Yuchi Zhao · Jing Liu
Editors

Rural School Improvement in Developing Countries

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Preface

At the World Education Forum in Incheon (Republic of Korea) in May 2015, the global education community, under the leadership of UNESCO, framed the priorities for a common education agenda within Sustainable Development Goals (SDGs) for the next 15 years. Participants in the Forum pushed for the Education SDG (SDG 4), which aims to *Ensure equitable and inclusive quality education and life-long learning for all by 2030*. This follows increased access to education at all levels and yet a recognition of the worrying fact that many learners complete primary education without having acquired even basic literacy and numeracy skills. The provision of quality schooling on a sustainable basis within educational systems requires context-responsive, evidence-based policies and innovative practices in a given context with the full participation of all relevant stakeholders.

Although the statement that schools are at the centre of educational quality seems obvious, it is only recently that policy-makers and practitioners have started seriously looking beyond input and output models of what constitutes quality, now focussing more seriously on process at the local level and 'daily school experience'. Recent trends have brought the discussion of educational quality closer to the local level, emphasizing the role of schools, teachers and school leadership, community members, and students in defining and creating quality. School effectiveness and school improvement have developed historically as separate disciplines based on different approaches to gathering evidence, and therefore with different knowledge bases to offer. It is now accepted that any study of school effectiveness that does not focus on issues of school improvement will not have the value of one that does.

In developing countries, programmes for basic education improvement have been funded and implemented by international funding agencies and organizations since the Education for All conference. School improvement, as identified as one of the areas calling for change, is often developed into sub-programme as one key component in these rural education programmes. The approach adopted for intervention has been transformed from addressing one single area such as head-teacher and teacher training to a more holistic approach which emphasizes a systematic change covering improvement of school leadership and management, supporting teachers' professional development and community involvement in schooling.

This study will try to answer the questions as follows by case studies taken from different rural settings of China, Myanmar as well as two African States, Uganda and Kenya. What are the problems faced by rural schools? What approaches or models have been adopted which hold promise for improving these schools? What specific interventions have been done as responses to the problems and how did they work? What lessons could be learnt from these programmes? What factors would guarantee the success of the schooling models in rural settings? It is also expected to discuss the cross-cutting issues in those practices and identify the reform elements that are replicable for rural education elsewhere.

This publication offers a valuable cross-country perspective, it shares four innovative practices on school improvement in rural settings that have been successfully implemented and identifies some key components for effective improvement strategies, particularly for schools in harsh conditions, and gives a range of policy recommendations to help stakeholders provide relevant support to rural schools.

Beijing, China   Yuchi Zhao

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Abbreviations

AEOs	Area Education Officers
AKF	Aga Khan Foundation
AQAOs	Area Quality Assurance Officers
ASAL	Arid and Semi-Arid Lands
ASEAN	Association of Southeast Asian Nations
ATEO	Assistant Township Education Officer
BEd	Bachelor of Education
BRMS	Basic Requirements and Minimum Standards
CAO	County Administrative Office
CBO	Community Based Organisation
CC	Coordinating Centres
CCA	Child-Centred Approaches
CESR	Comprehensive Education Sector Review
CFS	Child-Friendly School
CDF	Constituency Development Fund
CEB	County Education Board
CEMASTEA	Centre for Mathematics, Science and Technology in East Africa
CHT	Centre Head Teachers
CPD	Continuing Professional Development
CSC	Comprehensive School Checklist
DBE	Department of Basic Education
DC	District Council
DEO	District Education Office/Officer
DEPT	Department of Education Planning and Training
DFID	Department for International Development
DIS	District Inspector of Schools
DQASOs	District Quality Assurance and Standard Officers
DRC	Democratic Republic of the Congo
DTET	Department of Teacher Education and Training
ECDE	Early Childhood Development and Education
EdQual	Education Quality in Low-Income Countries

EFA	Education for All
EGMA	Early Grade Mathematics Assessment
EGRA	Early Grade Reading Assessment
EMACK	Education of the Marginalized Children in Kenya
EMIS	Education Management Information System
ESA	Education Standards Agency
ESIP	Education Strategic Investment Plan
EU	European Union
FPE	Free Primary Education
GDP	Gross Domestic Product
GER	Gross Enrolment Rate
GNI	Gross National Income
GoK	Government of Kenya
GoU	Government of Uganda
ICT	Information and Communication Technology
INEE	Inter-Agency Network for Education in Emergencies
INSET	In-service Education and Training
JICA	Japanese International Cooperation Agency
KCPE	Kenya Certificate of Primary Education
KCSE	Kenya Certificate of Secondary Education
KEMI	Kenya Management Institute
KESSP	Kenya Education Sector Support Program
KICD	Kenya Institute of Curriculum Development
KISE	Kenya Institute of Special Education
KNEC	Kenya National Examination Council
LARA	Literacy Achievement and Retention Activity
LEP	Language Enrichment Programme
M&E	Monitoring and Evaluation
MDEF	Multi-Donor Education Fund
MDGs	Millennium Development Goals
MIS	Municipal Inspector of Schools
MNEC	Mon National Education Committee
MOE	Ministry of Education
MoES	Ministry of Education and Sports
MoEST	Ministry of Education, Science and Technology
MSS	Monastic School System
NCDC	National Curriculum Development Centre
NESP	National Education Strategic Plan
NGO	Non-Governmental Organization
NLD	National League for Democracy
NRM	National Resistance Movement
OECD	Organization for Economic Cooperation and Development
OVC	Orphans and Vulnerable Children
PASEC	Programme on the Analysis of Education Systems of the Conference of Ministers of Education of Francophone Africa

PIRLS	Progress in International Reading Literacy Study
PISA	Program for International Student Assessment
PL	Primary Leaving Exam
PLC	Professional Learning Communities
PRESET	Pre-service Education and Training
PRISM	Primary School Management Project
PTA	Parent-Teacher Association
PTCs	Primary Teachers College
QBEP	Quality Basic Education Programme
QIPS-BRMS	Quality Improvement in Primary Schools through BRMS Implementation
RCT	Randomised Controlled Trial
RTI	Research Triangle Park
SABER	Systems Approach for Better Education Results
SACMEQ	Southern and Eastern Africa Consortium for Monitoring Educational
SBEP	School Improvement in China-UK Southwest Basic Education Project
SDMC	School Development Management Committee
SDP	School Development Plan
SEA-PLM	Southeast Asia Primary Learning Metrics
SEN	Special Educational Needs
SIDA	Swedish International Development Agency
SITE	School-based In-service Teacher Education
SMC	School Management Committee
SWap	Sector-Wide Approaches
TAC	Teacher Advisory Centre
TE Dept	Teacher Education Department
TEO	Township Education Office
TIEP	Township Education Improvement Plan
TIMSS	Trends in International Mathematics and Science Study
TLRC	Township Teacher Learning Resource Centres
TSC	Teachers Service Commission
TSS	Teacher Support System
UK	United Kingdom
ULHEP	Uganda Literacy and Health Education Programme
US	United States
UNEB	Uganda National Examinations Board
UNESCO	United Nations Education, Science and Culture Organization
UNHS	Uganda National Household Survey
UNICEF	United Nations Initiative for Children's Education Fund
UPE	Universal Primary Education
USA	United States of America
USAID	United States Agency for International Development
USE	Universal Secondary Education

UWEZO	A Swahili word meaning ability
VSO	Voluntary Service Overseas
WB	World Bank

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Chapter 1
School Improvement in Rural Settings: A Review of International Research and Practice

Frank Hardman and Ana Maria Sandi

Introduction

Education systems in all countries are currently confronted by many challenges. Policymakers and educationalists have been attempting to solve problems through changes aimed at increasing access, quality, efficiency and relevance, and making systems more equitable. The need to ensure that children receive quality teaching and actually learn was highlighted in the 6 Education for All (EFA) goals established at the World Forum on Education for All held in Dakar in 2000 in Dakar.

Quality education was also a running theme throughout each of the 15 annual EFA Global Monitoring Reports (GMR) and quality in education was explicitly used in the titles of the 2005 and 2014 reports (UNESCO, 2005, 2014). It pointed to the need to strengthen access, quality and equity of provision for all children, particularly for the poorest and most marginalised children living in rural areas. Similarly, the SDGs launched in 2015 also point to the need for improving educational quality by substantially increasing the supply of qualified teachers in developing countries through international cooperation (UNESCO, 2016).

While significant gains were made in improving access to education for children in developing countries as a result of the MDGs, new challenges emerged for making sure all children receive a good quality education. The 2015 GMR estimated that out of a total world population of 650 million primary age children, 250 million were not achieving the basics literacy and numeracy skills even though 130 million of them have spent at least four years in school (UNESCO, 2015). In the face of these challenges, there was a growing recognition in the EFA reports of the need to address issues of quality as well as access, and that a focus on pedagogy and its

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training implications needs to be at the heart of the commitment to improve student retention, progression and learning outcomes.

The 2009 EFA monitoring report (UNESCO, 2010) focusing on marginalised children reflected this shift in emphasis. It called for a commitment to policies that focused on the creation of an effective learning environment for all children regardless of background, through the provision of adequate facilities, well-trained teachers, a relevant curriculum and clearly defined learning outcomes. Most importantly, it acknowledged that educational quality was largely obtained through pedagogical processes in the classroom and that what students achieve is heavily influenced by the knowledge, skills, dispositions and commitment of the teachers in whose care they are entrusted.

While bearing this broader contextual picture in mind, this chapter focuses on international educational research and practice and its relevance to the theme of rural school improvement in developing countries. In the first section the case for special attention being paid to rural schools is made. In the second section, different models of school effectiveness and school improvement are presented and critiqued in terms of their relevance to rural schools. In the third section, the importance of contextualisation in the successful implementation of systemic educational reforms in the developing world is discussed. Section 4 presents a discussion of systemic approaches to educational reform and Sect. 5 presents research into measuring educational quality and its relevance to educational reform in the developing world. Section 6 discusses the research into school improvement and its implications for policy and practice with regard to school serving rural areas and Sect. 7 discusses the importance of the school becoming the key site for the professional development of teachers working in both urban and rural areas in the developing world. Finally, conclusions are drawn from the review of research and practice for systemically reforming schools serving rural areas in developing countries.

1 Why Rural School Improvement

At the start of the millennium, the World Bank (WB) drew attention to the inequalities between those living in urban and rural areas in the developing world (World Bank, 2000). Throughout the 15 years of the EFA programme there was a growing recognition that addressing the needs of rural schools was important to achieving the MDGs and that they deserved special attention in light of the fact that:

- more than 50% of the world's population lives in rural areas and a large percentage of children and youth are educated in rural schools;
- rural populations represent 70% of the world's poor and 72% of the population of the least developed countries (UNESCO, 2014);
- in 2015, the world population of 7.2 billion was projected to increase by 1 billion over the next 12 years and reach 9.6 billion by 2050, with growth being mainly in developing countries, with more than half in Africa (UN, 2013).

Significant disparities between rural and urban education persist and ensuring equity in education is a challenging task, particularly for countries that have significant rural populations. Rural–urban discrepancies in education are visible in enrolment, participation, absenteeism, dropout, completion rates and student achievements.

The common challenges facing rural areas identified in the 2014 EFA report included the:

- geographic: rural communities are often in remote, isolated locations, at a great distance from cities or towns and isolated due to poor transportation or even lack of it; bad weather may worsen these conditions;
- demographic: a demographic decline is common, leading to low enrolments and low student–teacher ratio; one teacher per grade or even per multi-grades is common;
- economic: many rural communities are economically distressed, particularly in developing countries; there are fewer employment opportunities; poor households are dependent upon subsistence agriculture; due to poverty, further depopulation occurs, followed by further economic decline;
- educational: rural adults have in general a lower educational attainment and lower formal qualifications.

Schools in rural areas in the developing world are often constrained by very limited resources and they have difficulties in recruiting and retaining good teachers and head teachers as potential candidates do not want to live and work in remote rural areas. Consequently, schools may be faced with a high teacher turnover, leading to a teaching staff dominated by a high number of new, young, inexperienced teachers, and higher levels of teacher absenteeism (Mulkeen, 2010). Teachers working in rural schools often miss out on CPD activities to improve their pedagogical practices and enhance their promotion prospects. They are also often faced with multi-grade classes and student from a range of linguistic and ethnic backgrounds, including nomadic and pastoralist communities, for which they have received little, if any, training (Dyer, 2006). Student absenteeism is also a problem in many rural schools in the developing world due to the need for child labour, particularly at harvest time, and for families to supplement their income (Sandi, 2015).

Throughout the last two decades there has also been a growing recognition of education's role in responding to natural disaster, conflict and in the building of peace (Barakat et al., 2013). It is now widely accepted that schools and teachers can be used to provide a safe space and sense of normalcy during situations of instability, and contribute to the physical, psychosocial, and cognitive protection of children, adolescents, and adult learners. School can also become a focal point for interventions to improve child protection and as a cross-cutting developmental factor in capacity development, gender, social cohesion and human rights awareness. In the long term, education can help reduce violence, and build bridges between deeply divided communities, giving hope and opportunity to young people.

The growing importance of education in conflict in the international arena was reflected in the 2011 *EFA Global Monitoring Report, The hidden crisis: Armed*

conflict and education (UNESCO, 2011). In the report, it was argued armed conflict in the world's poorest countries is one of the greatest barriers facing the EFA goals and it called upon the international community to strengthen the role of education systems in preventing conflicts and building peaceful societies. It also assumed that tackling education needs could have a 'multiplier effect'; in other words, that tackling education needs could create other humanitarian gains and initiate additional developmental reforms. The 2011 EFA report concluded that while post-conflict reconstruction in education poses immense challenges, success in education can help underpin the peace process, build government legitimacy and set a country back on course to recovery.

When the rebuilding of an education system following conflict and natural disaster does begin, it is often in an environment marked by high levels of political instability, chronic financing deficits and low levels of capacity. These include the inability of governments to fund capital or recurrent expenditure, a chronic shortage of qualified teachers or over supply of under-qualified teachers, poor record keeping, corruption and lack of transparency in educational governance, and a failure to develop initiatives to build the skills of young people and prevent their recruitment into military or criminal activity (World Bank, 2005). Such conditions have informed the development of increasingly targeted and sophisticated programme planning and management tools, for use by government ministries, UN agencies, and non-governmental organisations in education in conflict, such as the development of the Inter-agency Network for Education in Emergencies (INEE) Minimum Standards for education provision in countries affected by natural and man-made disasters (INEE, 2010). There has also been an emerging consensus over the need for an early focus on getting schools functioning, decentralising reforms to allow community ownership and capacity building, and ensuring external support for education builds on the efforts of local communities and authorities already active in supporting education.

2 Taking Stock of Research on School Effectiveness and School Improvement

School effectiveness research was first undertaken within the industrialised world, and hence by donor countries themselves, and subsequently used within developing countries, primarily by industrialized country researchers, focusing on production functions that were termed 'determinants of achievement', by isolating individual inputs and trying to assess which would gave the best value for money in the development of an education system. Work on school effectiveness and school improvement was very intense in the United States of America (USA), the United Kingdom (UK), the Netherlands and a few other high-income countries at the end of the twentieth century. Interest in school effectiveness and school improvement research increased in the developing world following the launch of EFA and its increasing focus on increasing access and improving the quality of education.

School effectiveness research challenged earlier sociological research findings which concluded that family socio-economic and ethnic characteristics prevail over school characteristics in explaining students' achievement differences (Coleman et al., 1966). School effectiveness research was often concerned with finding explanations and theories on what makes schools effective to inform reforms at the systems level. Its ambition was to establish malleable factors that were robust and generalisable across different contexts.

Using multi-level modelling (enabling differential conclusions related to a specific group), school effectiveness investigated differences between schools in student performance as measured by test scores in main subjects (mathematics, science, maternal language) after adjusting for student background conditions at the level of the school context, the school as an organisation, and the classroom. The research also took into account factors, such as infrastructure, equipment, textbooks and other pedagogical materials, human resources and financing factors such as teachers/students ratio and teacher salaries.

Box 1 shows a list of 'key determinants' of effective primary and secondary schools drawn from studies conducted in the UK that were typical of the kinds findings generated by the school effectiveness movement (Sammons et al., 1995).

Box 1 Key Determinants of School Effectiveness

- Professional leadership.
- Shared vision and goals.
- Learning environment (orderly, attractive).
- Concentration on teaching and learning.
- Purposeful teaching.
- High expectations.
- Positive reinforcement.
- Monitoring progress.
- Pupil rights and responsibilities.
- Home-school partnership.

After examining schools in nine different high-income countries, a major school effectiveness review concluded that the main characteristics of an effective school are universal and travel across national borders, and transcend cultural, social, geographic and demographic factors (Reynolds et al., 2002). At the school level the effective characteristics included the quality of the head teacher/principal, the nature of school expectations, and the extent to which the school level potentiates the quality of the classroom experience. At the classroom level, they included high levels of teacher expectation, class management, clarity and instructional quality.

While school effectiveness was focused on finding what schools needed change in order to become more effective, school improvement was focused on finding out how schools could change in order to improve. School improvement research

therefore focused its attention at the school level and classroom level as it was suggested that differences in student performance were three or four times greater at the individual teacher level than at the school level. Therefore, it advocated that attention and resources should be focused upon the behaviour of teachers and how they can be developed or changed through professional development. Over time, the school effectiveness and school improvement research merged and evolved.

Drawing on school effectiveness research in the developing world, a list of effective school characteristics in developing countries was compiled by Farrell and Oliveira (1993) for the WB as shown in Box 2. It included three groups of factors: (i) best bets factors—probability is reasonably high that improvement in these dimensions will increase student learning; (ii) worst bets factors—probability is low that investing in these areas will increase school effectiveness; and, (iii) promising factors—even though the hard research base regarding them is small, they are promising. In contrast to school effectiveness research conducted in high income countries, the research indicated resource factors had a higher impact on learning outcomes in developing countries than in developed countries.

Similarly, Levin and Lockheed (1991) argued that in order to be effective, schools in developing countries needed: (i) basic inputs (material and non-material); (ii) facilitating conditions (community participation and school-based professionalism and flexibility); and (iii) the will to change.

Box 2 School Effectiveness Factors in Developing Countries

- Best bets: textbooks and reading materials, and library size and activity; years of tertiary and teacher training; length of instructional program.
- Worst bets: class size; science laboratories; and teacher's salary level; all three represent areas of high educational cost, and none has been found to be consistently and powerfully related to school effectiveness.
- Promising: desks; instructional media (radio); school building quality; and nutrition and feeding programs.

Heneveld and Craig (1996) developed a conceptual framework of school effectiveness which was taken up by the WB and used in its discussions of educational quality. It consisted of several interrelated factors that influence student outcomes expressed in terms of participation, academic achievement, social skills and economic success. The factors, which may be influenced by the context, were divided in four categories as show in Fig. 1. It was based on an input–output model favoured by educational economists: inputs, in the form of financial and material resources, teachers and pupil characteristics are acted on by educational processes producing outcomes.

The linear input-process-output model, elaborated strongly on the processes of schooling in three sections—school climate, enabling conditions and teaching–learning process and indicators for each element of the model were described. The model contributed to the WB's description of school effectiveness, defined by eight

The School: Factors Related to Effectiveness

3.0 SCHOOL CLIMATE

3.1 High Expectations of Students
3.2 Positive Teacher Attitudes
3.3 Order and Discipline
3.4 Organized Curriculum
3.5 Rewards and Incentives

1.0 SUPPORTING INPUTS

1.1 Strong Parent and Community
    Support
1.2 Effective Support from the
    Education System
1.3 Adequate Material Support
    1.3.1 Frequent and Appropriate
          Teacher Development
          Activities
    1.3.2 Sufficient Textbooks and
          Other Materials
    1.3.3 Adequate Facilities

2.0 ENABLING CONDITIONS

2.1 Effective Leadership
2.2 A Capable Teaching Force
2.3 Flexibility and Autonomy
2.4 High Time-in-School

5.0 STUDENT OUTCOMES

5.1 Participation
5.2 Academic Achievement
5.3 Social Skills
5.4 Economic Success

CHILDREN'S CHARACTERISTICS

4.0 TEACHING/ LEARNING PROCESS

4.1 High Learning Time
4.2 Variety in Teaching Strategies
4.3 Frequent Homework
4.4 Frequent Student Assessment
    and Feedback

CONTEXTUAL FACTORS

International
Cultural
Political
Economic

Fig. 1 Conceptual framework: factors that determine school effectiveness

domains that contribute to high quality teaching and learning: (i) curriculum; (ii) teacher quality and professional development, (iii) school leadership and management, (iv) general well-being of students, (v) linkage between schools and communities and stakeholders, (vi) school governance and accountability, (vii) quality assurance and (viii) physical infrastructure (World Bank, 1995).

However, it was criticised in two respects: firstly, it did not explore what children brought to school by way of prior experiences; secondly, it merely listed the contextual factors (International, Cultural, Political and Economic) which impinged on the school. It was also considered problematic to assume a linear relationship between inputs, processes and outputs of education that is often implied by input–output models as they do not acknowledge that the inter-relationships between learner characteristics, enabling inputs, educational processes and outcomes are complex, multi-dimensional and vary according to context (Riddell, 2008).

Critics of the school effectiveness and improvement movement increasingly argued that the school effectiveness research has been too generic in its approach and that impact of powerful socio-economic factors were being ignored while naive and sometimes simplistic solutions were offered to complex social and economic problems, leading to a 'one size fits all' approach to quality that is insensitive to the learning needs of different groups of learners and to diverse learning environments (Sirin, 2005). It was increasingly being recognised that contextual differences limit the transferability of policy lessons from one country to another even among relatively comparable countries. What works in one context may well fail in another context due to various reasons as school effectiveness factors are context dependent.

Growing criticism that the school effectiveness and school improvement research over-emphasised the universal features of effective education systems and school and

played down the importance of the political, social, economic and cultural context of the country in which the education system and schools are situated led to a decline in their influence on education policy in the developing world and to the search for more contextually sensitive ways to research and measure educational quality.

3   Conceptualizing the Framework for Quality-Oriented Educational Reform

In light of the criticism that school effectiveness research and the input-process-output models played down contextual factors impacting on schooling, Pigozzi (2008) developed an index of quality education which put a greater emphasis on learner characteristics (what children bring to school), enabling inputs in achieving outcomes and the processes of schooling. It consisted of a model using concentric circles, in this case with three levels: (a) Learning (b) Level of the learner (c) Level of the learning system (see Fig. 2).

