws upon pupils own experience as they could give no responses to questions except, *'yes, this approach is more satisfying than the traditional "chalk and talk" approach'.* Vague reasons were given on the benefits of this type of approach such as

'children understand better as they know it is something that can be used in practice. If it is related to in practice, they can make connections with textbooks'.

2.3.8 Agriculture in contextualising teaching and learning

There is no direct evidence from teachers at the school to suggest that they are using a contextualised approach to teaching and learning. Pupils gave a number of examples where their agricultural experience had been brought into lesson, or where they had learnt something at school that they could use at home such as *'in science we learnt about soil erosion. At home I told my parents that they should use plants and roots when they make bunds, to decrease the risk of soil erosion'.* But the examples are few and do not suggest that teachers brought this experience into the lesson deliberately. At this school, once agriculture was mentioned

pupils were keen to describe their experiences at home, but they could not relate this to learning in school. One pupil actually said that she remembers agricultural practices better if her parents show her on the farm, rather than learning from a textbook.

2.3.9 Issues arising from school B

There appear to be many underlying problems at this school that may emanate from the poor relationships between staff. Teachers in the school are unhappy and frustrated that the community and in particular the village leaders, parents and SBC members, are non-cooperative and even hostile towards the school in particular, and the education of their children in general. When pupils' progress is not up to standard, the teachers send for the parents. They usually come to the school (women will not come by themselves); however, if any pressure is put on the parents to help their children they will withdraw them from school. Although parents may agree that

education is important, in classes II and III pupils are often removed from the school by parents, to help in the home or on the farm whilst their parents go to work elsewhere. Teachers say that parents do not cooperate in ensuring that children attend school as during harvest times and festivals, there are more children outside than in the classroom. Parents send children to school without books, writing materials or school uniforms as the majority of parents are very poor. Parents do not have time to supervise their children's school work at home. Long periods of absenteeism by pupils is difficult for teachers to accommodate in the classroom.

Initially the problems identified by teachers relate to resources such as lack of accommodation for teachers, rather the problems they may face in their teaching and learning practices. Six of the teachers travel from Mysore daily and say that they would move to the village if there was suitable accommodation. Regular in-service training is an

area of support consistently requested by teachers, specifically technical and content training in difficult subject areas (e.g. social science and geography). Logistics in terms of class size and time are an important issue where new methods place emphasis on child-centred activities, as quoted by a teacher: *'forty minutes is not long enough to teach like this, if we do we will not be able to cover the curriculum'.* Teachers say that they do not have the teaching aids that were recommended to them in teacher training. The training they had is not relevant to the child centred approach used now and there are few training opportunities for them to update previous training. They feel they do not have sufficient training to implement the revised curriculum and there are areas in it that they find difficult to teach. They have no specific training in innovative methodologies. A class I teacher expresses her problem of teaching higher classes because of insufficient teacher numbers. She is trained to teach classes I to III, but must also teach some classes up to grade VII,

which she does not feel competent to do. Teachers do not enjoy teaching a subject area that is unknown to them. Art and SUPS must be taught by all teachers but they say they do not have the correct skills to teach these areas. On further questioning it was discovered that teachers did not know the objectives of these subjects and have never seen a copy of the syllabus or ever used a teachers' guide.

Based on observations from mapping diagrams, the overall standard of pupils appeared to be very low. An SBC member said that the level of teaching and learning in the school was very low and through his own observations, he had noticed that even children in classes V and VI did not know how to write the alphabet. Parents appear to be unaware of the poor quality of schooling their children are receiving, possibly because the majority are themselves illiterate, especially the mothers. There is little evidence to suggest that teachers try to relate teaching and learning to pupils' experiences and backgrounds. There was evidence that teachers try to relate

some learning to real life (for example a grade IV science lesson on the senses) but generally the approach in this school is "chalk and talk". Classrooms were very bare and few teaching aids and resources were evident in the school. Although agriculture is interwoven with the lives of most children in this school, they appear to be very shy in admitting that they do household and farm work out of school hours. These activities are believed to be lowly tasks, especially grazing livestock, which only the uneducated do. If pupils think this way about agriculture, it could be a constraint to using agricultural experience in a contextualised approach to teaching and learning. Teachers generally agreed the innovation may be useful; however, they believe that it is difficult to relate to or use pupils' agricultural experience in their teaching practices because of constraints in the curriculum, lesson times and exam system.