Similarly, in 2004 and revised in 2010, the INEE Minimum Standards for Education developed a diagnostic tool to help achieve a minimum level of educational access and quality in emergencies through to recovery (INEE, 2010). They were seen as providing a conceptual framework of the essential aspects of an education system in an emergency situation. While some of the content of the standards is specific to emergency situations caused through conflict and natural disasters, much of the content is more generally applicable. The five domains of the INEE tool covered:

- **Foundational Standards**: these standards included coordination, community participation, and analysis. These standards were intended be applied across all domains to promote a holistic quality response.
- **Access and Learning Environment**: standards in this domain focused on access to safe and relevant learning opportunities. They highlighted critical linkages with other sectors such as health, water and sanitation, nutrition and shelter that help to enhance security, safety and physical, cognitive and psychological well-being.
- **Teaching and Learning**: these standards focused on critical elements that promote effective teaching and learning, including curricula, training, professional development and support, instruction and learning processes, and assessment of learning outcomes.
- **Teachers and Other Education Personnel**: standards in this domain covered administration and management of human resources in the field of education. This included recruitment and selection, conditions of service, and supervision and support.
- **Education Policy**: standards in this domain focused on policy formulation and enactment, planning and implementation.
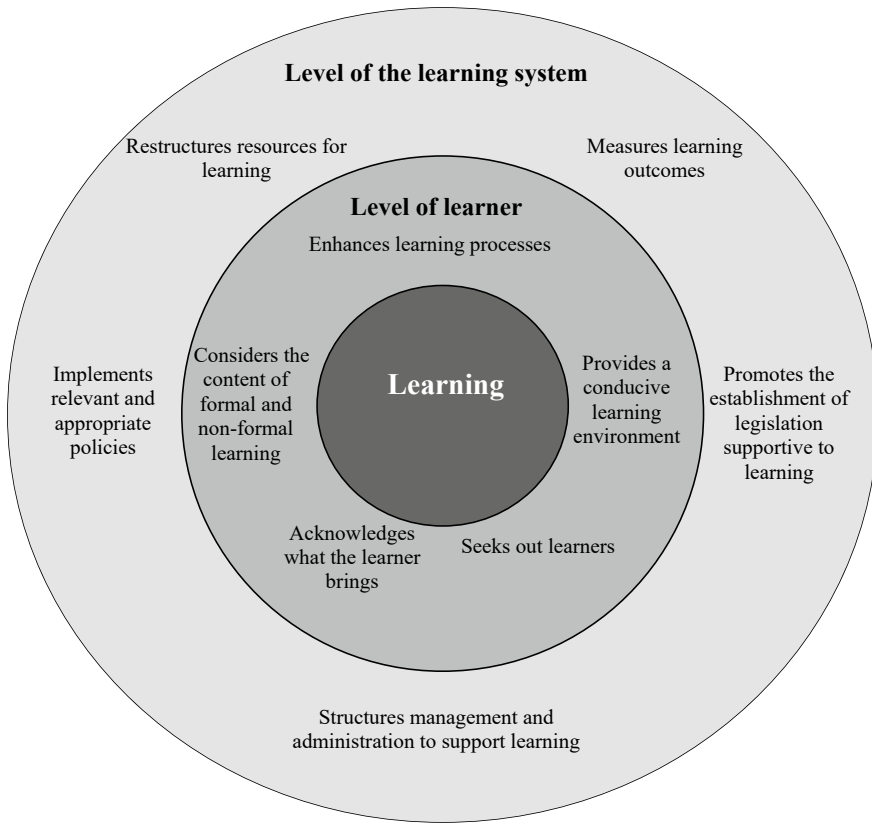
Fig. 2 Quality education: a framework

The INEE framework therefore emphasised the importance of the education system's interaction with the wider community and other sectors of society as it recovers from various kinds of shocks.

A five-year UK Department for International Development (DFID) funded research study of educational quality known as the Implementing Education Quality in Low-Income Countries (EdQual) research programme consortium posited a model of educational quality that also took into consideration the importance of context in defining a good quality education (Tikly, 2011). It emphasized the need for policy makers to recognise the changing national development needs, the kinds of schools that different learners attend and the forms of educational disadvantage faced by different groups of learners when considering policy options. It argued for a systemic approach through which a good quality education arises from interactions between three overlapping environments, namely the policy, the school and the home/community environments (Fig. 3).

Creating enabling environments requires the right mix of inputs into each. In contrast to Heneveld and Craig's (1996) input–output model of education quality, the
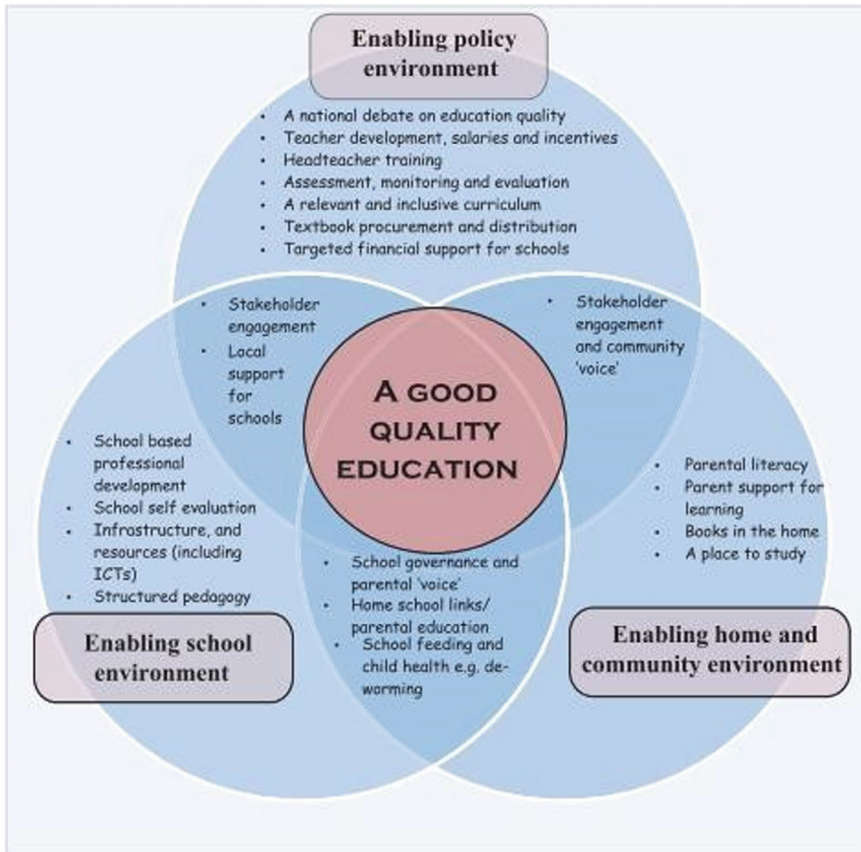
Fig. 3 Systemic approach to implementing quality education (Tikly, 2011)

EdQual framework highlighted the importance of accompanying processes so that it considers the mix of inputs and processes and the interactions between environments (Tikly, 2011). Creating a good quality education therefore involves paying attention to the interaction between each environment and ensuring that enabling inputs and processes have the effect of closing the gaps that often exist between them creating greater synergy and coherence in the education system. The model also recognised that education systems are extremely complex and multifaceted and that reforms need to be systemic to address multiple factors in a coherent way as it is impossible to improve one dimension of an education system without addressing and modifying other dimensions (Hardman et al., 2011).

For example, overcoming gaps between national policy and its implementation at the school level requires engaging with the experiences and views of teachers and head teachers, ensuring that initial and continuing professional development opportunities are consistent with the demands of new curricula and other initiatives,

and providing support for schools in implementing and monitoring change. It also recognized that closing expectation gaps between the outcomes of education and what parents and communities expect education systems to deliver requires paying attention to the relevance of the curriculum, listening to the voices of parents and of communities in national debates and developing greater accountability within the system.

Similarly, UNESCO as part of its Global Education Monitoring Report on Accountability (UNESCO, 2017) published a framework for quality in professional skills development. While it acknowledges the concept of quality is hard to define given the diversity of training providers, purposes and intended outcomes across different country contexts, it argues that quality can be framed in terms of partnerships, systems, training settings and outcomes as illustrated in Fig. 4. The quality assurance framework is designed to analyse training activities and the resulting knowledge, skill and competencies occurring in institutional settings and in the workplace. It suggests governance of the skills development system needs to be coherent, with clear aims for authorities and providers under a common qualification framework. Second, government and non-government training providers, which are increasingly involved in service delivery, need to comply with regulatory standards and procedures to be accredited before being allowed to provide programmes. Third, governments need to collect and provide transparent information on provider operations and student outcomes to ensure provider accountability.
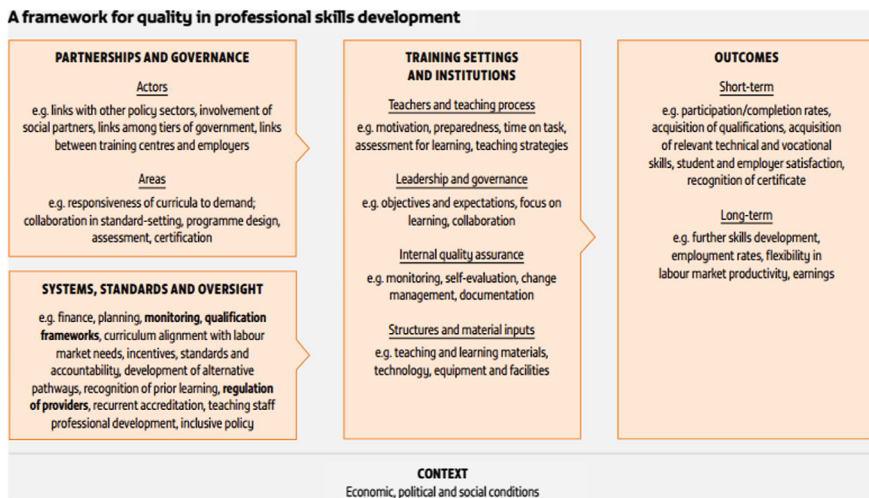
Fig. 4 A framework for quality in professional development skills (UNESCO, 2017)

4   Improving Systemic Approaches to Educational Reform

The need to address educational quality in a more systemic way also led to a growing criticism of programmatic interventions in developing countries by international donors and agencies because of the way they distorted and interfered with system-based approaches to development; for example, by focusing on enrolments and insufficiently on quality, and on 'inputs', rather than processes and outcomes. These include what goes on in the classroom, what the students learn, whether the teachers' pay and status are sufficient to keep them in the classroom and continuing to teach.

Sector-wide approaches as a means of reforming education systems emerged from the accumulation of evidence of the disappointing lack of sustainability of aid projects in the mid-1990s (Riddell, 2012). Gradually it has been accepted by the international donor community that sustainable education outcomes will not be achieved by merely reproducing a 'successful' pilot of an individual project, even if it has been rigorously evaluated by a RCT, which tends to focus on the short-term and that often ends once donor funding has been withdrawn, but by systematically reforming the education system as a whole. It has been found that many interventions fail because of the lack of funds or sufficient involvement and incentivisation of all the stakeholders, especially when attempts are made to scale them up. If an intervention is to have a lasting effect, it needs to be provided within a longer-term timeframe with much greater attention paid to the educational system as a whole, including the institutions, organisational practices and incentives.

A systemic approach to educational reform will include the obvious basic inputs of teachers, classrooms and instructional materials, but will also need to consider the status, salary scales and deployment of teachers, the curricula and design and use of examinations, the mentoring, supervision and support of teachers at the school level, the policy analysis and targeting of resource allocation to embrace systemic and specific needs. Such needs include meeting ethnic, locational and gender requirements, advancing increased access for those with additional learning needs and disabilities, and paying sufficient attention to quality improvement in rural schools so as not to create a second-class system provided for those without alternative choices.

A systemic approach also needs to address ownership of the educational intervention working not only 'upstream' at the political level but 'downstream' throughout the system, involving each level of stakeholder from national through regional down to district and school level, including head teachers, teachers and parents. In addition, it requires feedback mechanisms that can sustain change and bring the intervention to scale (Gillies, 2010). Such mechanisms can involve public information, gaining political support, devising incentives and building parent report card systems. Such feedback loops are fundamental to sustainable, systemic change and continuous improvement, requiring the alignment between institutional leadership and stakeholder ownership. Without such stakeholder involvement and ownership, surviving frequent political challenges, brought about by changes in government and in education officials, will be difficult.

The move to systemic approaches to educational reform has also been complemented by sector wide approaches (SWaps) where international donors channel funds through government ministries. SWaps were designed to address the weaknesses of stand-alone projects and to promote donors working more co-operatively in a joint enterprise with governments to help improve educational outcomes and strengthen capacity development within ministries. They have been found to help build a greater degree of national ownership and direction, and to improve inter-governmental relationships, as well as partnerships between national governments and donors. They have also improved planning capacity and broad institutional development at different levels within education ministries.

However, evaluations of SWaps over the last 15 years show results have been mixed with some important messages for governments and donors (Boak & Ndaruhutse, 2011). In order to bring an intervention to scale, there is a need for governments to commitment to improving policies, governance and institutions; committed leadership at the country level, committed government budgets; community and country ownership; capacity development of officials at all levels to implement; capacity of communities to participate effectively, and the right incentives. For international donors, the lessons for scaling up programmes include: external support for change and capacity development; adequate resources adequate to scale up programmes that work; and long-term commitment.

5   Measuring the Quality of Education

As discussed in the opening section of this chapter, a major problem of the EFA approach in the in the earlier stages was its focus on school enrolment and attainment rather than on measurements of the quality of education, such as on improved learning. To a certain extent, this has been addressed by the increasing attention being paid to the production of more direct measures of educational quality through learning assessments (Wagner, 2011). One benefit arising from this work has been the creation of data sets from international achievement studies such as the Programme for International Student Assessment (PISA), Trends in International Mathematics and Science Study (TIMSS) and Progress in International Reading Literacy Study (PIRLS), though these international programmes have been taken up by relatively few developing countries.

This was in contrasts with the regional learning achievement studies from east and southern Africa such as the Southern and Eastern African Consortium for Monitoring Educational Quality (SACMEQ) and the Programme on the Analysis of Education Systems of the Conference of Ministers of Education of Francophone Africa (PASEC) in West Africa where there has been a high uptake by countries. More recently the Southeast Asia Primary Learning Metrics (SEA-PLM) has been developed to provide countries in the southeast Asian region with an enhanced understanding of factors affecting learning achievements in primary education, and to support them in introducing education reforms to ensure that all children achieve

meaningful learning outcomes. SEA-PLM covers the domains of reading, writing, mathematics and global citizenship for primary school students of grade 5. It offers regional contextualised tools to explore cross-national variations to inform and improve policy strategies and programmes for equitable quality education, to enhance in-country capacity, including the competencies of national examination and assessment staff and to strengthens technical collaboration on learning assessment and standards across education systems in Southeast Asia.

Since 2006, a range of international donors have funded the development, piloting and implementation by Research Triangle Park (RTI) of tests of early literacy and numeracy known as Early Grade Reading Assessment (EGRA) and Early Grade Mathematics Assessment (EGMA) for use in developing countries. They are now in used in more than 50 countries and 70 languages.

SACMEC data from 15 countries in east and southern Africa was used as part of the EdQual programme. Using multilevel modelling techniques, it sought to model the impact of student background, community and school context variables on basic levels of literacy and numeracy through secondary analysis of the SACMEQ II data set collected in 2007. It involved going beyond more standard quantitative techniques to recognise the differential impact of variables on different groups. Qualitative techniques were also used to shed a more nuanced light on the underlying processes involved in developing educational quality.

Test and accountability driven educational systems using standardised assessments of cognitive learning as a measure of quality have, however, been criticised for producing superficial learning (as a result of high-pressure testing), and for failing to engage students by focusing too much on knowledge acquisition while neglecting other important aspects of schooling such as social and emotion wellbeing, citizenship, critical thinking and problem solving (Wrigley et al., 2011). Critics of the use of standardised tests also mention that schools and teachers may focus exclusively on passing tests and excluding disadvantaged student to improve results. As a result of this criticism, the OECD calls for a mix of summative and formative assessments to be used to improve pedagogical practices and inform educational outcomes (OECD, 2013).

In 2011 the WB set out its commitment to a whole systems approach to improving education in its Education Strategy 2020: Learning for All (World Bank, 2011). It recognised that strengthening an education system so that it efficiently delivers better learning outcomes required a number of interrelated actions, particularly around accountability and monitoring. The WB's whole systems approach recognised that without well-defined responsibilities and performance goals, there was no way to generate the information needed to manage and assess a service delivery system. The responsibilities and performance goals included policies and regulations on quality assurance, learning standards, compensatory programmes, and budgetary processes that were transparently implemented and enforced, adequate financing and compliance with these policies and regulations.

In order for both developed and developing countries to systematically examine and strengthen the performance of their education systems the WB strategy developed a diagnostic tool to benchmark a country's education policies across a range of

domains known as the Systems Approach for Better Education Results (SABER). The SABER domains included: early childhood development, engaging the private sector, equity and inclusion, school finance, education technology/ICT; education management information systems, school autonomy and accountability, school health and nutrition, teachers, tertiary education, workforce development and learning standards. Within each of these domains countries were expected to develop:

- An evidence-based conceptual framework which identifies the key policy goals for that domain, the levers for achievement of the goals and the indicators to measure the achievement of the goal;
- Diagnostic tools (e.g. questionnaires, interviews, data extraction from policy documents) based on the evidence identified in the conceptual framework to collect information and data relevant to assessing the performance of the country in the policy domain in order to conduct a self-diagnosis.
- A country profile report for the WB providing a description of its performance within a given policy domain.
- Case studies identify what has been done to measurably improve performance within a policy domain.

In a systematic review of research into factors influencing educational quality and effectiveness in developing countries commissioned by Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), the German aid agency, four sets of key variables emerged that would require possible investigation and contextualisation in any systemic approach to reforming education (Riddell, 2008). Building on the models of quality education discussed in the previous, they were categorized as follows: (1) supporting inputs; (2) enabling conditions; (3) school climate; and (4) the teaching/learning process. The supporting inputs included: textbooks and instructional materials, class size, distance (to school), classroom/school amenities, pre-school education, children's health and nutrition, parental and community involvement in the school, teacher supervision and development, and standards or institutional guidelines.

'Enabling conditions' included teachers and head teachers as well as 'time', which typically includes annual teaching hours, student absenteeism, etc. With respect to teachers, some of the variables requiring local investigation include: subject knowledge, verbal ability, language, pre-service and in-service education, pedagogical repertoire, experience, proximity and gender; and for head teachers, their leadership, supervision skills and training.

'School climate' raised important issues about the involvement of the local community, its relationship to the school and its teaching staff; similarly, teacher commitment, incentives and status. In addition, it includes codes of conduct and discipline, the goals for the improvement of the school, the curriculum, and school standards and expectations.

Finally, the category 'teaching/learning process' included many of the variables on which so many education interventions are based, namely: time on task, pedagogy, mother tongue, reading, homework, assessment and feedback, and multi-grade classroom approaches. Riddell cautions, however, that by suggesting that these variables

should be considered in designing any educational intervention—due to the positive findings for these variables in many studies—is not the same as suggestion they provide a 'blue print' for deciding which factors are suitable for investment. Rather, she argues they should be seen as a starting point for consideration and dialogue, once the evidence has been reviewed, engaging not only policy makers, but wide stakeholder groups.

Alexander (2008) also argued that quality indicator frameworks by international agencies and EFA sources often had a concern with 'inputs' and 'outputs' at the expense of process, an arbitrariness in what is focused upon, an excessive use of proxies such as standardized test scores as a measure of educational quality, a neglect of international pedagogical research, and a fundamental confusion about the key terms 'quality', 'indicators' and 'measures'. He identified the following six priorities for measuring the quality of education:

- placing pedagogy, and its training implications, centre-stage;
- encouraging a reappraisal of existing quality monitoring needs and options at each level of the system;
- introducing a feedback loop into the system whereby we don't just monitor quality but also appraise and refine our procedures for doing so, making habitual the application of tests such as validity, reliability and impact;
- foregrounding the continuing reality of multi-grade teaching;
- encouraging the appropriate use of the best available evidence—local, national and international;
- democratising the quality debate, thereby invigorating and empowering those on whom quality at the point of delivery most depends.

In placing pedagogy centre-stage in discussions of quality education, Alexander argued for a contextualised definition to inform the quality debate. In defining pedagogy, he argued it is made up of both the observable act of teaching and the discourse used to discuss classroom practices. It also covers teachers' ideas, beliefs, attitudes, knowledge and understanding about the curriculum, the teaching and learning process and the learning of their students, and how the act of teaching links with the social, cultural and political context in which they operate. As will be discussed in Sects. 6 and 7, it therefore points to the importance of making the school and the classroom the key site for professional development so teachers are able to critically reflect on their beliefs and classroom practices to arrive at a shared understanding of 'best practice'.

In recent years following criticism of school effectiveness studies where much of the evidence was correlational, cross-sectional and lacking a strong theoretical foundation, randomised controlled trials (RCTs) have been increasingly used to study the impact and outcomes of education interventions (Scheerens, 2001).[1] In

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[1] In education, experimental and quasi-experimental studies make use of a control group. Both the experimental and control groups take pre- and post-tests to evaluate the impact of an intervention on student achievement. In a teacher education intervention, for example, the control group would be taught by teachers who had not participated in the training. In a quasi-experimental design,

what has become known as the 'what works' movement, the Works Clearinghouse (WWC) in the USA and the Education Endowment Foundation (EEF) in the UK have received government funding to build up a data base of research for policy makers and practitioners using the RCT method. The findings from the research are widely disseminated to policy makers and schools to inform policy and practice. In addition to impact evaluations, the EEF also conducts process evaluations to look at processes of implementation and cost effectiveness so as to find out 'what works and why'. In the EEF studies so far conducted, those which have been found to have had a large impact on learning outcomes in primary schools have included a strong oral language component such as Thinking Together Philosophy for Children, and Dialogic Teaching showing the importance of good quality classroom talk on student learning (EEF, 2018).

Being able to isolate the influence of an intervention or programme from other variables using an intervention and control group design, has also made RCTs attractive to international donors to show the impact of their aid. Examples of RCTs from the developing world include a study of textbooks in rural Kenya which found that, contrary to the previous literature, providing textbooks did not raise average test scores (Glewwe et al., 2009). However, while textbooks increased the scores of the best students (those with high pre-test scores) they had little effect on other students. The textbooks were written in English, for most students a third language, and many students could not use them effectively. Teachers were also given little professional training in how to use the textbooks in the classroom.

Other examples from rural western Kenya include the use of a RCT to measure the impact of scholarships on girls' education. It found that they improved standardized scores and self-esteem measures for those girls in the intervention group relative to those not selected. (Kremer et al., 2007). Kremer and Vermeerch also conducted a RCT in pre-schools in Kenya to study the impact of the provision of breakfast (Vermeerch & Kremer, 2005). It was found that in the intervention group the provision of breakfast improved attendance and scores on standardized academic tests, but not general cognitive skills tests. However, the improvement on the academic test only occurred when the pre-school already had a teacher that was relatively well-trained.

Recent criticism has, however, raised questions about the usefulness of RCTs given the complexity of many education interventions and the fact that they often focus on individual, identifiable outcomes in highly controlled settings. Ginsburg and Smith (2016), for example, examined the evidence for all the mathematics programmes certified by the WWC as having evidence of effectiveness based on RCT research. They reviewed all 18 mathematics programmes that had been certified by the WWC, which comprised a total of 27 approved RCT studies. They found 12 potential threats to the usefulness of these studies and concluded "…none of

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participants are not randomly assigned to a control or experimental group as in an experimental design. Such studies also use effect sizes to judge the impact of an intervention by calculating the magnitude of the difference between the intervention and control groups. They do this by comparing differences between the group means to arrive at an absolute effect size.

the RCT's provides useful information for consumers wishing to make informed judgments about what mathematics curriculum to purchase" (p. 44).

Similarly, Riddell (2012) argues that the use of RCTs in the developing world should concern themselves with 'what works, where and why' by ensuring that in addition to the impact evaluations, process evaluations are also used across a range of contextual settings so as to inform the scale up of the pilot programme should it prove to be effective. She also argues that there is a danger RCTs promoting a programme rather than systems approach to development amongst international donors concerned to show attribution of impact to justify the spending of tax payers' money on aid.

6   School Improvement

The research and donor funded projects in school improvement in recent years have provided more solid evidence for the efforts in school leadership, teacher evaluation, community and parents involvement and school inspection (Anderson & Mundy, 2014). They suggest the need for system-level policies as well as local and district-level school improvement projects and for education systems to be reorganised so that they are less top-down and better placed to engage and stimulate action from local level actors in education through, for example decentralisation reforms, reforms to teacher professional support systems and national curriculum and accountability reforms. The following section reports on what has been learned about effective school improvement models and practices in varying geographic, demographic, sectoral and policy contexts within and across countries with regard to school leadership, teacher accountability and evaluation, professional learning communities, involvement of communities and parents, and school inspection.

6.1   School Leadership

Evidence from high-achieving education systems suggests the teacher is the key factor in improving student learning outcomes and that the school needs to be central in providing ongoing professional development to improve performance as discussed in Sect. 7. Similarly, it is recognised that developing the leadership and management skills of senior staff in a school, especially the head teacher or principal, are increasingly considered priorities for school improvement. Education institutions that showed significant improvement in student achievement on international tests had strong leadership teams in place and there was a key focus on communication, cooperation and coalition-building in the schools (Mourshed et al., 2010). In addition, effective school leaders were expected to be managers, instructional leaders and problem-solvers, and serve as the interface between the school and the community it serves. In light of this finding, many countries are increasingly viewing head

teachers more as instructional leaders, supporting teachers to improve learning, than as traditional school administrators (Vaillant, 2015).

In poorer countries, however, it has been found that such an emphasis on instructional leadership is less evident, though the head teacher's role in influencing school improvement has grown. A study in six African countries, for example, found that head teachers viewed management, organization and record-keeping as their key jobs and did not mention the importance of their role in teaching and learning processes (Mulkeen, 2010). In Ghana, for example, school leaders regarded themselves as no more than keepers of school possessions and implementers of government policies. Similarly, in Kenya and Cameroon, while school leaders had wide-ranging responsibilities, they were usually not well-prepared to deal with these challenges due to a lack of ongoing professional development in leadership and management skills. School improvement therefore requires ongoing professional development in leadership and management skills for school management teams to improve instructional leadership, greater community involvement and accountability at the school level (UNESCO, 2017).

6.2 Teacher Accountability and Evaluation

In high achieving systems like Finland and the Netherlands accountability approaches focus on the school as a whole rather than on individual (Scheerens, 2017). In both countries professional standards and accountability for them are governed by teachers, reflecting the high regard for the profession amongst the general public. Nor is there any systematic evaluation of teaching or evaluation of individual teachers using high stakes tests. Finnish teachers, for example, have considerable autonomy and are actively involved in determining policy content, through consultations on matters such as the national core curriculum and its assessment (Aurén, 2017). Similarly, in Singapore and in Shanghai, China, teachers are trusted and have many responsibilities for their own professional learning supported by well-developed and institutionalized teacher evaluation systems at the regional, district and school levels (Jensen et al., 2016).

Because education systems are extremely complex and multifaceted and teaching is a complex activity shaped by teachers' ideas, beliefs, attitudes, knowledge and understanding about the curriculum, the teaching and learning process and the learning of their students, and how the act of teaching links with the social, cultural and political context in which they operate, no single measurement can capture the full range of teacher performance or the composition of qualities important for effective teaching. Furthermore, head teachers, peers, parents and students value different teacher capacities and knowledge, and have different perceptions and degrees of objectivity about high-quality teaching. It is therefore critical that any form of teacher evaluation needs to draw on as many complementing sources of information on teacher performance as possible to produce more accurate evaluations and that this is best done at the school and classroom levels (Stronge, 2006).

In high performing education systems professional accountability is generally designed by or with teachers and relies on their expertise and professionalism (Fullan et al., 2015). They also help to develop a professional learning culture by empowering teaching to take responsibility for their own professional development. Education systems incorporating professional accountability through teacher evaluation also generally enjoy greater public trust in the profession to deliver high-quality education. In addition to reviews and observations conducted by senior school managers and external assessors or inspectors, teacher evaluation systems involve teachers working with peers on classroom activities and lessons learned, along with feedback on co-teaching and collaborative work, peer learning, mentoring, reviewing academic research, and other forms of feedback (OECD, 2016).

Formal teacher evaluations are used in the majority of OECD countries (OECD, 2014). Such countries use a range of tools, depending on the political, cultural and social context, to provide performance feedback and hold teachers accountable (Isore, 2009). Data from the WB's SABER system show that 24 of 26 low and middle-income countries, including Cambodia, the Russian Federation, the Solomon Islands and Tunisia, employ some form of teacher evaluation. Twenty-one SABER countries base evaluations on most or all of the following: pedagogic content knowledge, teaching methods, student assessment and student academic achievement (World Bank, 2017).

Classroom observation is a central tool for teacher evaluations. It relies on a common understanding between teacher and observer of good teaching to capture on-the-spot decision-making, content focus and the quality of instruction (Hardman et al., 2015). In the 2013 TALIS, 96% of participating teachers in 33 countries reported that observations were part of their evaluation (Smith & Kubacka, 2017). Similarly, 22 of 27 SABER countries used observations (World Bank, 2017). Such observations are usually undertaken by the head teacher, a school management team member or mentor and designed to provide formative feedback (OECD, 2013). In addition, such formative teacher evaluation systems, based on continuous assessment and feedback loops rather than high-stakes testing, incorporating a range of information sources, including classroom observations by peers, head teachers or external evaluators, monitoring of student learning and student ratings, have been found to be the most effective way of providing teacher professional development at the school level (Coe et al., 2014). In Singapore, teacher evaluation is based on multiple classroom observations throughout the year by peers, experts and administrators (Jensen et al., 2016).

Formal or informal peer reviews of teaching typically involve teachers in a given school reviewing their peers' work through a feedback form or checklist has also been found to be effective (Golparian et al., 2015). Although less common than observations by head teachers or senior management team members, peer reviews of teaching can be based on classroom observation, as in Singapore. The Netherlands' peer-assessment programme also includes teachers from one school visiting those at another, with their assessment of the school discussed with school authorities and included in a written report (OECD, 2013). Overall, peer reviews of teaching have to strengthen teaching by helping teacher to agree more consistent teaching

approaches and to identify best practices. They can also reduce the time burden on the head teacher and help ensure observers have relevant pedagogical expertise (White, 2014). They have also been found to foster teacher well-being and higher job satisfaction and motivation, and to support professionalism by strengthening teacher collaboration and improving the knowledge base within the profession (Smith & Persson, 2016).

It is also recognised by research that in order to observe and evaluate high-quality instruction effectively requires a common understanding of good teaching. All evaluators, whether internal or external to a school, need professional development training. However, in practice, in many low-income countries evaluators may lack the training, time and other resources to conduct proper evaluations. Professional accountability is therefore less common in high poverty settings, where mentoring and collaborative practices can be rare and prescriptive curriculum and test preparation requirements, which decrease teacher autonomy, are more common. A study of secondary schools in Uganda, for example, found that many head teachers did not review lesson plans or other resources used in the classroom as the national teacher evaluation system required, demonstrating a need for more training for both teachers and head teachers (Malunda et al., 2016). Similarly, a review of 40 national education plans found that training for head teachers in matters of teacher governance and support was highlighted in Belize, Cambodia, Guinea-Bissau, Jamaica, Kenya, Malawi, Papua New Guinea and Sierra Leone (Hunt, 2014).

6.3 Professional Learning Communities

Professional learning communities (PLCs) within schools have evolved as a way of improving pedagogical practices and student learning by encouraging teachers to monitor and report back on their teaching practices with peers (Vescio et al., 2008). Research suggests that through the use of PLCs, pedagogical practices improve among teachers and the collaborative assessment of student work results in higher student achievement scores (Ratts et al., 2015).

By working collectively at the school and cluster levels, teachers can question and learn from each other to improve their practices. PLCs therefore provide a formal structure for collaborative learning by involving a group of educators working together improve teaching and learning through ongoing critical reflection on pedagogical practices. They also help to promote long-term cultural changes at the school level, with the school transforming itself into a learning community (Fullan et al., 2015).

PLCs are generally found in middle to upper income countries and take a variety of forms. One of the most popular approaches has been the use of 'lesson study' involving collaborative planning, observation, analysis and refinement to improve lesson delivery and student learning. Lesson Study started in Japan in the early 1900s, it was used in Australia, Hong Kong (China), Singapore, Sweden, the United Kingdom and the United States (Cheung & Wong, 2014; Hird et al., 2014; Lewis,

2013; Perry & Lewis, 2013). In Japan, 99% of primary school teachers, 98% of lower secondary teachers and 95% of upper secondary teachers participate in lesson study (UNESCO, 2017). In primary school, teachers working at a grade level devise and conduct one to three 'research lessons', or demonstration classes, per year, based on a schoolwide research theme. One teacher delivers the class to selected students, with colleagues observing the lesson.

A systematic review of nine studies of lesson study concluded that it was a powerful tool for helping teachers to reflect on their pedagogical practice and improve student learning (Dudley, 2014). In the UK it was found lesson study increased collaboration with teachers reporting reduced feelings of isolation and a greater willingness to take instructional risks that led to more interactive classroom activities. In the United States, lesson study was associated with increased content knowledge, improved student performance and a more collaborative and reflective school community.

In the UK, 'learning rounds' are also used by teachers to observe their peers teaching in many classrooms within a school and the evidence is recorded and used to provide a picture of teaching and learning in the school (Philpott & Oates, 2016). Similarly, in Singapore, each school has multiple professional learning teams to promote collaboration through action research, learning circles and lesson study with an emphasis on student learning and critical reflection. In Shanghai, PLCs involve 3 to 10 teachers meeting weekly in teaching–research groups during scheduled work time to share current pedagogical research, discuss teaching experiences and conduct research linked to their teaching. Plans and achievements are also regularly reported to other schools or the district (Hairon & Tan, 2017).

6.4   Communities and Parents Involvement

There is growing awareness that communities and parents can play an important role in school improvement (Save the Children, 2013; World Bank, 2009). A review of the national education plans of 40 low- and middle-income countries, and in-depth case studies of Bangladesh, Cambodia, South Africa and Timor-Leste, found that many education systems were promoting a greater role for parents and communities in the management and monitoring of schools (Hunt, 2014). The greater parent and community participation in schools took on a variety of forms including school management committees, parent-teacher meetings, parent evaluations of teaching through lesson observations, parent report cards, community led surveys and the use of technology to monitor teacher attendance.

For example, in Kenya, community members, particularly parents, were trained in school-based management to monitor teachers, including assessing teacher effort or performing a formal teacher review (Duflo et al., 2015). ICT and technological advances through increased access improved access to digital cameras, tablets and smartphones have also facilitated the monitoring of schools by parents and communities, particularly with regard to teacher attendance. A Ugandan project to raise

teacher attendance in 180 rural public primary schools distributed mobile phones to head teachers or parents equipped with software to report teacher absence to education officials. Community-designed report cards have also been used in Uganda and other east and southern African countries were found to lower teacher absenteeism (Guerrero et al., 2013; Zeitlin et al., 2011). Overall, however, research suggests stakeholder trust is essential in developing and implementing effective teacher evaluation systems. This includes trust in the purpose of evaluation, the fairness of measures, the competence of evaluators and the ability of the process to improve learning outcomes (UNESCO, 2017).

6.5 School Inspection

Changes to the way schools are being inspected in high achieving systems has also contributed to the effective monitoring of schools and to their improvement. School inspections are often seen as a key part of country monitoring systems and mandated by national or local authorities. Traditionally, inspectorates liaised between decision-makers and school-level actors and monitored regulatory compliance. Increasingly, however, their role has changed to improving school processes and outcomes in addition to assuring their quality. The shift to school improvement through inspections is especially evident in richer countries. School inspection in many European countries now includes evaluating teaching and learning processes and managerial processes, reviewing outcomes using data from assessment systems and developing strategies to monitor or manage failing schools (Ehren, 2016).

However, inspectorates in poorer countries tend to focus on inspecting material inputs rather than processes that influence the quality of teaching and learning. Inspections are difficult to carry out when resources are scarce. Human capacity constraints and lack of transport are often the primary bottleneck, with insufficient supervisors to cover all tasks, particularly in schools serving rural communities. As a result, inspections often do not bring about any school improvement and recommendations are often viewed as generic and unrealistic, calling for changes beyond the school's control. For example, in Ghana, Indonesia, Kenya, Namibia, Uganda and the United Republic of Tanzania inspectorates could neither sanction failing schools nor motivate school improvement. In countries where schools can be sanctioned by law, such as Indonesia and Uganda, there were often no mechanisms in place to implement such sanctions (Eddy-Spicer et al., 2016). In contrast to these findings, an analysis from China's Gansu province found that giving inspectors more training and the capacity to support school quality changes improved school development planning (Brock, 2009). Similarly, a study in Timor-Leste found that inspections monitoring the collection and disbursement of school grants played a key role in reducing leakages in funding allocation (Macpherson, 2011).

7 School-Based Professional Development

Within the teacher education literature, school-based professional is conceptualised as consisting of reflective activity designed to improve an individual's attributes, knowledge, understanding and skills. It is designed to support individual needs and improve professional practice (Darling-Hammond et al., 2018). To establish a firm foundation for improved student outcomes, research suggests teachers must integrate their knowledge about the curriculum, and about how to teach it effectively and how to assess whether students have learned it. Therefore, teachers need knowledge and skills in formative as well as summative forms of assessment to help identify what students know and can do so as to inform future planning and teaching. Such knowledge of assessment can only be developed alongside teacher pedagogical content knowledge. Teachers need to be trained in a variety of ways to assess their students' progress. This should go beyond standardised testing to include systematic analysis of student work, classroom observation and interviews with students.

As discussed in earlier sections, because teaching is a complex activity in which moment-by-moment decisions are shaped by teacher beliefs and theories about what is effective teaching, theory and practice must be carefully integrated. In effective professional development, theories of curriculum, effective teaching and assessment are developed alongside their application in the classroom. Such integration allows teachers to use their theoretical understandings as a basis for making ongoing, principled decisions about practice. Focusing only on skills will not develop the deep understanding needed if teachers are to change their beliefs and practices and meet the complex demands of everyday teaching.

Conversely, merely teaching theoretical constructs to teachers without helping to translate them into classroom practice will also prove ineffective. Challenging and changing beliefs and classroom practices also requires the development of self-regulatory skills that enable teachers to monitor and reflect on the effectiveness of the changes they make to their classroom practice. Such change appears to be promoted by a cyclical process of professional learning in which teachers have their current assumptions challenged by the demonstration of effective practice, develop new knowledge and skills, make small changes to practice aided by classroom observation, and observe resulting improvements in student learning outcomes. It also requires teachers being brought together in professional learning communities and informed by expertise external to the group of participating teachers.

In a review of teacher education covering mainly high- and middle-income 65 countries from around the world, the OECD argued that much can be learned from high performing countries in terms of offering a quality education for their pupils (OECD, 2011). Countries like Finland, Singapore, South Korea, Canada and Cuba placed a high value on pre-service education and training (PRESET) and through the provision of school-based in-service education and training (INSET). In all the high-performing education systems, teachers had a central role to play in improving educational outcomes and were at the centre of the improvement efforts themselves. Most of the systems were not driven by top-down reforms but by teachers embracing

and leading on reform, taking responsibility as professionals, thereby developing a wider repertoire of pedagogic strategies for use in the classroom.

The OECD study also found that the most effective professional development programmes provide high quality PRESET and INSET initial training that upgrade teacher pedagogic knowledge and skills over a sustained period of time rather than through disjointed one-off courses. In this way, high performing education systems provide opportunities for teachers to work together on issues of instructional planning, to learn from one another through mentoring or peer coaching, and by conducting research on the outcomes of classroom practices to collectively guide curriculum, assessment and professional learning decisions. The high performing education systems also benefitted from clear and concise profiles of what teachers are expected to know and be able to do at different stages of their careers so as to guide PRESET and INSET and create a lifelong learning framework for teachers (Darling-Hammond et al., 2009).

Similarly, a review of effective professional development in high-income countries suggested that a teacher 'knowledge-building cycle'—a feedback loop for teachers—to build teacher learning can have a sizeable impact on student outcomes (Timperley, 2011). They found that the observation/feedback routine should be structured explicitly as a continuous professional learning opportunity that enables teachers to work on improving student outcomes. Teachers working in schools with a more supportive professional environment, backed by the school leadership team, continued to improve significantly following the first three year of PRESET. However, in the developing world most countries with large rural populations are not able to provide teachers with salaries and working conditions that are competitive with other occupations (UNESCO, 2015). Moreover, there are few opportunities for CPD for teachers already in service, although frequently half of them are unqualified—with inevitable consequences for the learning outcomes of their pupils.

Therefore, in many countries serving in sub-Saharan Africa, South Asia, the Arab States and Latin America there were large numbers of untrained or undertrained teachers and this is still having a major impact on the quality of education provided leading to high dropout rates and low levels of attainment. In South and West Asia and in sub-Saharan Africa, acute shortages of teachers continue to exist, particularly in rural areas. The stakes for improving the quality of education through teacher development are particularly high in low income countries because, as discussed earlier, teachers are seen as the most important factor in student achievement. It also reflects the fact that in the absence of textbooks and other learning resources the teacher is often the primary source for learning academic content and therefore key to improving the quality of education in resource poor environments.

Research into PRESET in low income countries suggests that the dynamic linking of college-based learning to its application in the classroom is the exception rather than the rule (Akyeampong et al., 2013). This is largely because training is often lecture-based (usually from trainers who lack experience and expertise in primary education) with little in the way of supervised practical teaching and feedback, thereby creating a large gap between theory and actual classroom practice, and a

repetition of secondary education at several times the cost. Therefore, key dimensions of pedagogic content knowledge (e.g. teaching large classes, multi-grade strategies for small schools, language code switching, constructivist approaches to lesson planning) are largely ignored.

Similarly, the provision of INSET is also judged to be of poor quality with little transferability to the classroom. Where it does exist, it is often found to be ad hoc, mainly concentrated in urban areas, and made up of short-term training delivered through cascading or multiplier workshops with little or no follow-up in the classroom. The quality of instruction in in-service programmes is often as poor as preservice as it is largely delivered by the same tutors who have little knowledge of the realities of the classrooms from which the teacher come (Hardman et al., 2015).

Such identified weaknesses at the PRESET and INSET stages in developing countries have led to calls for a radical overhaul of teacher education that moves away from a largely college-based provision to a more long-term sustainable vision of CPD that would systemically update the key competences that teachers require in the classroom through closer school-based partnerships. In the face of these challenges, there is a growing recognition that a focus on pedagogy and its training implications needs to be at the heart of the commitment to improving the quality of education and learning achievement in low income countries.

Studies of pedagogy in low income countries show teachers rely on a single method made up of teacher-fronted 'chalk and talk' promoting the transmission of knowledge and rote learning. It is often made up teacher explanation, closed questions and cued responses. The responses often brief and chorused by the whole class or by individual students. It follows that there is a need for an alternative 'universalistic' pedagogy based on dialogic principles. As discussed in the previous section, changing such a narrow repertoire of pedagogic practices by managing the quality of classroom interaction can be a cost-effective way of improving classroom pedagogy, particularly in contexts where learning resources and teacher training are limited (Westbrook et al., 2013).

Research into classroom discourse suggests that teacher fronted talk can take a variety of forms and functions leading to different levels of student participation and engagement, particularly through the use that is made of the follow up move (Michaels & O'Connor, 2015). It suggests that teacher follow up which goes beyond evaluation of the student answers, by asking them to expand on their thinking, justify or clarify their opinions, or make connections to their own experiences, can extend the answer in order to draw out its significance so as to create a greater equality of participation.[2] Teacher questions and student responses can therefore be woven

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[2] For example: the use of open and closed questions and teacher statements; giving students time to answer; sharing questions at the start of a lesson; encouraging students to ask their own questions; beginning a lesson by giving pairs of students a question to answer from the last lesson; asking pairs to discuss a question for a minute before they answer; getting a pair or group of students to set questions for another pair or group; treating answers with respect and giving students credit for trying; probing answers; commenting on a response to exemplify, expand, justify or add additional information; building student responses into questions thereby acknowledging their importance to the classroom discussion.

together into an unfolding exchange thereby encouraging more pupil-initiated ideas and responses and consequently promoting higher-order thinking.

Helping teacher educators and teachers transform classroom talk from the familiar rote, recitation and exposition to include a wider repertoire of dialogue and discussion in whole class, group-based and one-to-one interactions will require training in alternative classroom interaction and discourse strategies. Before adopting such practices, however, the research suggests it is important that the cultural assumptions, values and pedagogical principles which shape such approaches are fully understood so as to judge how far the pedagogy can be accommodated in a different cultural context. Out of such an accommodation will come new teaching approaches that have a greater chance of being implemented in the classroom.

In response to the need to change the underlying pedagogic practices that lead to the transmission of knowledge and rote learning, development partners have been assisting governments faced with the need to train large numbers of teachers to develop national in-service strategies and continuing professional development systems for teachers that are school-based. The general thrust has been to bring together ministries, colleges, donor-funded projects, decentralised ministry functions, teacher resource centres and schools to ensure coherence, consistency and quality of training so that all children have access to teachers with minimal competences. Therefore, multi-mode systems, including distance learning and teacher development at school and school cluster level, have been implemented in many developing countries as a way of closing the gap between theory and practice and raising the quality of teaching and learning in basic education (Mattson, 2006; Save the Children, 2012). Research suggests they are the most cost-effective way for ensuring national CPD coverage, particularly in schools serving rural areas (Orr et al., 2013).

Such trends represent a clear strategic shift away from institutional-based primary teacher education towards more flexible school-based provision. In many low-income countries, as discussed in the following chapters, development partners have been assisting ministries of education (MOE) to set up in-service education and training units with their own budgets to work through a decentralized network of provision at the regional, district and cluster-level in order to monitor and support school-based programmes. Many programmes have also put in place local support agents to work with head teachers and teachers in the schools. The decentralisation of teacher education has also been in line with the broader SWap approach to education planning discussed in Sect. 3. These initiatives have been supported by arguments for increased governmental responsiveness, greater community participation, more flexible planning and implementation and more efficient and less expensive PRESET provision.

8   Conclusions

This chapter has discussed the positive contribution that international donors and agencies have made to education in the developing world since the EFA goals were established at the 'World Forum on Education for All' held in Dakar in 2000, the most tangible of which has been the expanding of enrolments, especially in basic education. But the chapter also highlights the considerable gap that exists between what the international donor community does and what it could potentially achieve, especially in relation to its contribution to improvements in educational quality. It has demonstrated the distortions often brought about by focusing on enrolments and insufficiently on quality and by 'inputs', rather than processes and outcomes, including, for example, what goes on in the classroom, what the students learn and whether the teachers' pay and status are sufficient to keep them in the classroom and continuing to teach.

In addressing education quality, it has been argued that research and development needs to be systemic, long-term, highly contextualised, and nationally managed and co-ordinated, as sustainable education outcomes will not be achieved merely by reproducing 'successful' but individual projects. Research and development therefore need to consider the political, social, economic and cultural context of the country in which the education system is situated. Moving from pilot programmes, even those supported by robust research evidence, to system-wide reform implementation is not without its problems and will require systematic research and evaluation as it is rolled out. If a pilot works in a cross section of districts, municipalities or a region of a country, then it should be gradually scaled up accompanied by systematic monitoring and evaluation using comparison groups before it is taken to scale (Bruns et al., 2011).

It has also been argued that the complexity of education systems and the multiplicity of factors that influence the learning outcomes of those students who pass through them is a central issue, highlighting the need for a systemic approach to educational reform. To make a difference, reform needs to start at the level of the whole education sector rather than to pick out a sub-sector most popular with a donor as this will distort a government's sector-wide planning. The latest Global Education Monitoring Report focusing on accountability in education argues that ultimately government are responsible for adequately funding public education systems and that four to six percent of a country's GDP or at least 15% to 20% of public expenditure should be spent on education (UNESCO, 2017). It also argues the need for co-operation among donor agencies so as not to undermine a corporate effort.

The report also highlights the need for designing appropriate capacity development policies for those charged with implementing and monitoring the reforms. The research reviewed suggests that institutional and organisational capacity development is at the root of much of what does not work in education development. The evidence suggests it is urgently needed not only to enhance the abilities of the MOE at the national level but throughout the system at the regional, district and school

level. The capacity of teacher educators also needs to be enhanced as they are often neglected in teacher education reforms (O'Sullivan, 2010).