3 Findings from the country study

India is a vast country with great variations and divides in culture, language, caste, religion and gender both between and within states. The immense population, the majority of whom live in rural areas, uneven development, and striking differences between the urban and rural populations, create an infinite and ever changing task for the country's development of education. Although enrolment is high, drop-out rates are also high and achievement levels are low. Nearly half of the population is illiterate, and the large disparity between sexes results in over 60% of adult illiterates being female.

India has declared that it will provide Education for All by the year 2000. This in itself is a huge undertaking, and will involve expansion of early childhood care and development, universalisation of elementary education, reduction in literacy, and provision of opportunities to maintain, use and upgrade education. Improving the content and process of education should be a high priority, *'to better relate to the environment,*

people's culture and with their living and working conditions, thereby enhancing their ability to learn and cope with the problems of livelihood and environment'. A recent report by the National Advisory Committee (1993), however, looks at the 'burden of learning' in the education system and the main problems associated with it, namely the emphasis on an education to gain elite qualifications, rather than a competence for doing useful things in life. This report states that *'both the teacher and the child have lost the sense of joy in being involved in an educational process. Teaching and learning have both become a chore for a great number of teachers and children,...the majority of our school-going children are made to view learning at school as a boring, even unpleasant and bitter experience'.* Competency levels in reading, writing and numeracy of primary school children are estimated to be very low; at most only 30% of children have adequate competencies in these areas. Undue importance has been given to 'memory', instead of developing

'thinking' capabilities. To be effective, rural primary schools should equip the students to face the realities of the environment in which they live, and this is not being achieved in the current education system.

Teachers, parents and pupils all agreed that learning is easier when out of school experience is used and related to what is taught in school through the formal curriculum. They say it helps them understand things better, apply knowledge in practical daily life situations and see the relationship between knowledge from school and real life situations. Teachers confess they don't practice this pedagogy for a number of reasons. Teachers are generally unhappy with the training they received and feel that more support in this area would enable them to try out innovative teaching methods such as contextualising teaching and learning. They do not have the necessary skills to relate school knowledge to the daily life experiences of pupils because this was not covered in their training. At present schools have almost no input in

curriculum development as responsibility is at state level. The curriculum is not relevant to the lives of the pupils, and there are many teaching-learning areas that cannot be related to practical, concrete real-life situations. The majority of teachers feel they can do little to improve their teaching practices, considering the lack of facilities and harsh conditions they work under. The rigid structure of the timetable, pressure on them to "cover" the curriculum according to a prescribed plan and the narrow requirements of the examination system allows them no flexibility to adopt innovative teaching methods. Teachers find it easier and feel more secure if they teach through books, which does not require great effort or creative, imaginative planning of learning experiences necessary for innovative teaching.

The belief that knowledge is gained by reading books and that it has very little to do with work or experience seems fixed in the minds of many parents, and is transferred to children also. Teachers feel answerable to parents, and

presenting them with good exam marks will satisfy them; teachers and schools are held accountable through reference to exam results. The acquisition of such knowledge, measured through examination results, reinforces the belief that the concern of the school is to transmit knowledge to children in such a way that they can assimilate and reproduce it in the examinations. The curriculum and textbooks are essentially knowledge centred, with occasional reference to activities of a practical nature.

There is a lack of motivation and accountability amongst many teachers, especially in rural schools where there is limited scope and opportunity for professional improvements. In rural areas there is very little opportunity of recognition or appreciation of good, innovative work by these teachers. Regular monitoring and training, they believe, would encourage their professional development and increase motivation of themselves and their pupils. In terms of initial impressions of the two schools, there was a distinct

difference. School A was well maintained and attractive to look at. On the other hand, school B was hardly recognisable as a school from the outside as it had no boundary and appeared run-down and neglected. The atmosphere within in the two schools again was noticeably different. Pupils appeared happy and enthusiastic in school A, in school B they were passive and shy. Even from this small case study it is evident that co-operation between the headteacher, teachers, and community members is vital in forming a supportive learning environment for the pupil. The fieldwork illustrated that teachers', parents', community members' and pupils' perceptions of education and their views on knowledge are important factors in using a contextualised approach to teaching and learning. Their perceptions of agriculture are especially important if such an approach were to use agricultural experience. The role of a good teacher, invariably, is of one who is knowledgeable and a repository of information. Learning is also seen as something done out of a

book and transferred to an exam paper. The desperately low competency rates in basic subjects illustrates a need for change in the education system. The community should play an important role in changing parental perceptions of education, and contextualising the process could be an important approach to achieving these aims of developing 'thinking' rather than 'memory' capabilities, along with strengthening linkages between the learning environments of school, home and community.