There also needs to be ownership of the process at all levels of the education system, so that it is not directed from on high by the MOE or from outsiders by donors as this will be seen someone else's agenda. The need for broad accountability and transparency of information and funding for stakeholders at all levels, particularly as a system decentralises, including public information on national assessments, and continuation and completion rates.

In placing pedagogy, and its training implications, centre-stage in discussions of quality, this chapter has argued about the dangers of international donors and agencies urging developing countries to adopt 'best practices' with regard to teacher professional development that ignore the everyday realities of the classroom, and the motivations and capacity of policy makers, teacher educators and teachers to deliver such reforms. However, the growing body of research into effective professional development models for teachers in the developing world, particularly those working in rural areas, provides support for the general trend in moving towards school-based professional development. Developing the capacity and training needs of those charged with organising and providing the training, mentoring and coaching, such as district officers and teacher educators, remains a major challenge in the effective delivery of school and cluster-based training.

Furthermore, the research suggests that while it is vital that all students acquire basic skills in literacy and numeracy, they need to be educated as responsible global citizens. Their education needs to include issues such as environmental sustainability, peacebuilding and disaster risk reduction, and the development of core transferable skills such as critical thinking, communication, cooperation, problem-solving, conflict resolution, leadership and advocacy, and the promotion of core values such as tolerance, appreciation of diversity and civic responsibility (UNESCO, 2016). It is therefore essential that teachers are equipped with the pedagogic skills to allow for the teaching of controversial issues and conflict sensitive education through the use of a dialogic pedagogy that promotes teacher-student and peer-peer dialogue and discussion (Higgins et al., 2016).

Finally, there is the need to build a more rigorous evidence base for policy makers, teacher educators and teachers about the kinds of experiences that help to build teacher capacity and bring about transformations in teaching practice and student learning. Longitudinal studies investigating the scale-up of national reforms will help build a rigorous evidence base for policy makers on the sustainability, efficiency and cost effectiveness of approaches compared to other forms of professional development.

Building on this introductory chapter, four country case studies from China, Myanmar, Uganda and Kenya are presented focusing on improving schools serving remote and rural areas. In the China case study, Liu Jing discusses the School Improvement in China-UK Southwest Basic Education Project (SBEP), a bi-lateral development project between the Chinese Government and the Government of the United Kingdom whose main purpose was to support the Government of China to achieve its goals in basic education. Based on an analysis of the needs for promoting

education quality in rural schools of the project counties, a comprehensive school improvement model known as Whole School Development was developed treating the school as a unit of change to harness improvements in, for example, management strategies, school development plans, monitoring, in-service education and training and teacher appraisal. It also introduced an inspection system to provide external support for school improvement; and actively engaged parents and the local community in the school development to achieve a mutual development of both the school and community.

In chapter three, Frank Hardman and Helen Drinan discuss the Quality Basic Education Programme launched in 2012 to support the Government of Myanmar and its ministry of education to improve access to and the quality of basic education. Building on a comprehensive review of the education sector initiated in 2012, the programme was supported by a multi-donor education fund, the largest ever to be launched in Myanmar, comprising of Australia, Denmark, the European Union (EU), Norway, the United Kingdom and UNICEF. It aimed to bring about systemic education reforms to support delivery of quality education services to children in 34 core disadvantaged townships throughout the country and to develop the capacity of the education ministry at the state, regional and township level. These included reforms to teacher education, curriculum and assessment approaches.

In chapter four, Donvan Amenya presents a case study of the Education for Marginalised Children in Kenya project in which the Aga Khan Foundation funded by the United States Agency for International Development (USAID) worked with the Ministry of Education to improve the quality of education for children living in rural areas. The second phase focused on enhancing equitable access and improving learning outcomes in literacy and numeracy for children in the first three primary grades using a school improvement framework focusing on four aspects of the school system: infrastructure, access and equity, school governance and management, and quality of education and learning outcomes.

In the fourth case study, Balyogera Patrick Mavanhuma discusses the effectiveness of two major donor-funded teacher development programmes targeting schools serving remote rural areas of Uganda: the five-year USAID Uganda Initiative for Teacher Development Management Systems and the Presidential Initiative on AIDS Strategy Communication to the Youth (UNITY) in launched in 2008 and the four-year UNICEF-supported Quality Improvement in Primary Schools through Basic Requirements and Minimum Standards Implementation launched in 2010 and funded by the Netherlands, Irish Aid and Swedish International Development Agency. Both programmes built on the Teacher Development and Management Strategy launched in the late 1990s following the introduction of universal primary education designed to reform teacher education and set up a school- and cluster-based teacher development infrastructure.

In the final chapter, Frank Hardman presents a summary of the main themes and policy recommendations emerging from the country case studies with regard to the improvement of schools serving rural communities in each of the four featured countries.

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Chapter 2
China: A Systematic Approach to Rural School Improvement: Teachers, Technologies and Leadership

Jing Liu

Introduction

The People's Republic of China, with a population of over 1.3 billion covering approximately 9.6 million square kilometres, is the world's most populous country. Since the implementation of economic reform in the late 1970s, China has become one of the world's fastest-growing economies with the gross domestic production (GDP) growth rate averaging between 7 and 8% a year in recent decades and has become the world's second largest economy by nominal total GDP (World Bank, 2015).

With almost 260 million students and over 15 million full-time teachers in about 514,000 schools, China's state-run education system is not only the biggest in the world, but also one of the most diverse (National Bureau of Statistics of China, 2014). Of the 15 million teachers, 5.5 million teach in the primary sector and 3.5 million in the junior secondary sector, accounting for over 60% of the teaching force. In recent years, the Ministry of Education (MOE) has devolved the governing and delivery of basic education to 2,852 county-level educational divisions within China.

The National Medium and Long-Term Educational Reform and Development Programme (2010–2020) (MOE, 2010) set four priority areas for education: (i) rural, remote, poor and minority areas; (ii) primary education in rural areas, vocational education and preschool education; (iii) subsidies for students from poor families; and (4) building a high-quality team of teachers. It also stipulated that spending on education as percentage of GDP should continue to grow in accordance with the country's economic development and revenue growth towards the goal of spending over 4% of GDP on education by 2014.

The last two decades also saw major curriculum reform initiated in 2001. Six key objectives were specified in the Basic Education Curriculum Reform Outline:

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- Change from a narrow perspective of knowledge transmission through classroom instruction to a broad perspective of learning how to learn and developing positive attitudes.
- Change from a subject-centred curriculum structure to a balanced, integrated and selective curriculum structure to meet the diverse needs of schools and students.
- Change from partly out-of-date and extremely abstruse curriculum content to essential knowledge and skills in relation to students' lifelong learning.
- Change from a passive-learning and rote-learning style to an active, problem-solving learning style to improve students' overall abilities to process information, acquire knowledge, solve problems and learn cooperatively.
- Change the function of curriculum evaluation from narrowly summative assessment (e.g. examinations for the certificate of levels of achievement and for selection) to more formative purposes such as the promotion of student growth, teacher development and instructional improvement as additional functions.
- Change from centralised curriculum control to a joint effort between the central government, local authorities and schools to make the curriculum more relevant to local situations.

The new reform also established a comprehensive evaluation system that introduced formative forms of assessment to inform the teaching and learning process alongside summative forms that put an emphasis of student academic grades. The new system was designed to diversify the criteria for student outcomes, thus changing the traditional examination-oriented mode of study to reduce the influence of standardised testing on teaching and learning approaches.

Recent education reforms have placed a greater emphasis on universalising nine-years of compulsory education and improving the quality of the education provision, especially in rural areas. National data indicated that the reforms were meeting with success with the enrolment ratio of school-age children in 2014 reaching more than99% (National Bureau of Statistics of China, 2015). Following its efforts to universalise compulsory education nationwide, the MOE put more emphasis on a balanced development approach in order to narrow the rural–urban gap and regional differences.

Following this introduction, the chapter is divided into four sections. Section 1 presents the background and design of the China-UK Southwest Basic Education Project. In Sect. 2 a discussion of the implementation of the project is presented followed by a discussion of its impact and outcomes in Sect. 3. Section 4 discusses the sustainability of the project.

1 School Improvement in China-UK Southwest Basic Education Project

The School Improvement in China-UK Southwest Basic Education Project (SBEP) was a bi-lateral development project between the Chinese Government and the Government of the United Kingdom (UK). The main purpose of the project was to support the Government of China to achieve its goals in basic education, by increasing capacity to implement effective programmes that increased equitable access, completion and achievement for the disadvantaged boys and girls. The project covered 27 rural and remote counties which are considered some of the poorest in China. The 27 counties are spread over the four provinces (or autonomous region) of Yunnan, Guizhou, Sichuan and Guangxi. The total budget for the project was £23.6 million and each province provided 10% of the amount as local funding of the project. The project was officially launched in November 2006 and was completed by the end of March 2011.

The project was designed in response to the need to change the underlying pedagogic practices that lead to the transmission of knowledge and rote learning. Its focus was on improving the pedagogical practices of teacher and drew on the international research suggesting that the quality of teaching was the most important factor in student achievement (Dembele & Lefoka, 2007). Its general approach was to bring together decentralised MOE functions at the county level, teacher institutes, teacher resource centres and schools to ensure coherence, consistency and quality of training so that all children have access to teachers with minimal competences. Therefore, a field-based model of school-based training and school clusters was proposed as a way of closing the gap between theory and practice and raising the quality of teaching and learning in basic education (Mattson, 2006).

As discussed previously, curriculum and assessment reforms were introduced to transform teaching practices from the traditional examination-oriented approaches of rote memorisation, lecture and drill to more student-centred approaches where students were given the opportunity to develop their creativity, learn by doing, collaborate with others, and to express their ideas (Dello-Iacovo, 2009). The new curriculum and assessment reforms also gave an added impetus to achieve 'teacher quality for all', especially in rural or remote areas of the country as there was a broad consensus, drawing on international research that the teacher was the single most important school variable in influencing student achievement (OECD, 2016). It was also seen as an important element in promoting social justice in terms of educational quality in rural and remote areas of China, where teachers tended to be less qualified than their urban peers and less well-resourced.

1.1   Whole School Development

Based on an analysis of the needs for promoting education quality in rural schools of the project counties, a comprehensive school improvement model known as Whole School Development (WSD) was applied in SBEP. The whole school approach, originally piloted in Ghana, treated the school as the unit of change to harness improvements in, for example, management strategies, school development plans, monitoring, in-service education and training and teacher appraisal to orchestrate a change in the culture and organisation of the school to improve pedagogical practices and the learning outcomes of students (Ghartey, 2011). It viewed teachers as active learners who had a key role to play in their professional development and acknowledged the importance of teacher beliefs and motivations, their economic and social situation, and the impact of the educational and administrative context in which they worked (Hargreaves, 2008).

This was in contrast to a more traditional approach that assumed that clearly identifiable teaching skills were able to produce specific student learning outcomes while ignoring the complexity of the school and classroom environment and wider contextual setting. Central to the WSD model was the building of capacity of head teachers and teachers at the school and cluster level as the main route to continuous and lasting changes to bring about improvement in education quality (Fullan, 2001). It also recognised the need for a highly interactive and collaborative environment as studies of teacher professional communities suggested the ways in which teachers worked together impacted on their work in terms of what and how they taught in classrooms, how they understood their work with learners and what they expected of each other and learners (McLaughlin & Talbert, 2001) (Fig. 1).

Introduce and practice participatory classroom teaching to improve learning and teaching.

Set up a county teacher support system and promote the school-based teaching research to support teachers' continuous professional development (CPD).

Encourage parents and community participation in School Development Planning and provide external support for school improvement.

School Improvement

Student Development

Capacity building on principle leadership; Implement School Development Planning to promote the school leadership and management.

Introduce and practice the inspection system to provide external support for school improvement.

Fig. 1   School improvement framework of SBEP

In the context of the SBEP, project school improvement interventions focused on five areas: (1) in line with national new curriculum reforms, improve teaching and learning through practising learner-centred teaching approaches in the classroom; (2) build up the county teacher support system to promote school-based teaching research and provide support to teachers' continuing professional development (CPD); (3) enhance school leadership through head teacher training and implementing School Development Planning (SDP); (4) introduce an inspection system to provide external support for school improvement; and, (5) actively engage parents and community in school development to achieve a mutual development of both the school and community.

1.2 The Process of School Improvement Under SBEP

The curriculum reform had called for transformative change in all areas of the Chinese education system, including educational philosophy, curricula structure and administration, curricula standards and content, pedagogy, the development and use of curriculum resources, curricula assessment and evaluation, and teacher education and development (MOE, 2010). Of all these elements, the quality of classroom teaching was recognised as the key determinant in raising student achievement given the fact that in the absence of textbooks and other learning resources the teacher was often the primary source for learning academic content and therefore key to improving the quality of education in remote rural areas of China. These transformative changes required teachers to re-conceptualise their understanding of teaching and learning and their own identities as learners formed in an examination-orientated education system. Teachers were required to become critically reflective educators with the capacity to provide relevant support to students with different learning needs. Many teachers were challenged by the new curriculum reforms, particularly those working in rural settings, because of the constraints of the existing evaluation system and the lack of professional development opportunities and resources.

A qualitative baseline study for SBEP conducted in 2007 revealed that the status quo of classroom teaching and learning practices in project primary and junior middle schools was being perpetuated (Box 1). It also helped identify the issues that needed to be addressed through the project intervention.

Box 1 SBEP Baseline Study

- Lecturing was the dominant form of teaching with little engagement of students. It was found in the survey that teachers lectured for over 85% time of the class time. The students were treated as passive listeners and asked to do repeated exercises.
- There was a lack of variety in the teaching approaches used in the classroom.
- Lesson content was mainly based on the textbook with little or no relevance to the local context and real life.
- There was no differentiation of lesson delivery. In most cases, teaching was planned with no consideration of differences in student age, gender and learning needs.

Source SBEP National Project Management Office (2007), China-UK Southwest Basic Education Project: Baseline Qualitative Survey Report, SBEP NPMO, Beijing.

1.3 Participatory Teaching

The participatory approach to teaching and learning was adopted by the SBEP schools as a way of improving teaching and learning, whereby traditional rote-learning methods would be transformed into participatory and active learning approaches. It aimed to broaden the repertoire of whole class teaching by introducing teachers to paired and group work and to the use of dialogue and discussion, though, for example, open-ended questions and probing and following up student answers, alongside the more traditional drilling, closed questioning and telling, thereby raising student cognitive engagement and understanding.

It called on teachers to acknowledge the needs and interests of their students, to permit the students to learn at his/her own pace, to encourage learning through doing and collaboration so as to engage students into meaningful learning, and to provide remedial and enrichment instruction where needed. As such, it represented a major shift in working practices for teachers, many of whom had been using a teacher-fronted 'chalk and talk' method, promoting the transmission of knowledge and rote learning. It was recognised that such a paradigm shift would only come about after repeated practice and critical reflection. Therefore, the project developed a series of teacher training modules to support the teachers.

The process of developing the training materials also served as a capacity building exercise for teacher trainers at provincial and county level. In most cases, the SBEP trainers were staff recruited from County Education Bureaus (CEB), teacher training institutes and project schools and they were involved from the beginning in the planning and writing of the modules based on surveys of teachers' training needs. In the process of the module development, the teacher trainers were given the opportunity

Fig. 2 The teacher training model of southwest basic education project (SBEP)
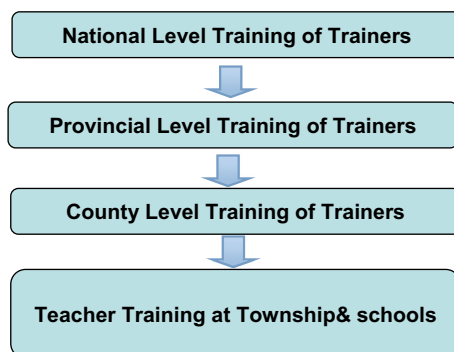
to reflect on their practice and share their knowledge and expertise so as to arrive at a shared understanding of an active learning.

1.4 Training of Trainers

The SBEP covered all primary and junior middle school teachers in the 27 project counties, totalling 70,000 teachers in total. In order to ensure the widest reach possible, the training was initially cascaded down to schools through the training of trainers as shown in Fig. 2.

Usually, there would be 20–30 trainers in each county made up of, as discussed earlier, local education bureau (EBU) officers, teacher trainers and expert teachers divided into teams of 6. Each member of the team was tasked with specific training responsibilities and a professional development portfolio was developed to promote critical reflection and review based on observation and feedback following each of the training sessions to help build capacity and a shared understanding of the programme.

2 Implementation of SBEP

Project counties were required to submit annual training plans that included budgets, personnel and resource allocation, timing and location of training venues and monitoring and evaluation activities. The EBU schools and teachers were actively involved into the planning stages which ensured a good level of coordination between different stakeholders and that the training was embedded into the daily life of the schools and classrooms.

SBEP teacher training were required to start with the most disadvantaged villages and townships in project counties with ethnic minority teachers, women teachers and teachers from remote teaching points being the priority group, followed by teachers

in the townships. By relating the training content closely to the reality of the local classroom, the trainers supported the teachers to experience, internalise, practice and reflect on the participatory approach during the course of the training. During this process, the teachers' practical knowledge and experience was drawn upon and highly valued and respected. Teachers were also encouraged to conduct their action research to find local solutions to challenges they faced in their own classroom.

2.1 School-Based Professional Development

Following the training workshops, the teachers were followed up in the schools. This was in recognition of the lack of impact of in-service education and training (INSET) made up of short-term training delivered through cascading or multiplier workshops with little or no follow-up in the classroom on classroom practice (Save the Children, 2012). Without sustained practice, reflection and re-action, the research suggested workshop training is not enough to bring about changes in teachers' ideas, attitudes and behaviours, particularly for those who had practiced transmission-based teaching for decades. Therefore, it was crucial to provide follow-up support to teachers so they could try and practise new skills and strategies in the context of their classrooms following the intensive workshop training.

In the case of SBEP, county trainers and a group of key teachers were organised to provide support to classroom teachers by conducting coaching, observation and feedback to teachers in the schools. It was required by the project that every school teacher was observed and given feedback at least three times within a semester. The focus of the follow-up observation and feedback was the application of participatory approaches in the classroom. The classroom observation and feedback were recorded using a standardised protocol. These documents were kept by the teachers and used by the schools to inform their whole school development plan.

The project encouraged rural schools to set up school-based teaching research groups organised in units by subject or teaching grade to engage in, for example, lesson demonstration, collective lesson planning and resource. These school-based professional learning activities were designed to enable school teachers to work together and learn from each other so as to build up a community of professional practice in the school. The CPD activities were also incorporated into the school development plans and the head teacher was given training and expected to lead the school-based professional learning.

2.2 *County Support System for Teacher Professional Development*

By targeting the poorest counties in China with the majority of schools located in remote rural areas, teachers working in those schools faced challenges not only from poor infrastructure and a lack of teaching and learning resources, but also from few opportunities to participate in professional development activities. Such limitations were captured in the training needs analysis that was conducted prior to the development and roll out of SBEP.

- Many teachers had never received any INSET after decades of teaching.
- Most INSET, where it was provided, was ad hoc and irrelevant to local needs. The provision of training did not help teachers meet the challenges in their practice such as teaching large classes, multi-grade teaching and teaching in a bilingual context.
- The workshop training was mainly lecture-based and teachers had little chance to interact with the trainers to ask questions and to share their experiences.
- There was no feedback or follow-up support after training. It was hard for teachers to apply what they learned into practice without follow up support. Teachers chose to give up trying out the new approach and went back to old ways once they encountered any challenges.
- Training venues were often far away from the teachers' workplace. It was therefore time-consuming and costly trip for them to travel to get the training venue. In addition, because of the shortage of teachers in rural schools, teachers were not allowed out of school to attend the training in order to keep the school open.

In order to provide a relevant and sustained support mechanism for teachers working in remote rural schools, SBEP introduced a county-level support system which was based on the existing infrastructure to support teacher CPD activities. A concept map was developed showing institutions involved in the country-level support mechanism and how they were to be linked to each other (Fig. 3).

A planning framework was also developed and shared with stakeholders at the county and school level setting out roles, responsibilities, frequency of training activities, time lines and expected outcomes for the teacher support system. It was divided into six steps and was to be rolled out to schools taking into consideration the contextual realities of their locations:

Step 1: Build up a shared understanding of rural teacher support system: its aims and objectives, working mechanism and major activities

The key goals of the county-level support system were to:

- Support the professional development of teachers in remote and rural areas.
- Improve pedagogical skills.
- Expand teacher professional knowledge.
- Improve students learning and enjoyment in the classroom.
- Contribute to the development of INSET in rural areas.

County Teacher Support System

TTS

DE Office

County TLRC

TRO

Open University Station

Township TLRC (centre school)

VS

VS

Township TLRC (centre school)

Township TLRC (Centre School)

TP

TP

VS

TTS: Teacher Training School
DE: Distance Education
TRO: Teaching Research Office
VS: Village School
TP: Teaching Point
TLRC: Teacher Learning Resource Centre
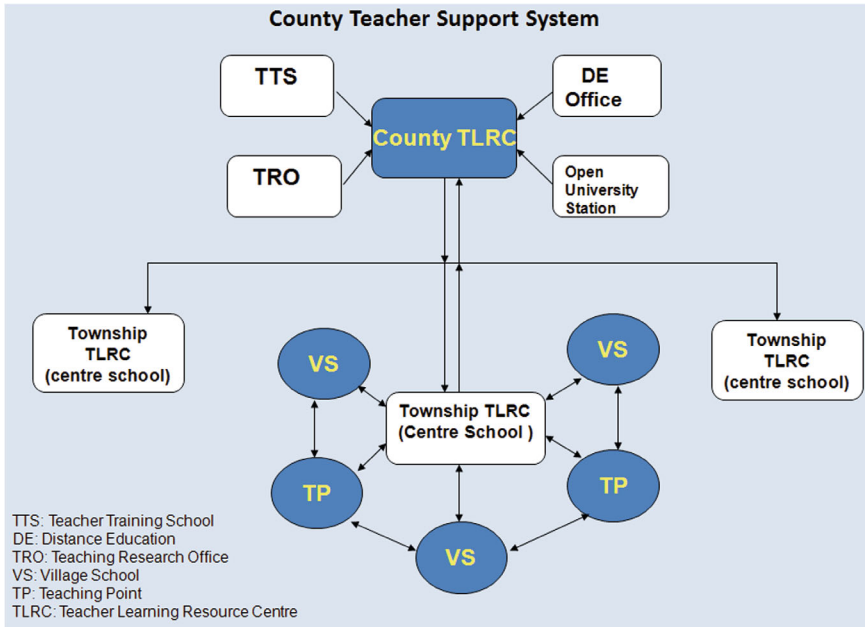
Fig. 3 County support system for teacher support system

- Improve collaborative ways of working.
- Improve links with the parents and the wider community.

Step 2: Get county CEB's approval through policy-making and support for administrative management of the teacher support system

Within SBEP, the commitment and leadership of the CEB in the TSS included: (1) issuing formal policy documents stating the actions to be taken actions to merge teacher training schools and to create partnerships with schools; (2) to set up and institutionalise the township teacher learning resource centres (TLRC).

Step 3: Selecting personnel and capacity building of county trainers

To ensure the goals of the support system were met, all of the county trainers needed to be carefully selected and trained. They were to be trained in how to teach and work with adults. SBEP personnel were organised into the following teams:

- Management and Technical Assistance Team: CEB director, staff from divisions in CEB, distance education office, teacher training school and expert teachers from schools in the county.
- Management of TLRC at township level: Head teachers from centre and village schools, directors of teaching affairs in schools, expert teachers.

Step 4: Embedding good practices throughout the system

A series of professional practices were embedded throughout the system. They included in-service training workshops at TLRCs, classroom observation and feedback, teacher mentoring, classroom action research and joint lesson planning. All of these activities focused on the formative development of teachers and provided follow-up support in the classroom. A formal record of these activities was kept at the school by the head teacher and used to inform whole school planning and inform the further development needs of the teachers.

Step 5: Developing and managing resources for teaching and learning at the TLRC

Resources were given to township TLRCs so as to facilitate teacher training and classroom teaching. They included training modules and DVDs modelling classroom practices. Copies of lesson plans, hand-made teaching aids and books were also collected and kept in township TLRCs as a support resource for teachers.

Step 6: Monitoring and evaluation of the TSS

A series of guidelines and handbooks were developed and shared with the various actors in the system. These materials brought coherence to the CPD activities and provided for standardisation and quality assurance of the training across the provinces and counties. In addition, seminars on issues arising from implementation of the TSS were periodically organised by the project's management office at national, provincial and county level. These meetings offered opportunities for the sharing of good practices, ensuring consistency and raising the quality of project provision across regions.

By the end of SBEP in 2011, 249 township TLRCs had been established in the poorest townships of the 27 project counties to provide teachers with more accessible CPD opportunities and better support resources. It was also reported through the monitoring and evaluation activities that the capacity of individuals and institutes to provide support to teachers was being strengthened and that they were more confident in conducting needs analysis to inform the design of the CPD programmes and to assess their impact.

2.3 Promoting School Leadership and Management

Research suggests effective school leadership is a key prerequisite of school improvement (Harris & Chapman, 2004). Once schools have taken the initial steps on the way to school improvement, it is recognised that the school leadership needs to become more distributed in order for improvement to be sustained and capacity built across the school.

The project baseline report had found that the management of education at school level was generally weak. Most head teachers were not capable of initiating and

managing change to meet the needs of the new curriculum reform. The challenges in terms of school leadership and management in SBEP context included:

- Principals' leadership and management skills were not satisfactory generally. Most rural school principals had no pre-service training, and they conducted school management only by virtue of their personal experience.
- The project schools had a year plan which was mostly a copy of the work plan of county education bureau with little focus on school-based issues. These plans were made in a top-down approach without involvement of school staff and the wider community, and in most cases the plans paid little attention to disadvantaged groups.

Two interventions were therefore adopted in the SBEP project schools to promote school leadership and build school capacity for sustainable development: leadership and management training for head teachers and the introduction of whole school planning discussed in the next section.

As part of the training for head teachers under SBEP, two training manuals were produced: "Principal Leadership Development Module I" and "Principal Leadership Development Module II". By the end 2010, the training was delivered to more than 90% of the head teachers in project counties (see Table 1). In addition to the head teacher, a woman teacher from each of the schools who showed leadership was invited to the training to promote greater gender equality.

The head teacher training workshop were delivered using a participatory approach and the programme content was closely related to the issues and challenges faced by rural school. The two training modules were delivered over a 9 to 12-month period.

2.4 School Development Planning

School development planning (SDP) was introduced into China in the late 1990s through a series through the international education aid projects. Based on the needs identified by the SBEP baseline survey, a series of materials was developed with a focus on practising SDP in remote rural schools in south west China. These included a training module on introducing the school and the wider community to SDP and mobilising women in community participation in SDP. The training workshops were school-based and delivered to head teachers, teachers and community leaders to ensure their participation in the SDP. Implementation of the SDP at school level was divided into three stages: planning, implementation and review stage. Figure 4 below shows the process and steps followed by project schools as they formulated and implemented their SDP.

The first step to implementing the SDP was to prepare all teachers and staff in the school through school-based training on the concept, values and skills of SDP. A school development management committee (SDMC) was required to be set up which was to be composed of ten persons with at least two female representatives and one of the two being a local women resident. In most cases, the school head teacher

Table 1 Number of teachers and principals completing head teacher capacity building training

	Total	Module I				Module II			
		Principals	Female teachers	Subtotal	Proportion of trained principals (%)	Principals	Female teachers	Subtotal	Proportion of trained principals (%)
Guangxi	970	986	748	1734	102	975	694	1669	101
Sichuan	346	341	303	644	99	359	315	674	104
Yunnan	904	1087	872	1959	120	833	680	1513	92
Guizhou	1497	1481	692	2173	99	1312	704	2016	88
Total	3718	3484	2125	5609	94	3334	2228	5562	90

Source The project office of Southwest Basic Education Project. The Report of End of Project Review. 2011

Draft a School Development Plan

Preparation

Conduct training

Set up SDP Committee

Work on Publicity

Timeframe of actions

Consultation

consulting within community and

data collecting, categorising and analysing

community meeting, prioritisation of problems

Plan writing, oral defense and

SDP writing

Oral defense and draft

Finalisation and approval

Implementation

Prepare all staff to get ready

Monitor the process of implementation

Review & Feedback

Review on 3-year Basis

Review at key stages

Feedback, initiate new round

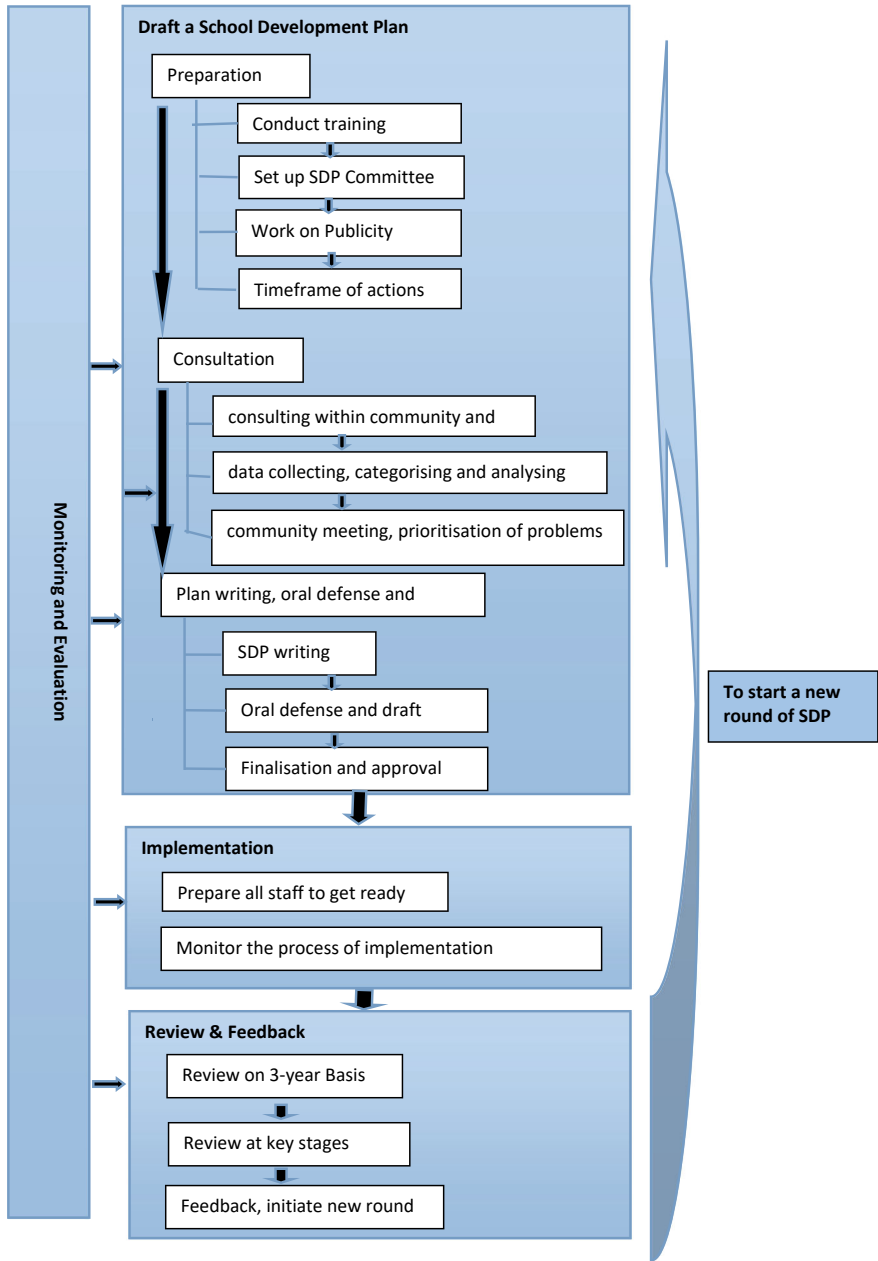**Monitoring and Evaluation**

To start a new round of SDP

Fig. 4 School development planning process and steps (*Source* China-UK Southwest Basic Education Project Management Office. A Guide to School Development Planning. Beijing: Education Science Publishing House, 2009. pp. 20)

took the role of the chair of the committee. The committee members were composed of local community cadres, teacher representatives and villager representatives. The committee was responsible for the decision-making and implementation of the school development plan, and for reviewing, supporting and evaluating the implementation.

The project identified six focus areas for rural school development in the context of SBEP which served as a framework for schools to critically scrutinise the provision. These focus areas included: (1) student enrolment and consolidation; (2) learning achievement and students well-being; (3) teaching and learning; (4) physical condition and school environment; (5) pastoral care for student with a focus on marginalised groups; and, (6) school management and leadership.

Issues were identified for further study in each of the areas with the aim of finding relevant solutions. In addition, schools invited comments and suggestions from the local community by conducting SDP community meetings and field visits to parents and local residents. Opinions and suggestions were collected from different stakeholders including teachers, students, village committee, villagers, women, parents, and local religious representatives.

A written school development plan was drafted based on the data analysis, which covered concerns from the local community and challenges and opportunities for school improvement. A series of actions in the six focus areas were identified and listed on the plan with a clear statement of outcomes and timetable for their implementation. Stakeholders, including teachers, students and community members, were not only involved in the formulation of the SDP, but also taking responsibility for implementation of the plan.

2.5 Involvement of Community and Parents in School Improvement

As discussed in the introduction, the administrative system of compulsory education in China has been laid at the county level since 2001, which meant that the county system of government was responsible for local education development planning, funding, the recruitment of teachers and the appointment of principles. The positive impact of this policy was that it ensured education funds were dispersed down to the township and village administrative levels. However, the SBEP baseline survey found that the provision of county level funding reduced the involvement of the local community and parents in the running of the school.

In order to improve the involvement of the local community and parents in the running of the school, SBEP launched two initiatives: (1) direct involvement of parents and community members in SDMC to draw up the WDP; and, (2) production of a training manual and provision of training workshops to improve women's awareness, capacity and participation in the SDC. In implementing the policy under SBEP, the following practices were found to be effective in increasing local community and parental involvement in the running of the school:

- Setting up a SDMC by inviting the community and women representatives to act as core members to act as a mechanism for improving cooperation between the school and local community.
- Teachers conducting home visits to help parents or guardians analyse the performance and challenges that their children were facing and to provide appropriate support where appropriate.
- School open days for parents and community members to observe lessons, learn about teaching, learning and assessment approaches and to discuss educational issues arising from the visit with principal and teachers.
- Organising parents' meeting during quieter periods in the farming season and involving parents in the management of the meetings.
- Strengthening contact and communication with parents working away from the local community as migrant workers through writing letter, telephone calls, and use of the internet to build up closer relationships with their children in order to support learning and social and emotional development.
- Cultural activities organised jointly by the school and local community.
- Opportunities for community members to participate in school management team meetings.

2.6 School Inspection

In China, the inspection offices at county level were usually located at the county education bureau. Because of limited budgets, a lack of manpower and weak professionalism, the focus of the inspection was often on the implementation of national and local policies, the facilities and equipment status in schools, enrolment rates and student test scores. It was rarely about quality assurance and enhancement of pedagogical processes. For example, a SBEP monitoring report stated 'The inspection didn't pay enough attention to aspects such as teachers, student learning, or the relationship between the school and the community. In most cases, the most disadvantaged schools like small village schools and teaching points in very remote areas were likely ignored. Additionally, there was a weak link between resource allocation or support provision to schools within the inspection result' (SBEP NPMO, 2007).

In response to this finding and lessons learnt from an earlier China-UK Gansu Basic Education Project, SBEP introduced and implemented a developmental inspection model to project counties. Compared to the traditional model of inspection, the developmental model of quality assurance and enhancement was to include the following aspects:

- Self-evaluation and review of school development plan prior to inspection;
- School development plan to act as a starting point for the inspection;
- Interviews with a range of stakeholders including parents, community leaders and officers from the education bureau;
- Observation of teaching and learning making up 50% of the inspection time;

- Revision of the school development plan considering the findings and recommendations of the inspection.

The project school inspection teams were composed of 2–4 persons, including a team leader and normally included county inspectors, head teachers, expert teachers and county teacher trainers. Inspection training modules were developed to equip inspectors with the knowledge and skills necessary for conducting the developmental model of inspection. They described the methods and procedures for carrying out the inspection of schools and the protocols, procedures and practical organisation of the visit.

Monitoring the quality of pedagogical processes in the school was at the core of the inspection process. Talking to teachers, parents and students about the work seen was also seen as a way of reinforcing this process by ensuring evidence was corroborated through a process of triangulation. During the inspection, which normally lasted a couple of days, inspectors were expected to follow an inspection framework and maintain a detailed record of evidence in an official notebook so as to substantiate their collective judgements.

The school visit was divided into three stages as illustrated in Fig. 5. The inspection guidelines set out the main tasks and activities to be carried out before, during and after the inspection of the school as follows:

- Before the field visit to schools, inspectors were to review the school development plan, school self-evaluation report and other supporting materials in order to identify the focus areas for the inspection visit.
- During the school visit, inspectors were to collect evidence from classroom observations, review of documents, interviews with focus groups and individuals, including teachers, students, parents, school leaders and community members.
- More than 50% of the school visit was to be spent on classroom observation covering all teachers and subjects.
- Inspection teams were to make evidence-based judgments focusing on three key issues (students development, quality of school provision, school leadership and management) using key indicators and standard descriptors.
- At the end of the visit, the team should provide formal oral feedback on the inspection findings with the school's head teacher, teachers and community leaders.
- After the school visit, inspectors were to draft the inspection report with specific comments and recommendations for school to improve their development plan. A return visit would be conduct if there was a stated need.

As set out in the guidelines, the focus of the school inspection was divided into three aspects: students' development, quality of school provision, school leadership and management as shown in Fig. 6. The inspectors were required to collect relevant data and evidences according to the specific indicators developed in each focus area and award a grade judgment for each area. There were four levels of grade: A, B, C and D. In addition to grade evaluation, the most important aspect of the inspection was
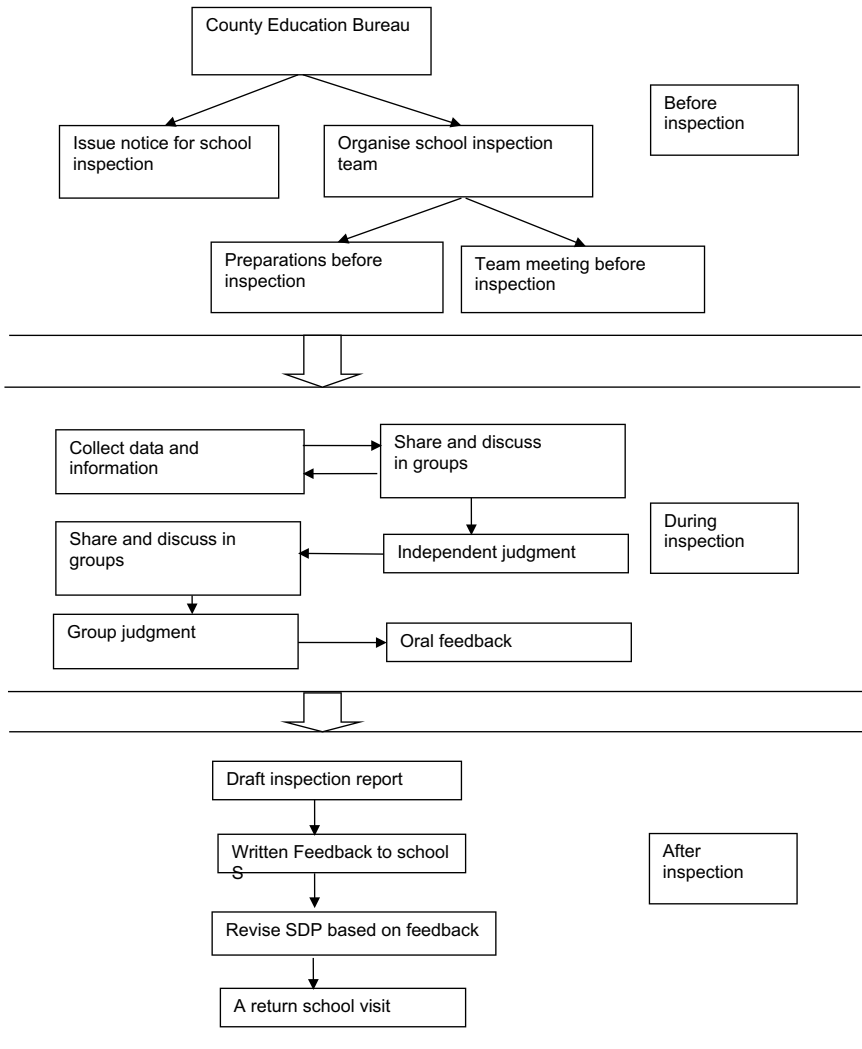
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          ┌──────────────────┐                              │ inspection   │
          │ Written Feedback │                              └──────────────┘
          │ to schools       │
          └──────────────────┘
          ┌──────────────────┐
          │ Revise SDP based │
          │ on feedback      │
          └──────────────────┘
          ┌──────────────────┐
          │ A return school  │
          │ visit            │
          └──────────────────┘
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Fig. 5 Flow chart of SBEP school inspection (*Source* The Project Office of China-UK Southwest Basic Education Project. Guidance Book for School Inspection. Chinese Financial & Economic Publishing House. 2009. 7–8)

for the inspector team to identify the strengths of the school and provide constructive feedback to for future improvements.

By the end of the programme in 2011, in the 27 project counties of Yunnan, Guangxi, Sichuan and Guizhou, 431 schools had been inspected which exceeded the planned numbers. Over 90% of the inspected schools reported that new inspection model had helped to improve the leadership and management at the school.
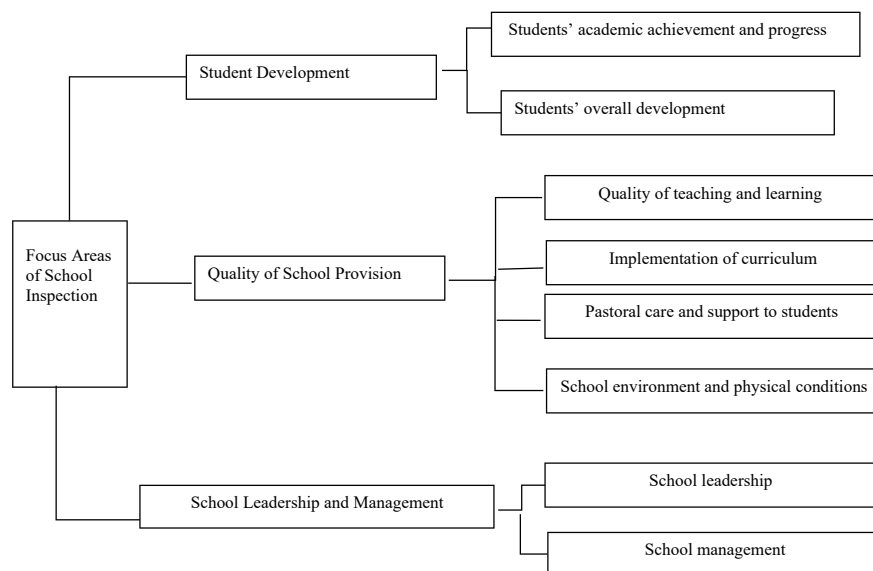
Fig. 6 Focus areas of SBEP school inspection (*Source* The Project Office of China-UK Southwest Basic Education Project. Guidance for School Inspection. Chinese Financial & Economic Publishing House. 2009. 16)

3 Impacts and Outcomes of SBEP

By the end of 2010, SBEP had trained 61,971 teachers, involving over 90% of those based in rural settings. Table 2 shows the number and proportion of teachers trained in each of the modules.

Similarly, Table 3 shows the number of schools that had produced and implemented an SDP by December 2010.

Findings from the evaluation found that SBEP has had a significant effect on pedagogical practices. For example, a mid-term review found that the baseline figure of 90% of the class time being by dominating teacher lecturing was greatly to two-thirds of the time and that by the end of the project in 2011 it had declined to 64.4% and 65.0% of the lesson time at primary and junior middle level respectively. Students were also spending more of their time working in pairs or groups compared to the baseline. At the start of the project, no paired or group-based activities were observed as part of the baseline. By the end of the project in 2011, in a survey of teaching and learning practices it was also reported that 45% of students had participated in a paired-or group-based activities during the two weeks prior to the survey (SBEP NPMO 2011). Student achievement in the project schools had also improved. Compared to the baseline measure and a comparison group of non-project counties, the end-line evaluation found that scores in mathematics had significantly

Table 2 Basic info of teacher training in China-UK SBEP[1]

Provinces	Number of teachers to be trained	Number of teachers received PA training and proportion	Number of teachers received EE training and proportion	Number of teachers received PA training on Chinese and mathematics and proportion	Number of teachers received training of development and utilization of local resources	Number of teachers received training of multi-grade teaching	Number of teachers received training of teaching strategies in bilingual context
Guangxi	16,450	15,096 92%	15,096 92%	6163 37%	48	769	295
Sichuan	5571	5028 90%	5028 90%	5028 90%	70	0	0
Yunnan	13,933	18,967 136%	12,485 90%	24,443 175%	474	40	0
Guizhou	18,311	22,190 125%	22,190 125%	16,399 90%	17,194	562	1016
Total	54,265	61,971 114%	55,489 102%	52,033 96%	17,786	1371	1511

(*Source* The project office of China-UK Southwest Basic Education Project. The Report of End of Project Review. 2011)

Table 3 The implementation of SDP in SBEP

Provinces (autonomous region)	Number of schools	Number of schools to implement SDP	Number of schools implemented SDP	Completion rate (%)	Proportion of SDP implementation (%)
Guangxi	970	291	355	122	37
Sichuan	346	104	134	129	39
Yunnan	904	271	315	116	35
Guizhou	1498	445	527	118	35
Total	3718	1116	1331	119	36

improved in the intervention counties. However, the mean effect sizes for learning outcomes in Chinese were not as significant (SBEP NPMO, 2010).

The baseline evaluation found SBEP had improved the teacher support systems in the counties by enhancing the capacity of the local teacher training institutes and their partnerships with schools serving remote rural areas. The system of school clusters at the township and village levels had also been enhanced and schools were

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[1] In 2011, four provinces were still in the process of delivering the training and are not presented in the table. In addition, the table does not include the number of trainers trained at the county and township levels.

reporting their regular participation in school- and cluster-based activities including study groups, peer observation and the support of teacher educators visiting the schools. The TLRCs were also adding to professional development opportunities for the teachers working in rural schools through the provision of DVD demonstration lessons, teaching and learning resources, lesson plans and teacher guides.

In addition, the baseline evaluation reported that the capacity of the school leadership and management teams had been strengthened through the training and implementation of SDPs. The end of project evaluation found that decision-making had become more distributed in the project schools involving teachers, parents and students and that all of the project schools had an SDP in place. Table 4 shows the identified targets for school improvement at different stages of SBEP.

The bottom-up planning process had made it possible for community representatives, parents, teachers and students to participate in the planning and decision-making processes, which ensured the acceptance and the successful implementation of the SDPs. For example, the quantitative survey found that in Zhenxiong, Yunnan, about 10–20% of community members regularly participated in SDCM and as a result they were able to express their views and recommendations to the school leadership. Female parent visits to the schools had also increased significantly: the quantitative survey showed that in primary and junior high schools there are respectively 60% and 68.5% of women visiting the school on their own initiative (SBEP NPMO, 2011). It was also found that parent concerns had been shifted from the cost of schooling to the quality of teaching and learning. For example, the end of project review found that in junior high schools, 74.5% of parents in SBEP schools, compared to 65% in non-SBEP schools, visited to discuss the academic progress of their children. Such figures suggested that parents in SBEP schools were more involved in their children's education.

According to the project log frame, by the end of SBEP, 30% of SBEP schools (390 schools in total) needed to be inspected under the new development model. In the

Table 4 Targets for improvement covered in primary school SDPs

	Baseline	Mid-term	End of project
Arrangements for financing	30.4	40.0	48.3
Improving communication with community and parents	12.3	54.6	74.7
Improving student achievement	15.2	69.0	78.8
Specific measures to improve teacher effectiveness	11.8	62.7	75.8
Improving school environment	15.7	68.6	70.7
Arrangements for students with additional learning needs	1.5	23.1	43.4
Achieving NYCE objectives	8.3	61.1	61.6
Implementing national curriculum effectively	4.9	54.1	55.6
Improving enrolment and retention	No data	56.9	71.7
Improving care of children	No data	48.3	64.6

(*Source* Davison and Yanqing (2011). End-of-project review: Quantitative Survey Report)

27 counties of Yunnan, Guangxi, Sichuan and Guizhou, 431 school were inspected, accounting for 111% of schools in the original plan (SBEP NPMO 2011). Despite being implemented over a two-year period, the inspection model made a positive impact on building capacity at the school level (principals, teachers and SDMC) and educational administrative level (County Education Bureau officers and Inspection Officers). It also provided new insights into how to promote school development through school inspection.

4   Conclusions

While the evaluation of SBEP suggests it was a success in addressing the needs of schools and teachers in remote rural areas of southwest China, it is also recognised that there are certain prerequisites for its scale up: genuine ownership and leadership at all levels and the sustainability of the reform. It was recognised in the roll out of the project that the human process of developing ownership, strengthening new behaviours, and changing systems needed to done at county-by-county, township-by-township, and school-by-school levels. Sustainable education outcomes will not be achieved merely by reproducing successful, but individual, projects like SBEP, but by aligning them with the broader context of educational reform. Sustainable scale requires not only a financial commitment by the CEB but also ownership and direction by range all stakeholders, including education administrators, principals, teachers, community leaders and parents.

The longer-term sustainability of projects like SBEP will require policy alignment and capacity development of the institutions and organisations at county level responsible for the strategic management of the education sector and of the local institutions and personnel charged with implementing the reforms introduced by project. This presents a great challenge for the local education bureau, teacher training institutions, inspectors, schools and individuals as capacity development is a long-term process.

The Chinese government is continuing with its investment in distance education and ICT provision for teachers based in rural schools in western and rural China to distribute opportunities for learning more widely and equitably across the teaching force (OECD, 2016). It is also improving the quality and variety of the resources and support available to teachers, opening up new avenues to professional development. By taking a school-based approach supported by ICT, it is providing more inclusive access while at the same time extending learning opportunities beyond the boundaries of the school. It is also shifting the emphasis from a supply-driven provision to a demand-initiated one, giving teachers and head teachers more ownership and choice in their professional development.

TLRCs based at central schools in townships are increasingly being used as part of the school-based training system for housing ICT equipment and resources and for acting as a venue for teacher professional development activities. In addition to internet access, learning resources, including audio and video CDs, books and guides for teachers and head teacher are being made available in the TLRCs to support

professional development activities. They are allowing teachers to work together at the school and cluster level either online or in meetings and workshops on curriculum innovations and teaching methods. This includes observing and discussing lessons either on DVD or in real-time via satellite television, creating educational resources, preparing lesson plans with colleagues and interacting with teacher educators.

By taking a system-wide approach to rural teachers' school-based professional development, with strong support from the leadership at provincial and local levels of government and supported by distance education and ICT and the generation of activities at the TLRC and local cluster level, teachers are increasingly being mobilised to bring about changes in their pedagogical knowledge, skills and attitudes commitment.

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Chapter 3
Myanmar: Aligning and Linking Policies, Plans and Institutional Arrangements for Effective Rural Teacher Development

Florence Helen Drinan and Frank Hardman

1 Introduction

Myanmar is one of the poorest countries in the Southeast Asian region. With an estimated population of 53 million people, it is ethnically diverse and made up of 135 officially-recognised ethnic groups speaking a total of 111 languages. The majority ethnic group are Bamars, with seven other main ethnic minority groups: Chin, Kachin, Kayah, Kayin, Mon, Rakhine, and Shan. Longstanding discrimination and neglect of ethnic areas on the part of the Bamars has led to the economic marginalisation of ethnic people who live predominantly in rural areas with the highest levels of poverty and the lowest levels of government education, health, and social services.

Historically, the interplay between tradition, and structural, cultural and social barriers has had a major impact on children's opportunities to access and benefit from quality education. This has meant that children in the poorest and most remote

Important Note To The Reader

Since this chapter on Myanmar was written there have been significant and catastrophic changes to the country which have seriously affected and damaged the educational systems and its workforce in Myanmar.

In February 2021 Myanmar experienced a military take over through a coup d'etat throwing all civic and social systems into chaos. Three years on these systems remain in disarray meaning that any advancement made in education prior to the coup has effectively been destroyed. Whilst reading this chapter the above should be kept in mind. However, it is hoped that there are trends and practices described in the piece that might be of interest to the reader.

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communities, particularly those in ethnic areas, have suffered disproportionately and had fewer opportunities to learn in supportive classroom environments or progress to secondary education. The associated linguistic diversity within Myanmar has also been another barrier to education, as many ethnic children grow up speaking their mother-tongue, and not Myanmar, which contributes to drop out rates and low learning attainment when they enter Myanmar speaking government schools.

As part of the commitment to systemically develop the quality of education in Myanmar, a comprehensive education sector review (CESR) was approved in 2012 which would eventually feed into a National Education Strategic Plan (NESP). As part of the CESR, it was recognised by the Government of Myanmar and its donor partners that a motivated and well-trained teaching force is a prerequisite for quality education, and that his could only be brought about by improving the status, quality, management, policies and training of teachers. There was also a recognition of the need to consider the varying social, cultural, linguistic and educational needs of Myanmar because of its ethnically diverse population and that such reforms could only be delivered through a decentralised education system.

Following this introduction, the chapter is divided into four sections. Section 1 presents a brief review of background reforms to education in Myanmar following the return to civilian rule. In Sect. 2 a review of research and evaluations to investigate the impact and outcomes of the Quality Basic Education Programme (QBEP) is presented followed by a discussion of its sustainability following the conclusion of the four-year donor funded programme in Sect. 4. Section 5 presents the overall conclusions of the research and evaluation studies and reviews the lessons learned for systemically reforming teacher education in Myanmar over the next 5 years.

2   Background to Education Reform in Myanmar

Traditionally the key education provider in Myanmar has been the government, although significant other providers are the Monastic School System (MSS), the Ethnic Education Departments and other non-state providers. The MSS has assisted in providing basic education for children from lower socio-economic families or orphans, with the goal of helping children acquire literacy and numeracy skills as well as passing on knowledge of Buddhist teachings. Ethnic Education Departments have operated schools and education systems that focus on ethnic histories, languages and cultures as the focal point of their curriculum framework, with the aim of educating children on the values embedded in the historical struggle for cultural recognition and relative autonomy.

Historically within the Ministry of Education (MOE), school grades 1–11 were administered by the Department of Teacher Education and Training (DTET), and regionally-based Departments of Basic Education (DBE). Basic education was divided into five years of primary education, four years of lower secondary education, and two years of upper secondary education. However, the 5–4-2 structure of basic education system is being replaced by a 6–4-2 structure, giving children in

Myanmar 12 years of schooling rather than 11 and bringing them in line with other Association of Southeast Asian Nations (ASEAN) countries. There were also sub-national Education Departments across each of the 14 States and Divisions that make up Myanmar, as well as at the District level, and Education Offices in all 330 Townships across the country. The Township Education Offices (TEOs) took on a range of functions including, for example, implementation of student stipends programs, school grants, staffing, and monitoring roles.

In 2001, the government signed up to the EFA process and drafted a 30-year plan for education (UNESCO, 2015). The MOE's 30-Year plan was committed to the promotion of learner-centred approaches to teaching and learning, whereby traditional rote-learning methods were transformed into participatory and active learning approaches. However, despite this commitment, the policy and legal framework supporting the education system was lacking at the outset, with no comprehensive education or poverty-reduction policy or strategy and there was chronic underfunding of education. The basic education system was also highly-centralised, top-down and upwardly accountable. This eroded the technical capacity of MOE and its staff and rendered local township education officers under resourced and under-skilled to support local teachers and schools. Township education staff therefore worked mainly in the realm of data gathering for MOE, and lacked the authority, resources and incentives to actively support schools (UNICEF, 2016a).

Data on education in Myanmar was often limited and out of date. According to the official data in 2012, there were estimated to be 41,000 schools and about 276,000 school teachers, as well as 23 education colleges (ECs) and 2 institutes of education overseeing the ECs that produced around 10,000 teachers annually (MOE, 2012). It was estimated that about half of the primary schools were multi-grade and mainly concentrated in rural areas with teachers responsible for more than one grade at a time, usually taught in school buildings lacking partitions or walls between classes.

International figures suggested the overall completion rate were much lower with 45 per cent of children initially enrolled in school failing to complete the final primary grade, with the highest rate of dropout (19%) at the end of first grade (United Nations, 2011). Similarly, a UNICEF study of literacy and numeracy rates found low levels of learning achievement with the majority of pupils completing the primary school cycle having mastered less than 50 per cent of the competencies set out in the curriculum for Myanmar language and mathematics (UNICEF, 2012). Other studies suggested only an estimated 54 percent of children were completing primary school in 2011, placing Myanmar in the lowest quintile among the ASEAN countries. Similarly, only 28.2 percent of children from the poorest households were able to attend secondary school, while 85.5 percent of children from the richest quintile attended. 89 percent of all children (aged 5 to 19) were literate, the third lowest percentage in the ASEAN region (Hardman et al, 2016).

The most reliable figures on basic education were provided by the 2014 Myanmar National Census shown in Table 1.

Table 1 Basic education indicators in Myanmar (Source: National Census, 2014)

Education data	Population
Total population	54,246,096
Child population under 18	>21 million
Literacy rate (persons aged 15 and over)	89.5%
Male literacy rate	92.6%
Female literacy rate	86.9%
Net primary school enrolment	87.7%
Attendance of children aged 5–9	71.2%
Attendance of children aged 10–13	76.2%
Attendance of children aged 14–15	50.5%
Number of primary schools	28,967

2.1 Baseline Study

In addition to the lack of official information on Myanmar primary schools, there was little in the way of published research on teacher education and classroom pedagogy. In the absence of such evidence, UNICEF commissioned a major baseline study of pedagogic practices used by Myanmar primary teachers in the teaching of mathematics and Myanmar language at Grades 3 and 5 (UNICEF, 2012). The main purpose of the baseline study was to inform the design of teacher education programmes and allow for subsequent evaluations of interventions designed to improve the quality of primary education.

Seven hundred and twenty-eight observed lessons from a stratified sample of 200 schools selected from 1000 government schools in 20 townships designed to be representative of urban and rural setting, size of school and ethnicity of pupils were systematically analysed to study patterns of teacher-student interaction. It was found that teachers used a transmission model of teaching in which they often used a chalk board and/or textbook to transmit recipe knowledge for recall and there was little variation in the underlying pedagogy across the teaching of mathematics and Myanmar language at Grades 3 and 5 as reported in earlier, smaller scale studies of Myanmar primary school teaching and learning approaches (UNICEF, 2010; Lall, 2011).

The closed nature of the questioning and direction by the teacher meant that pupils were rarely given the opportunity to ask questions or contribute their ideas. It therefore limited the extent to which pupils could develop their oral skills and critical thinking and take responsibility for their own learning. In addition to the lack of dialogic engagement between teachers and pupils in whole class teaching, there was very little paired or group work to promote problem solving activities. Breaks in this pattern occurred when children were called to the front of the classroom to work at the blackboard or recite. Where textbooks were present in the classroom, teachers appeared to largely work through the textbook exercises and set tests at the end of a

chapter, thereby adding to the emphasis on rote and memorisation and passivity of the learning.

The study also found that many of the teachers observed were working in an environment of genuine constraints caused by a lack of adequate investment in school environments. Schools buildings lacked electricity, learning resources and other facilities and many were in a poor state of repair, particularly in rural areas. Many classrooms were also overcrowded, poorly lit and ventilated with insufficient desks and chairs available, and because many of the schools were multi-grade there was a lack of walls or partitions between classes often resulting in a high volume of noise.

2.2 Teacher Education Review

Building on the baseline study a review of teacher colleges was commissioned by UNICEF to order to propose a draft national teacher education strategy framework that included the design, capacity development and management of the teacher education system, teacher qualifications and continuing professional development (CPD) (UNICEF, 2013). An earlier study of 10 education colleges (ECs) conducted in 2007 found that teacher educators were not able to challenge the strong images that teaching students bring to their training shaped by their earlier educational experiences because many teacher educators generally hold the same beliefs and perpetuate a transmission mode of instruction (UNICEF, 2007). It was found that the centralised EC curriculum, while creating a uniformity in approach, appeared to be too general, overcrowded and in need of radical reform to develop specialism and expertise in the different phases of basic education (early years, primary, middle and secondary school).

The 2013 review of ECs found little had changed since 2007. From an analysis of observations, interviews and review of curriculum documentation, it was found that the model of teaching the students were being presented with was essentially transmission-based, stressing a hierarchical learning of knowledge and conventional teacher-fronted classroom organisation as reported in the baseline study. It was also evident that key areas in teacher preparation, such as multi-grade teaching, the teaching of languages other than Myanmar and inclusive education, were largely absent from the curriculum. The ECs also lacked specialist teaching areas and resources, and the current Information and Communication Technology (ICT) infrastructure needed a major overhaul to effectively connect staff and students to the global information highway.

Partnerships with schools were largely underdeveloped and college staff played little role in the supervision of students on teaching practicum and with curriculum development at school level. Because the links were minimal, student teacher support and supervision were mainly the responsibility of head teachers, with support from township education officers (TEOs) and assistant township officers (ATOs) charged

with overseeing and supporting schools; it was also found that they had received limited training in leadership skills, mentoring or classroom observation.

However, the 23 ECs were usually the only teacher education institutions in many regions of Myanmar and thus the only potential source of advice and support to practising teachers beyond the township education offices and school clusters. The review therefore recognised that they had a key role to play in the development of a teacher education strategy linking pre-service and in-service education and training in Myanmar. From the review it was proposed that a revitalised teacher education system based on a competency-based framework setting out the standards expected of a newly- qualified and qualified-teachers, supported by nationally agreed training materials and continuing professional development for teacher educators be implemented under the direction of a national teaching council.

In developing a teacher education strategy framework that was linked pre-service and in-service education and training it was recommended that an enhanced partnership model be developed that was characterised by a tripartite relationship between the MOE, education colleges and schools (see Fig. 1). Alongside reforms to the preservice education and training (PRESET) curriculum to introduce specialism and expertise in the different phases of basic education (early years, primary, middle and secondary school) for the Bachelor of Education (BEd) degree, the upgrading of ECs to university institutes and the provision of continuing professional development for teacher educators, the proposed model suggested that PRESET and in-service education and training (INSET) needed to be a joint enterprise allowing each partner to exert a certain level over the teacher education agenda while emphasising their needs to be a much closer collaboration between ECs and schools than currently existed. It also suggested the need for an increasing decentralisation of teacher education under the direction of a national teaching council to townships, school clusters and schools, and the drawing up of clearly defined roles and responsibilities for each partner in the tripartite relationship.

It was proposed that the enhanced partnership between the ECs, TEOs, ATEOs, clusters and schools would help bridge the current gaps between theory and practice found in the reviews and strengthen the theory–practice relationship. Central to the strategy was a model of school-based professional development and support using both distance education and face-to-face delivery in a flexible model supported by external and peer- to-peer classroom observation and teachers coming together in study group and clusters to share and reflect on the experiences. As discussed in Sect. 1.6, the school-based model of CPD known as School-based In-service Teacher Education (SITE) was subsequently piloted and evaluated as part of the QBEP programme. The review of teacher education was also fed into the second phase of CESR and helped shape it recommendations on teacher education (see Sect. 1.4).
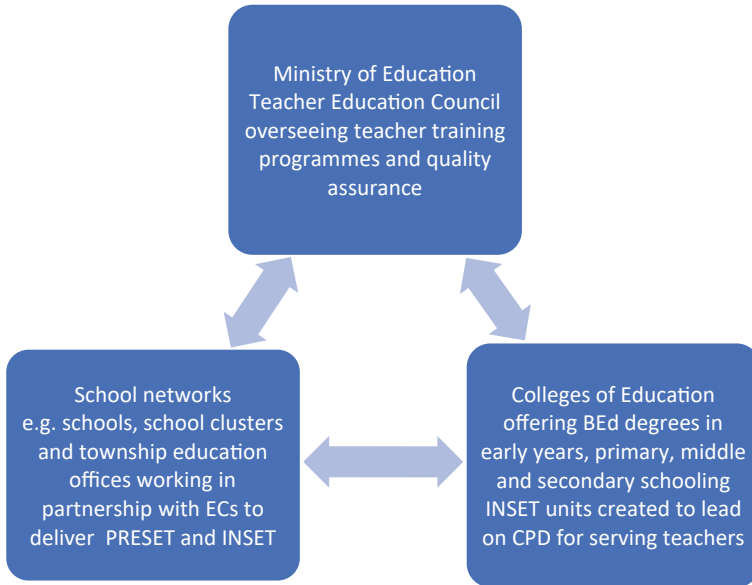
Fig. 1 School-based partnership model

2.3 *Quality Basic Education Programme*

As discussed in the previous sections, QBEP was implemented amidst profound political, social and economic change in one of the largest, poorest and most ethnically diverse countries in the Southeast Asian region. Since 2012, UNICEF and its Multi- Donor Education Fund (MDEF) partners had been implementing the USD $84 million programme focused on improving basic education across Myanmar. The four-year Myanmar QBEP was supported by the MDEF, comprising Australia, Denmark, the European Union (EU), Norway, the United Kingdom and UNICEF.

QBEP was designed to support the Government of Myanmar and its MOE to improve access to and quality of school readiness and primary-level education for all children. The programme also aimed to ensure that national education policies and plans were inclusive and informed and to support delivery of quality education services to children in 34 core disadvantaged townships throughout the country. QBEP built on the MDEF 1 programme which was implemented from 2007–2011 and grounded in the millennium development goals addressing access and quality and building capacity and partnerships the MOE's 30-year plan (UNESCO, 2015). MDEF 1 introduced teachers and education officers working in TEOs to the concept of child-centred education and managed to reach 3,955 basic education schools, with more than 918,000 children in 25 core townships reached (including monastic schools) representing 12 percent of all government primary schools. It sought to

support MOE strategies and pilot new ways of addressing key issues in primary education.

MDEF 1 was being run alongside JICA's Child-Centred Approach (CCA) programme which had been implemented by the Japanese development agency since 2002 to introduce teachers and teacher educators to learner-centred approaches through the development of teachers guides, demonstration videos and handbooks and manuals for the ECs and monitoring documentation. JICA also worked with the ECs to revise the PRESET curriculum and assessment approaches. Phase 1 of the CCA programme was completed in 2004 and phase 2 was completed in 2011. According to JICA's evaluation of the project in 2007, 20,644 primary teachers from 26 townships attended the cascaded of CCA training reaching over 11 percent of teachers and schools. JICA has continued its work with the MOE on textbook and assessment reform and development of PRESET alongside QBEP.

Sites for the QBEP intervention under MDEF 2 were identified in 2012 in order to reach the most disadvantaged children and to build the capacity of the MOE at the state, regional and township level. Townships were selected using poverty and malnutrition indicators as proxies for education access. In addition, a number of townships that had received support under MDEF 1 were retained in order to sustain gains made there during that earlier round of educational support.

As Myanmar had undergone rapid social, political and economic change since QBEP was conceptualised in 2011, there have been several positive entry points for strategic education support to education, including political change, steps toward decentralisation, and greater openness to external assistance. QBEP aimed to build on these ongoing reforms by strengthening and expanding its programming design to address quality, access and equity issues, combined with strategic efforts to rebuild the education system, develop a supporting and enabling policy environment, and to be in line with government education policies at the time. The programme of reforms under QBEP built on the findings of the baseline study of teaching and learning practices and review teacher education (UNICEF, 2012, 2013). They were also framed and reviewed within the key government policies and guidelines as set out in Box 1.

Box 1 Key Education Policies and Guidelines

- The Comprehensive Education Sector Review was started in 2012 between the Government of Myanmar and development partners. It was a key document that identified the challenges, gaps, and strategic options of the education sector more effectively.
- The Framework for Economic and Social Reform was another key national planning document and formed part of the educational reform. It was released in December 2012 with decentralised planning and implementation being listed as major priorities.

- The country's 30 Year Education Development Plan (2001/02 to 2030/31) launched in response to the Education for All millennium development goals provided strategies to promote greater access and to improve the quality of basic education.
- The National Education Law (introduced in Sept 2014; amended in 2015) is a key policy directive and has been taken up by the new National League for Democracy government.

Reforms in the education sector at the outset of QBEP were being driven by a combination of factors, including a desire on the part of the government and donor partners to demonstrate the transformation of the education system, build credibility in the international community and amongst Myanmar's population with growing popular demand for improved education quality and its fears that other ASEAN nations were producing an educated workforce that would compete more favourably for work within Myanmar.

Box 2 sets out the goals, design and planned outcomes of QBEP as they evolved over the four-year period.

Box 2 Goals, Design and Planned Outcomes of Quality Basic Education Programme

Goals of MDEF	Design of QBEP	Planned outcomes
1. Improving equitable access to Early Childhood Development (ECD) programmes 2. Expanding non-formal and second-chance education 3. Strengthening life-skills education 4. Improving township management 5. Strengthening teacher education 6. Supporting policy and institutional development 7. Improving programmemonitoring and evaluation	1. Expansion of coverage of quality Early Childhood Development services 2. Improved quality of teaching and learning 3. Enhanced planning, management, monitoring and evaluation capacity of key education actors at all levels 4. Enhanced coverage, quality and relevance of second-chance and alternative education	1. Systems supporting quality basic education strengthened 2. Evidence base for advocating and delivering quality basic education improved 3. Number of children reached and learning in QBEP targeted areas increased

The rationale for QBEP assumed that a combination of capacity building and supply provision activity in certain disadvantaged townships, together with national-level capacity development and support to policy reform, would result in improved

education access and quality (UNICEF, 2016a, 2016b, 2016c). QBEP was shaped by four cross-cutting strategies to respond to a range of disparities in educational access and outcomes: equity/inclusion; school learning and effectiveness; addressing multilingual/bilingual contexts; and addressing capacity, institutional and policy development.

2.4 Comprehensive Education Sector Review

QBEP also fed into the Comprehensive Education Sector Review (CESR) launched by the MOE in October 2012. It aimed to provide a systematic and evidence-based review of the status of the education sector, to identify areas for reform, to contribute to new policies and legislation and to develop costed education sector plans. With QBEP support and in coordination with other development partners, the CESR aimed to build a strengthened evidence base. It reported in three phases: Phase 1 including a rapid- assessment report, Phase 2 including a range of sub-sector reports including curriculum, assessment, ECD and teacher education, and Phase 3 leading to the production of a draft the National Education Sector Plan (NESP).

The NESP was drafted, including costing and funding gaps, in consultations with sub- national stakeholders, development partners and education-related non-government organisations (NGOs), and it provided an opportunity for voices from different perspectives to be reflected in the document. The draft NESP was shared with development partners in 2015, just as the country was transitioning from a civilian- military government between administrations. The new government, which has been in office since April 2016, has further revised the NESP to include its own education policies to be implemented in the 2017/2018 academic year. It is planned that the NESP will provide a common policy and financing framework for balanced sector development and become a vehicle for mobilising domestic and external resources, coordinating development partner support, and reporting on results, over the coming five years.

2.5 Township Education Improvement Plan

Another important component of QBEP for building the capacity of the MOE at all levels to plan, monitor and evaluate their primary education activities and respond to ongoing education reforms was the Township Education Improvement Plan (TEIP) launched in 2013. It was designed against a backdrop of a rapidly changing operating environment and national moves towards the decentralisation of education planning and management in Myanmar. Working downstream it covered 34 townships: ten townships under a whole state approach in Mon State and 24 townships in other states and regions.

It formed part of the NESP as recommended by the CESR and was designed to build capacity for planning, monitoring and evaluation, and to strengthening systems that support quality basic education. The MOE was the main implementing agency of the TEIP project while UNICEF's role was to assist MOE counterparts in planning and organising activities, providing them with technical assistance, monitoring TEIP activities and providing advocacy targeted at the sub-national level education offices of the DBE.

2.6 School-Based Continuing Professional Development

Under MDEF 1, UNICEF and JICA had provided both face-to-face and distance learning education and training to introduce education officers, head teachers and teachers to child-centred approaches to teaching and learning using a largely cascade model. Under QBEP, building on the school-based partnership model proposed in phase 2 of the CESR, two models of school-based delivery were developed and piloted: A Child Friendly Schools/Language Enrichment Programme (CFS/LEP) comprising of an eight-day in-service training package delivered to schools by ATEOs at the cluster level within townships level, and a SITE pilot delivered over six months.

As a more intensive school-based programme delivered over six months, SITE was expected to improve teacher performance by helping teachers move from theoretical to more practical learner-centred approaches in order to increase the number of children reached and learning in QBEP targeted areas. SITE was being implemented in a total of 17 townships in Myanmar: ten from Mon State, which piloted a whole state approach, as well as seven other non-core QBEP pilot townships: Pauk in Magway Division; Pineblu and Khamti in Sagaing Division; Loilem and Namsang in Shan South; Thabeikkyin in Mandalay; and Kutkai in Shan North.

The key stakeholders in SITE were the MOE, specifically through its newly named Department for Teacher Education and Training (DTET), formerly known as the DEPT, and the DBE. The MOE through its DBE was responsible for the implementation of. SITE in schools while the DTET was responsible for the technical training of the teachers. Other stakeholders included head teachers, teachers, parent-teacher associations and sub-national level government education staff at the township offices. The role of QBEP was to assist MOE counterparts in planning and organising school- based professional development activities, providing technical assistance, monitoring activities, and targeting advocacy for SITE at central level MOE departments, sub- national level education offices, universities of education and ECs. UNICEF staff involvement also included national and international education specialists and education officers as programme managers from 2012 to 2014.

A central component of SITE was the 'Effective Teaching and Learning' training module materials made up of ten instructional units available in both Myanmar and English. Also included in the module was guidance for teachers on self-assessment

and peer assessment. Originally 374 pages in length, a revised version was broken down into smaller units and two new subject specialist modules on the teaching of mathematics and Myanmar were developed.

3 Impacts and Outcomes of Quality Basic Education Programme

Following a mid-term review of QBEP in 2014 to evaluate the scope and effectiveness of the QBEP programme in light of the changing political, economic and social context and to propose changes to the programme and to donor support that would better address education needs, it was recommended that the programme should strengthen its monitoring and evaluation activities to strengthen the base of evidence for advocating and delivering quality education. In light of this recommendation, it commissioned a range of studies, including a trend analysis study to research the impact of QBEP on classroom practices and learning outcomes and evaluations the SITE and TEIP programmes.

3.1 Trend Analysis Study of QBEP

In January 2015, UNICEF commissioned the analysis of three large data sets to allow for a before and after comparison to measure the impact of the QBEP intervention (i.e. SITE, CFS/LEP) on children's learning and pedagogical processes (University of York, 2016). The first consisted of a baseline study of Monitoring of Learning Achievement (MLA) to study the impact of QBEP on learning outcomes derived from assessments given to grade 3 and 5 mathematics and Myanmar language classes collected from a stratified sample of 881 schools in 31 QBEP townships covering both urban and rural areas, three of which acted as a comparison group. The second included a questionnaire survey to track changing perceptions and beliefs about the impact of the QBEP school-based intervention on classroom practices and student learning. The third consisted of a Comprehensive School Checklist (CSC) consisting of a systematic observation schedule to study changes in classroom processes following the QBEP teacher training.

The monitoring of MLA data was derived from exams given to Grade 3 and 5 Mathematics and Myanmar classes administered to more than 54,000 students. The exams were prepared using the Structure of Observed Learning Outcomes (SOLO) Taxonomy, consisting of five levels of understanding.[1] This allowed for an Item

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[1] The five levels of understanding tested by the SLA test in Myanmar language and mathematics were as follows: pre-structural the task was not attacked appropriately; the student hasn't really understood the point and uses too simple a way of going about it; uni-structural—the student's response only focused on one relevant aspect; multi-structural—the student's response focused on

Response Analysis of the math and Myanmar language examinations to be conducted, where marks for each answer were allocated according to different levels of under-standing being demonstrated. The study used a stratified sample of 881 schools in 31 QBEP townships across Myanmar, covering both urban and rural areas, with three townships who did not receive the CFS/LEP or SITE training acting as a comparison group. The results showed that while learning gains were modest in math (2 percent and 4 percent for Grade 3 and Grade 5 respectively), results were much more dramatic for Myanmar language (10 percent and 14 percent improvement for Grade 3 and Grade 5 respectively).

Using a sub-sample of 200 schools from the MLA sample in 20 QBEP targeted townships, the CSC systematic observation schedule collected classroom process data on an annual basis to incrementally and systematically track QBEP's impact on pedagogical practices over a three-year period (2012—2015). As in the MLA study, observations were also conducted in 30 schools selected from a comparison group made up of three townships. In addition to the exam data collected from 22, 613 pupils, questionnaires were administered to over 22,000 pupils, 2500 teachers, and 875 head teachers in the 28 intervention townships. The questionnaires were designed to incrementally and systematically track demographic data on the perceptions of range of stakeholders of the QBEP's progress over the course of its implementation.

3.2 Findings from the Monitoring of Learning Achievement

Overall, as shown in Fig. 2, the MLA analysis suggested there was evidence of the QBEP teacher education and training interventions having an impact on learning outcome in mathematics and Myanmar language at grades 3 and 5 in the intervention townships and schools. The MLA test was administered to Grade 3 and Grade 5 students in 2011/2012 (baseline) and 2014/2015 (end line) for the subjects of math and Myanmar language across the QBEP core townships. The study aimed to measure change in learning outcomes, based on student competencies in the subjects of math and Myanmar language.

Figure 2 shows that the percentage of students achieving the minimum competency level of 50 percent in the QBEO-supported schools increased by 14 percent for Grade 5 Myanmar language, 10 percent for Grade 3 Myanmar language, 4 percent for Grade 5 mathematics, and 2 percent for Grade 3 mathematics.

More detailed statistical analysis of the MLA data using multi-level modelling of school mean scores was conducted using the 2011/2 values as a covariate as shown in Table 2 and Fig. 3.[2] While the MLA results were generally low, it was

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several relevant aspects but they are treated independently and additively; relational – the different aspects have become integrated into a coherent whole. This level is what is normally meant by an adequate understanding of some topics; extended abstract – the previous integrated whole may be conceptualised at a higher level of abstraction and generalised to a new topic or area.

[2] In the MLA analysis the 2011/12 mathematics and Myanmar language scores were used as a pre-test to establish a covariate to control for where children started out. The 2014/15 scores acted
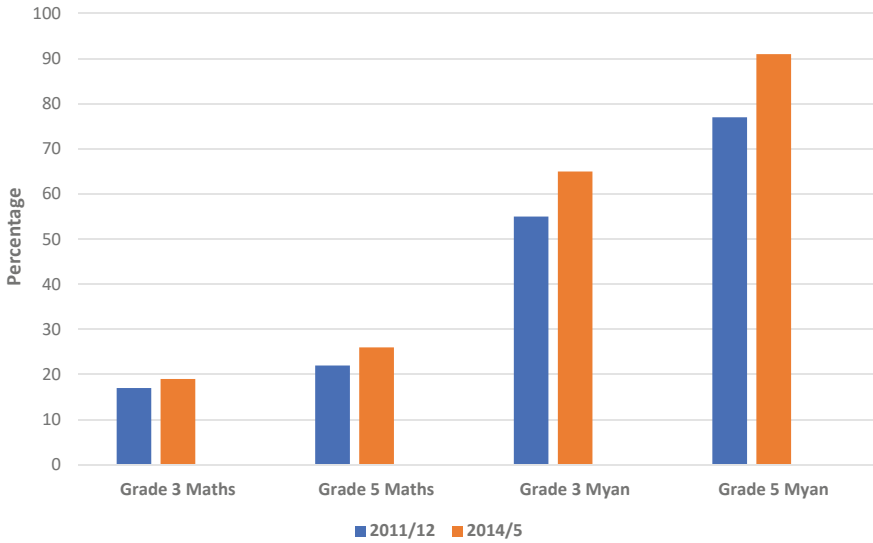
Fig. 2 MLA results for QBEP-supported schools

found that the 2011/12 means for the control schools were higher than those of the intervention schools. However, by 2014/15 the means for the intervention schools were significantly higher than the control schools whose means, with the exception of Myanmar language at Grade 5, either stayed the same or declined over the four years, suggesting QBEP was having a positive impact on student learning outcomes.

Table 2 Means for MLA intervention and control schools in 2011/12 and 2014/5

Subject	Grade	Year	Estimated control mean	Estimated intervention mean	Significance level
Mathematics	3	2011/12	14.953	11.457	< 0.001
	3	2014/15	12.544	12.341	0.899
	5	2011/12	17.840	14.859	0.006
	5	2014/15	17.208	16.139	0.378
Myanmar language	3	2011/12	17.253	14.709	0.041
	3	2014/15	15.787	15.590	0.909
	5	2011/12	25.554	23.086	0.163
	5	2014/15	25.969	25.194	0.618

as a post-test to get a clearer picture of whether children in the intervention schools did well on the post-test due to the QBEP training or to the mathematics and Myanmar language abilities they had at the start of the year.
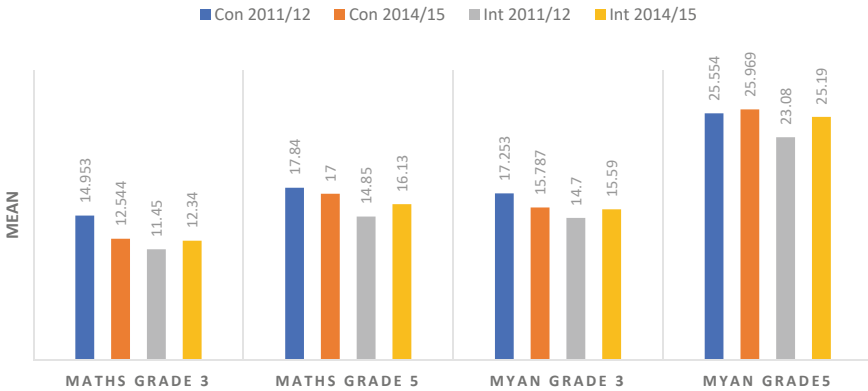
Fig. 3 Means for control and interventions schools

However, the MLA analysis also showed there was a variation between schools within townships and across townships, suggesting the QBEP intervention may not have been well implemented in some schools and townships, thereby contributing to the lack of impact on children's learning. In other words, the extent to which implementers (e.g. ATEOs, cluster heads, head teachers, teachers) adhered to the intended school-based in-service model, including its curricular coverage and pedagogical approaches, may have varied greatly, thereby contributing to the modest gains in learning found in some schools and townships, a finding supported by the questionnaire survey data discussed in the next section. It was not possible to compare the impact of the six-month SITE programme which was rolled out to 14,000 teachers compared to the 30,000 teachers who received the eight-day CFS/LEP training and this was a major limitation.

Differences in the mode of delivery, length of training and follow-up support provided to schools may have contributed to the variation in learning outcomes found between the schools and townships and to differences in pedagogical practices found in the CSC analysis discussed in the next section.

3.3 Comprehensive School Checklist

The improvement in student exam scores also correlated with findings from the CSC analysis. The CSC study was designed to provide descriptive statistical study on teaching behaviour in a sub-sample of 200 QBEP schools drawn from the wider MLA sample. The study relied on a classroom observation protocol designed to capture the frequency of 32 teacher and student behaviours drawn from international effective-teacher research, for example the use of paired or group work, open questions, probing and building on student answers. The observation schedule captured the use of high-quality classroom talk in whole class, group-based and one-to-one interaction to enhance understanding, accelerated learning and raised learning outcomes. The CSC

investigated the extent to which the effective teaching behaviours were being used by Myanmar basic education teachers and to study changes over time. The study used the baseline data originally collected in 2011 and three rounds of classroom observation data collected during the school academic years from 2012 to 2014 to investigate the impact of QBEP's education interventions on pedagogical practices.

Overall, the analysis of the CSC systematic observation data suggests there were significant differences in the frequency of use of the 32 teaching and learning behaviours between teachers in intervention and control schools with QBEP-trained teachers displaying evidence of more participatory, interactive and inclusive teaching methods in the classroom, resulting in more students reporting that they are enjoying school. In the 2011/12 baseline there appeared to be little statistical difference in the mean scores between the intervention and control schools suggesting teachers in both groups of schools were using similar pedagogical approaches in their teaching.

However, by 2014/15 differences in teaching approaches between the two groups of school were highly significant, suggesting teachers in the intervention schools were using a wider repertoire of active learning and participatory approaches. The analysis indicated that on average, 37.8 per cent of the trained teachers had increased their use of the 32 teaching and learning behaviours used in the checklist. However, the findings suggested that many teachers who had undergone the professional development were still under-using paired/group work, authentic questions and a greater variety of follow-up moves, such as probing, expanding and re-voicing a pupil answer, in their teaching despite the fact that research shows they are an effective way of opening up more space in the classroom discourse to encourage greater pupil contributions.

Overall, the trend analysis suggested that the issue of fidelity (i.e. whether the QBEP intervention has been delivered as intended) is a particular problem in complex educational interventions like QBEP. This could be because of the wide variety of social and cultural factors in the schools and classrooms in which QBEP was being implemented. Research also suggests it may take up to three years to implement a substantially different curricular and pedagogic change like QBEP before we see and significant impact on children's learning and it is only at this stage that we should conduct a more rigorous impact evaluation on learning outcomes (Ross et al. 1999).

3.4 Questionnaire Survey Findings

The questionnaire findings suggested that QBEP had targeted townships in order to reach the most disadvantaged children and communities. The majority of schools were located in rural areas and serving ethnically and linguistically diverse communities. Over the course of three years it was reported that QBEB had brought about major improvements in school infrastructure through the building of classrooms and partitions and the provision of electricity and Water Sanitation and Hygiene (WASH) facilities. For example, 41.2% of schools reported having access to electricity in 2015, up from 29.9% in 2012 and 86% report having access to hand washing facilities in 2015, up from 63.3% in 2012. There had also been a notable increase in the provision

of ECD and pre-school education in QBEP-supported schools with nearly a third of schools reporting such provision in 2015 compared with zero provision in 2012.

Head teachers reported on a growing awareness of the need to provide multi-lingual education in their schools in light of the ethnically and linguistically diversity of their students. They also reported on an increase in school-based in-service training over the 3-year period of QBEP through the provision of pedagogically-focused staff meetings and observations of teaching practices by both head teachers and peers. For example, the proportion of head teachers reporting that peer observation 'never' occurred halved between 2012 and 2015 (from 31.6% to 15.2%), while the proportion of head teachers reporting that such observations occur on a once-monthly basis doubled (from 24.8% to 54.2%).

In terms of external support to the school, it was reported by head teachers that there had been a slight decline in the number of external visits by ATOs and cluster heads. For example, in 2012, 20.8% of head teachers reported never receiving such a visit from an ATEO and by 2015 this had increased 38.9%. However, for those receiving an external visit, some change is notable with regards to the purpose of the visit. In 2012, 71.4% of head teachers reported that the ATEO visits were focused on inspection, but by 2015 they reported there was a greater focus on school improvement plans and other areas of support. Such trends may reflect training for township education officers in supporting schools and the development of township education improvement plans under QBEP. QBEP training for head teacher training and PTAs also appeared to be promoting greater community involvement in schools and a stronger leadership role for head teachers. The vast majority of head teachers (over ninety per cent), developing a SIP in collaboration with the local community and 78.6% reported they had begun to implement the plan.

In their questionnaire responses, teachers reported that two-thirds of their pupils spoke a language other than Myanmar, again reflecting the ethnic and linguistic diversity of the QBEP targeted townships and schools and the need for multi-lingual training for teachers. Similarly, three-fifths reported code switching when teaching the pupils to help with understanding. In terms of the provision of school-based in-service training, teachers reported a decline in the number of pedagogically-focused staff meetings: 26.1% reporting that such meeting never occurred during the course of the year compared to 11.8% in 2012. However, they reported there had been a notable increase in head teacher observations: while over half reported they had never been observed by a head teacher in 2012, by 2015 all of the teachers reported having received at least one observation. Similarly, the frequency of peer observation also shows a notable increase: in 2012 65.3% of the teachers were reporting that they had never been observed by a peer but by 2015 all of the teachers reported they had been observed at least once.

The questionnaire survey responses from students also indicated many positive developments under QBEP with many indicating improved attitudes to school suggesting more teachers were adopting child friendly methods in their teaching and providing a safe, hygienic, non-violent, non-discriminatory teaching and learning environment. However, when asked what they did not like about school, two-thirds of students cited bullying as being a problem and there appeared to be difference

across the two points in time. Similarly, a quarter of students across both time points reported being scolded or hit by their teacher, which is a concern for QBEP given its emphasis on child friendly approaches in teacher-student interactions and behaviour management.

Overall, while the questionnaire survey findings suggest there have been many positive developments under QBEP, as with the SLA data they raise concerns about fidelity of implementation. The questionnaire findings suggest that in some townships and schools the QBEP intervention may not have been well implemented because of the lack of staff meetings, classroom observations and external visits by ATEOs and cluster heads, thereby contributing to its lack of effectiveness and impact on children's learning and classroom processes.

3.5 Evaluation of School-Based In-Service Teacher Education

In September 2015, QBEP commissioned a separate independent final evaluation of SITE to investigate its relevance, efficiency, effectiveness and likely sustainability, and to compare it with other professional development models in operation in Myanmar targeting teachers who were both trained and untrained from state, monastic and non-state schools. (UNICEF, 2016b). Data were collected from a total of 14 schools, 10 of which were SITE schools and 4 of which were non-SITE comparison schools drawn from the 17 townships in the five States and Divisions (Mandalay, Shan, Magway, Sagaing and Mon) in which SITE was operational.

The evaluation found that SITE had benefited more than 14,000 primary teachers, including newly recruited daily-wage teachers, teachers from monastic schools, and Mon National Education Committee schools, of whom 43.4 percent had completed the training by passing the end of programme assessment. Overall, the evaluation identified a number of positive aspects of SITE that are well suited to the resource poor context faced by many teachers in Myanmar. It was found that the SITE model was particularly relevant to the large numbers of newly recruited and untrained daily-wage primary school teachers. Many of the teachers and head teachers interviewed were enthusiastic about the programme content and approach, particularly the peer-to-peer assessment and cluster group meetings as they provided the opportunity for very practical discussions on teaching practices.

However, the evaluation found a variation in how the assessment system was functioning at school, cluster and township level, suggesting the need for more rigorous monitoring and record keeping. Several other factors were also identified that were hindering the progress of the SITE training. They included the high level of transfer and promotions, a standard feature of the Myanmar education system, which produced gaps in the number of head teachers and SITE teachers in any one school and poor monitoring of SITE activities. It was found that where there was not a critical mass of SITE teachers in a school, the model did not function well and

respondents reported that teachers lost the motivation to continue their training under these conditions. The evaluation concluded that while SITE activities were in line with the overall needs of schools and teachers, there needed to be better buy-in from ATEO/TEOs and district and state officers to encourage more effective monitoring of SITE activities at school and cluster levels.

3.6 Evaluation of Township Education Improvement Plan

An evaluation of TEIP was also carried to access its relevance to the country's political and administrative as it was undergoing a transition to democracy and decentralisation (UNICEF, 2016c). TEIP was designed to support decentralised planning and management of education services at the township level and to strengthen the management capacity of education officers to deliver quality education at the sub-national level, both conceptually and in practice.

The evaluation found that the MOE, as implementer, and UNICEF, as a supporting agency for technical and financial assistance, had helped all 34 townships produce a first draft TEIP and 25 had moved on to produce a second draft following consultation and feedback. Through this writing process, TEIP helped build the capacity of the relevant township education officers enabling them to plan, monitor, manage and implement quality education services. This process also had led to the creation of a pool of capable and committed TEIP workshop facilitators and TEIP committee members. The increasing participation of women in the role of workshop facilitators had also contributed to an improved gender balances in the MOE. It had also inducted ATEOs/TEOs, cluster heads and head teachers into the practice of undertaking needs assessments and planning at the township level and brought about an attitudinal change amongst staff in recognising the importance of collecting valid data and utilising proper data analysis for school and township level planning.

The whole state approach to TEIP in Mons was also found to have produced several benefits. The evaluation found it had strengthened needs assessment and planning capacity at township, district, cluster and school level, and improved relationships and collaboration between UNICEF and MOE at different levels. It had also helped build trust between the MOE and the Mon National Education Committee in a state that had experienced a great deal of ethnic conflict and was bringing about a convergence of the two education systems. Overall, it was found there was considerable support for decentralised planning and implementation of education services, as well as for establishing and operating school funds and township level education funds or foundations.

However, because centralised decision making was still the norm within government ministries, and due to a lack clarity on the part of the national MOE about how the decentralisation process at sub-national levels would work in practice, it was found that the TEIP process was often misunderstood at the township level and no plans were implemented in any of the townships at the time of the evaluation. This was because the centralised systems meant that decisions could not be made at

the township level, and the overall objectives of TEIP were not clear to national and sub-national stakeholders.

The evaluation concluded that any future expansion of the project would require a complete rethink of the design and clarification of the project objectives based on evidence drawn from a comprehensive needs assessment, political economy analysis and risk analysis to reflect the Myanmar political, social, economic and cultural context. Centralised government systems and attitudes, combined with lack of policy clarity and monitoring of activities from the national MOE level, meant that decisions could not be made and the overall objectives of TEIP were not clear to stakeholders at all levels of the education system.

4 Sustainability of Quality Basic Education Programme

Overall, evidence from the research and evaluations suggests QBEP had made a significant contribution to improving the quality of basic education in Myanmar. Since 2011–12 there has been a quadrupling of the budget to education and a number of key priorities identified in the QBEP-supported CESR process are already being supported with significant funding. The CESR process has been a catalyst for fundamentally changing the way MOE and development partners work together in a more collaborative partnership and for building at all levels of the education system.

QBEP has strengthened the capacity of some 44,000 primary teachers through face-to- face CFS/LEP and SITE training and the capacity of some 2,300 education administrators was strengthened. Over the four years of QBEP, enrolment in supported townships has increased by 3.35 percent compared to a national figure of 1.52 percent at a time when population growth was estimated to be 2.57 percent. The MLA and CSC data also provide strong evidence of improved pedagogical practices and student learning in QBEP-supported townships.

QBEP ended in June 2016 and in 2017 a new one-year phase, entitled 'Building on QBEP', developed in consultation with MOE and supported by Denmark, EU and UNICEF, was introduced. Finalisation and costing of the draft NESP has also begun during this period in consultation with the NLD government to bring it in line with their policy priorities and implementation and to align it with UN Sustainable Development Goal 4 (UNESCO, 2016).

The NESP was launched in February 2017 in Nay Pyi Taw setting out a common policy and financing framework for balanced sector development. The NESP will also provide a vehicle for mobilising domestic and external resources to ensure the sustainability of the impact of QBEP by coordinating development partner support and reporting on results over the coming five years. Stronger links with the Ministry of National Planning and Economic Development and Ministry of Finance and other relevant ministries are also being developed to ensure alignment with national planning and budgeting processes.

During the post-QBEP phase, work at national level will involve further strengthening the capacity of government to coordinate donor activities through an education-sector coordination mechanism designed to improve coordination with the focal point departments of MOE and build on the CESR secretariat. Several of the research and evaluation findings from QBEP-commissioned studies discussed earlier in this chapter are already being responded to by MOE, contributing to further system strengthening and adjusted downstream implementation at township level.

5   Conclusions

After many years of stalled progress within the education sector, the evidence presented in this chapter suggests that QBEP has made a strong contribution to improving access and the quality of basic education in Myanmar. This has been achieved through vitally needed support to the MOE to improve its coordination, leadership and capacity to deliver quality education. This has resulted in the introduction of systemic reforms at national and sub-national levels that have included reforms to teacher education, curriculum and assessment approaches. As a result, QBEP provided coordination between government and development partners, NGOs, civil society, ethics minority groups and other sector actors at a time when partnership engagement was only beginning following the transition to civilian government.

This helped build more effective policy advocacy for quality education and QBEP support to the CESR also acted as a bridge between partners, donors and actors during formulation and review of the NESP. QBEP also emphasised the importance of evidence through its research and evaluation for informed decision-making, ensuring that evidence generation, collection was accepted and used by MOE. This has meant that advocacy, evidence-based policy and decision making have become an increasing part of MOE practice. However, opportunities and challenges remain at a time when new legislation of education is being implemented by the government of Myanmar. Further dissemination and leverage of the findings from QBEP-initiated research and evaluation will also be vital in the post-QBEP era.

The main lesson from QBEP is that a systemic approach to teacher education reform is required if teachers are to maintain the necessary skills to ensure effective learning outcomes in classrooms (Hardman et al., 2011). It suggests that there needs to be clear linkages between PRESET and INSET and an alignment of policies, plans and institutional arrangements for teacher education, so that effective school-based professional development programmes can ultimately be implemented at a national scale.

Ideally teacher education should be treated holistically and PRESET should be linked seamlessly to INSET provision by building strong partnerships with schools. As the research and evaluations of QBEP show, there is a need to adopt a planning continuum that integrates the use of distance education and face-to-face delivery in a flexible model and supports teachers at the school and cluster level by ensuring resources, capacity building and incentives are devolved to those responsible for

delivering school-based professional development. Building capacity of the entire system and support networks that link key stakeholders with one another is therefore crucial, as is the need to take the political economy of a country like Myanmar into account.

Putting in place a systematic monitoring and evaluation system with input from stakeholders, including international donors, civil society and NGOs, across all levels of the education system will help improve accountability, planning and implementation, and assist in knowledge sharing. Providing technical support to policy makers and education officers will also help to develop their capacity in monitoring to ensure greater transparency, accountability and consistency at the township and school level, and to put in place a better evidence base for planning and programming under the NESP. As the evaluation TEIP shows, a broad situation analysis of all factors affecting education quality and access is also highly desirable, as is an analysis of existing structures, systems and policies and plans supported by feasibility studies, audits and baseline evaluations to gauge existing capacity and identify developmental inputs.

The trend analysis of QBEP questionnaire survey suggests the SITE model, with its emphasis on developing pedagogy and supporting teachers at the school and cluster level, shows great potential for improving the quality of education, particularly in schools serving rural communities. It is also supported by research which suggests school-based CPD needs to be sustained, ranging from 30 to 100 h spread over 6 to 12 months, with an average of 49 h in a year, to significantly boost student achievement (Yoon et al. 2007). A strategic shift away from short-term workshops and cascade training towards school-based and cluster CPD is also line with international research on effective teacher development in low-income countries (Save the Children, 2012). The questionnaire survey, mainly from rural schools, shows QBEP's increasing emphasis on the school as a key site for helping teachers to explore their own beliefs and classroom practices in order to bridge the gap between theories and actual classroom practice was positively received.

As more ICT becomes available to schools, online resources and videos of lessons could to be used to model and discuss effective practices with groups of teachers at the cluster and school level. Video-stimulated reflection should also be used as part of an action research cycle where teachers plan, teach, review and set clear targets for pedagogical improvements. The growing body of research on effective professional teacher development from the south-east Asian region also supports QBEP's emphasis on the school as the key site for teacher professional development and the need for teaching to be given release time to engage in such activities (Goodwin et al., 2017).

Helping Myanmar teachers transform classroom talk from the familiar rote, recitation and exposition to include a wider repertoire of dialogue and discussion in whole class, group-based and one-to-one interactions to improve the quality of instruction will require a continuing effort in training teachers in alternative classroom interaction and discourse strategies (Hardman, 2015). Key issues such as multi-grade, gender sensitivity, assessment for learning and special educational needs and inclusive education should also be given a greater emphasis in school-based professional development.

Given the linguistic and ethnic diversity found in the QBEP-supported schools, and the role of language and identity as a driver of conflict, the mainstreaming of QBEP should prioritise multilingual education (Higgins et al., 2016). Studies point to the advantages of using mother tongue as the medium of teaching and learning in the early stages of education before the introduction of national and international languages (Pinnock, H. and Vijakakumas 2009). Myanmar teachers therefore need training in the use of both the mother tongue and second language teaching to make the curriculum more relevant by connecting the learning to the student's experience, environment and culture.

As the variation in the external support to QBEP schools found in the trend analysis study suggests, developing the capacity and training needs of those charged with organising and providing the training, mentoring and coaching, such as TEOs, ATEOs, cluster heads, master trainers and head teachers, remains a major challenge in the effective delivery of teacher professional development at the school and cluster level. Teachers and teacher educators need to know the content of the relevant curricula and what teaching practices make a difference for students.

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Chapter 4
Kenya: Joint School-Community Approach for Education of the Marginalized Children

Donvan Amenya

Introduction

Since the launch of EFA in 2000, major initiatives that has been implemented by many sub-Saharan African countries to expand educational opportunities through the introduction of free primary education. As a result of this, there has been a rapid increase in enrolment in the last two decades. However, concerns have been raised about the quality of education, especially in rural areas, where many children fail to transfer to secondary school due to poor performance in the primary phase (UNESCO, 2014).

Within the east and southern African region, Kenya has been one of the most successful countries in getting children into school and ensuring that once they enrol they learn (SACMEQ, 2010). However, there is a great deal of regional variation within the country, and many children living in arid and semi-arid (ASAL) areas of the country remain out of school or are still failing to achieve the basic and go onto to a secondary education (Dyer, 2014). In response to the challenges facing rural schools in Kenya, the Aga Khan Foundation (AKF) funded by the United States Agency for International Development (USAID) and working with the Ministry of Education, Science and Technology (MoEST) launched the Education for Marginalised Children in Kenya (EMACK) project to improve the quality of education for children living in rural areas.

The EMACK project was implemented in two phases. It was initiated as a two-year pilot (May 2004–December, 2006) to serve the historically marginalized populations of the coast and north eastern Provinces. The two regions historically suffered from low enrolment, low completion rates and poor performance in national exams. The initial phase of the project was implemented in Kilifi, Kwale, Mombasa, Garissa and Wajir Districts. During the first two years, the programme facilitated improvements in

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teacher pedagogical practices in both early childhood development and lower primary classes. It also focused on school planning and management through a whole-school development approach and improving the learning environment of students through the provision of quality teaching and learning materials and the construction of classrooms, toilets and water tanks.

In phase two of the EMACK project launched in November 2006 and ending in December 2014, the five pilot districts were expanded to include the entire Coast and North Eastern regions as well as in the urban informal settlement areas of Nairobi. EMACK II was designed to introduce literacy and numeracy to marginalised students and to sensitise teachers and school managers to the needs of students from marginalized populations.

Following this introduction, this chapter is organised into five sections. Section 1 presents a brief overview of education reforms in Kenya over the past two decades. Section 2 focuses on the challenges facing rural schools in Kenya. Section 3 discusses the design and implementation of EMACK II and Sect. 4 presents the impact and outcomes of the EMACK II intervention. Section 5 discusses the lessons learnt from the implementation of EMACK II and their implications for educational policy and reform within Kenya and beyond for addressing the needs of children living in rural areas.

1 Background to Systemic Reforms of Kenya's Education System

As with many other Sub-Saharan African countries, poverty levels in Kenya are high. Kenya has an estimated population of 46 million, 75 per cent of which live in rural areas. Over forty per cent of its people are unable to meet their basic food requirements as they have to live on less than two US dollars a day. With a median age of 19, the country has a large percentage of school age children with over 40 per cent of the population aged 0–14 years (UNDP, 2015).

During 1980's the International Monetary Fund and World Bank encouraged the Government of Kenya to adopt structural adjustment policies in an effort to better control the economy and manage rising debt. As a result, parents faced an increasing range of charges for their children's education covering school fees, uniforms, learning materials and textbooks. As the cost of education for parents rose, the Gross Enrolment Rate (GER) in Standard 1, which had once stood at around 97%, fell dramatically. These withdrawals particularly affected the children living in rural areas, informal settlements and ASAL areas, resulting in declines in the primary GER to a low of around 78% in the early 1990's with less than 50% of the students enrolled in Standard 1 completing Standard 8 (Ackers et al., 2001).

During the 1990's the government along with development partners attempted to address some of the downside effects of structural adjustment polices through the implementation of various poverty mitigation measures. The Strengthening Primary

Education (SPRED) project funded by the UK's Department for International Development (DFID) was a major initiative designed as a quality support and enhancement programme to help alleviate poverty and counter some of the negative effects of the structural adjustment programmes, particularly declining enrolment rates. Central to SPRED was the recognition that teachers are central to improving the quality of education by focusing on improving the pedagogical practices of teachers and developing the capacity of teacher educators. As SPRED developed throughout its three phases, it was increasingly being recognised that field-based models, made up of school-based training supported by distance learning materials, school clusters and follow-up in the classroom, could provide a way of engaging teachers in their own professional development (Mattson, 2006).

In the early 1990's SPRED I laid the foundations for a textbook supply system through mobile libraries and teacher professional development programmes through the establishment of a teacher advisory service and resource centres. In the later 1990's and early 2000's, SPRED 2 emphasised broad education reform, while SPRED 3, the final phase launched in 2003, attempted to shift the emphasis towards direct budgetary support. All phases of the three SPRED projects supported the development of a national textbook initiative, along with head teacher training and school-based in-service. SPRED also paved the way for devolving control of education to districts, schools and communities through a variety of interventions.

Support for school-based leadership and management for head teachers was provided in the second phase of SPRED. The systems that were developed during this period were to prove critical during the introduction of free primary education in 2003. Efforts to cope with the huge surge in enrolment also focused attention on the scaling up of textbook provision, as well as countrywide school-based in-service education and training (INSET) provision. A national, distance-learning programme for head teachers, known as the Primary School Management Project (PRISM), to provide leadership and management training in school development planning and other key aspects such as managing the curriculum and school resources including staff development was launched in 1996 (Crossley et al., 2005). The leadership and management training were also explicitly linked with gender awareness and poverty alleviation at the school and community level.

Throughout its 4-year period, PRISM introduced new systems of school-based support through distance learning materials that reached the majority of state primary school head teachers (estimated to be over 14,000) in Kenya and involved professionals at all levels of the Kenyan education system. The training materials covered the establishment of overall school goals and objectives, how to develop, implement and evaluate strategies and policies required to achieve the goals, and how to develop action plans necessary to achieve the specific goals and objectives.

The success of PRISM gave confidence to the MoEST to attempt a similar initiative with classroom teachers, known as the School-based Teacher Development (SbTD) programme building on the experience of using a distance learning model that was more school-based under SPRED 3. Under the direction of a newly established INSET unit based in the MoEST, the aims of the SbTD programme, which ran from 2001 to 2005, were primarily to improve the quality and cost effectiveness of teaching

and learning in primary schools by combining the benefits of cascaded training at a national, regional and district level with school-based teacher development (Hardman et al., 2009).

Since 2003 following the introduction of the free primary education for all programme (FPE) and the subsequent introduction of free secondary education in 2008, Kenya has managed to significantly increase the proportion of students enrolling and completing primary and secondary schooling. As a result, nearly three million more students were enrolled in primary school in 2012 than in 2003 and the number of schools has grown by 7,000. More than three-quarters of primary school age children make it beyond grade 4 and 70 are able to read, thereby out performing many other countries in the east and southern African region (SACMEQ, 2010; UNESCO, 2014). Similarly, between 2003 and 2012, the secondary gross enrolment ratio increased from 43 to 67%, as graduates from the FPE moved their way through the system. More recently, the impact of the 2003 FPE programmes has been seen at the university level, where enrolment has more than doubled between 2012 and 2014 as the initial cohort of free primary school children have begun enrolling in university studies.

Since 2010, when Kenya enacted a new constitution to address longstanding historical, geographic, demographic and human rights violations that hindered progressive development, systemic educational reforms to devolve more supervisory authority of education down to regional and district level have been implemented. Before the new constitution, regional education administration was managed by provincial education offices and district education offices. In 2013, following on from the Basic Education Reform Act, a National Education Board and County Education Boards were established to devolve education down to the county level through the creation of 47 counties. At the school level, School Management Committees (SMC) and Boards of Management (BoM) were also established to monitor educational activities.

Under the Basic Education Reform Act, the MoEST was restructured consisting of the Minister, Permanent Secretary and six departments (Quality Assurance and Standards, Basic Education, Secondary Education, Policy Partnership and East African Community Affairs, Adult Education, and Field and Other Services). The Basic Education Department and Secondary Education Departments were mandated with providing basic and secondary education, and the Quality Assurance and Standards Office (QASO) was charged with assuring the quality of education. The Field and Other services were to oversee educational administration and the provision of staff training including INSET for education officers, head teachers and teachers.

The act set up semi-autonomous government agencies under the direction of the MoEST, which included the Kenya Institute of Curriculum Development (KICD) whose function was to develop curriculum and textbooks, the Kenya National Examination Council (KNEC) in charge of national assessment, the Kenya Institute of Management Institute (KEMI) in charge of capacity development of education managers, the Kenya Institute of Special Education (KISE) in charge of training of teachers for special needs, and the Centre for Mathematics, Science and Technology in East Africa (CEMASTEA).

The education act also set up the Teachers Service Commission (TSC) to review the standards of education, the demand for and supply of teachers, and to advise the MoE on matters relating to the teaching profession. Since 2016, the TSC has also been responsible for introducing an appraisal system for teachers to supervise and continuously monitor their performance and involvement in continuing professional development (CPD). The TSC was therefore mandated to actively promote and facilitate the career development of all the teachers and to overhaul the teacher education system to ensure a long-term sustainable vision of CPD.

2 Challenges Facing Rural Schools in Kenya

Despite the impressive range of systemic reforms to the Kenyan education system, there still exists gender and regional disparities in access and participation at primary level. Cross regional comparisons show unsatisfactory levels of primary school enrolment, completion and transfer to secondary education, especially in ASAL areas (UNESCO, 2015). This remains one of the biggest challenges facing rural schools and ultimately provision of equitable basic education in Kenya.

Similarly, the demand for institutional infrastructure particularly in ASAL regions, marginalized communities, poor rural areas, informal urban settlements and pockets of poverty remains high. Existing facilities in most of those areas are either lacking basic facilities like running water and latrines, or buildings are incomplete or dilapidated. In addition, there a limited number of schools serving populations in many isolated ASAL regions and poor rural districts resulting in overcrowding. In addition to poor infrastructure, schools in rural areas often lack of electricity, denying them access to information, communication and technologies (ICT) to support teacher development and the provision of teaching and learning resources.

Irregular school attendance and low enrolment at age-appropriate levels also constitutes one of the major challenges facing rural schools in Kenya. School absenteeism is attributed to a number of factors including ill health, child labour and the long distances to school, particularly in ASAL areas characterized by dispersed settlement patterns often far from schools and other social amenities. In extreme situations, the dangers encountered on the way to school such as wild animals and bandits also prevent students from going to school (Wasanga et al., 2012).

Besides irregular school attendance, learning in rural areas is characterized by frequent grade repetition and low completion rates. Rural schools in Kenya often grapple with high teacher to pupil ration. This problem is more acute in ASAL areas and those affected by insecurity on the border with Somalia. The poor state of the school infrastructure and social amenities also discourages teacher retention in rural areas, as the majority of the teachers move to urban areas with better amenities, resulting in higher teacher-student ratios and teacher absenteeism (Bagaka 2010).

EMACK was one of the 23 investment programmes, together with DFID's SbTD programme, under the Kenya Education Sector Support Programme (KESSP) which

ran from 2005–2010 and which introduced a sector-wide approach in which international donor funds were channelled through the Government of Kenya (GoK). KESSP also helped accelerate textbook availability in schools using a school-based textbook management system, thereby further reducing the costs of education to all Kenyan primary age children and significantly improving textbook: student ratios.

3   Design and Implementation of EMACK II

3.1   Design of EMACK II

In response to the challenges facing rural schools in the arid and semi-arid areas of Kenya, both phases of EMACK were designed to increase access to quality education opportunities for primary school children marginalized by cultural practices, conflict and poverty. The activity focus of EMACK II was to be on improving learning outcomes in literacy and numeracy, with a special emphasis on early childhood development and education (ECDE) and lower primary education, and the implementing of school management reforms.

Community-based organisations were to be central to the EMACK II project to encourage effective learning through parental and community participation, promotion of local initiatives, and improved teaching and education management. The EMACK II intervention was mainly implemented in the north eastern (11 districts) and coast provinces (13 districts) in close cooperation with education officers at local, regional and national levels. Multiple indicators from various studies had consistently established that the two regions are the least developed parts of the country (UNESCO, 2014). It also worked in partnership with 11 non-governmental organisations (NGOs) and two community-based organizations (CBOs) in the two regions.

EMACK II was designed to address the following challenges with a special focus on marginalised communities in the coast and north eastern regions:

- To change perception of communities about school ownership and development: after the introduction of FPE in 2003, there was a steady decline in participation of parents in school development. This was attributed to the belief that since the government had taken over the financing of education, parents had minimal or no role to play in education of their children.
- Enhance access and retention of children in the coast and north eastern provinces. For a long time, the two regions had the worst educational indicators with enrolment rates which were well below the national average.
- Improve learning outcomes in the two regions by improving the pedagogical skills of teachers, increasing access to learning materials and generally improving the learning environment including the school infrastructure.

- Improve school governance by assisting schools to set up a functional school management committee (SMC) to provide oversight of school improvement initiatives.

The overall objective of EMACK II was to strengthen support within and to schools in order to create improved early childhood and lower primary school learning environments in which parents provide support to, children enjoy and teachers facilitate, a quality education for all who attend.

The project focused on four key strategic areas:

- To build and strengthen partnerships amongst government, private sector and non-governmental organisations at the community, school and district levels in the education system.
- To support the professional development of teachers in order to strengthen their teaching skills, practices and competencies, especially in terms of their ability to work with students from marginalised populations (e.g., pastoralists, OVCs and girls).
- To increase the number of children accessing schooling opportunities by testing, replicating and sharing innovative approaches for quality learning for marginalized communities in the north eastern and coastal provinces to improve the implementation of education sector policies.
- To support the implementation and review of policies that impact on the education of marginalised children.

To achieve its objectives, the project employed a number of strategies, including:

- Joint consultative/review meetings;
- Professional capacity development of education officers including Teacher Advisory Centre (TAC) Tutors, Area Quality Assurance Officers (AQAOs) and Area Education Officers (AEOs);[1] building partnerships with civil societies; whole school approach;[2]
- Capacity development of SMCs and parent associations through trainings focusing on school governance, emerging issues and SMC's responsibility in addressing the same; and,
- Enrolment drives and back to school campaigns intended to mobilise parents to enrol and retain their children in school till completion of the primary cycle.

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[1] They were trained on issues around special educational needs (SEN), establishing and monitoring school cluster system, active learning pedagogies, curriculum implementation, monitoring, mentoring and coaching dynamics and on emerging issues such as HIV and AIDS, child rights and harmful cultural practices.

[2] This approach uses participatory approaches to addressing issues of educational development among the marginalised communities.

3.2 EMACK II Framework on Improving Conditions of Schooling

In order to improve the conditions of schooling in the rural areas, EMACK used a multi-faceted approach that addressed priorities and gaps at different levels of the education system including community, school, cluster, zone, district and county levels. This approach was based on the understanding that school improvement initiatives can only be successful and sustainable if they are holistic and involve all key stakeholders. EMACK II's school improvement framework was largely derived from the project objectives set out in the previous section that were considered fundamental if quality of education was to be addressed both in the short and long term.

It therefore focused on four key aspects of the school system:

- Access and Equity
- Quality of Education/Learning outcomes
- School Governance and management
- Infrastructure

School governance and management: The ultimate goal of this aspect was to establish a functional SMC to act as a bridge to the community. This was considered vital in mobilising additional resources to address the needs of the school. In addition, reaching out to the community was critical for sustainability and ownership of the school improvement interventions. In addition, the SMC was to have an oversight role in the school management and implementation of various interventions.

Access and equity: This aspect mainly focused at enrolment with special focus on OVC. To ensure that out of school children were enrolled, the project conducted back-to-school campaigns through the involvement of parents and other community members. Emphasis was also put on extending additional support to OVC in an attempt to make the school responsive and friendly to all children.

Infrastructure: Given that the nature of school facilities is another key aspect that influences the quality of education and learning outcomes, this aspect mainly focused on the adequacy of facilities, including classrooms, clean running water and latrines, and the extent to which they were responsive to the unique learning and developmental needs of all learners.

Quality education and learning outcomes: This is aspect focused on the interaction between access, governance and infrastructure. It was also a key indicator of the level of efficacy of the school improvement initiatives. To ensure high quality education, emphasis was put on the professional development of teachers, the sharing of best practices among teachers and providing material support where required.

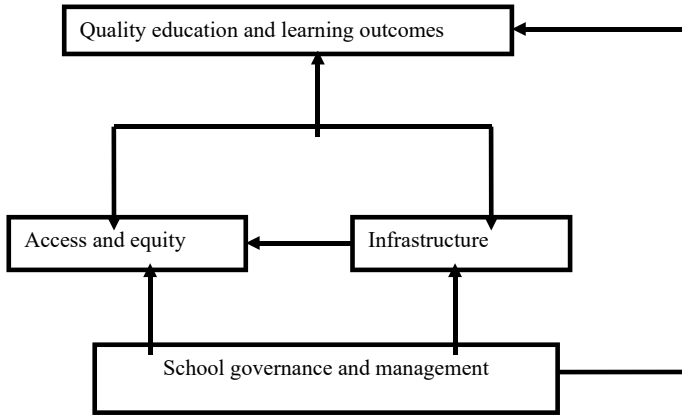The four key aspects of the education were considered interlinked as shown in Fig. 1.

Fig. 1 EMACK II school improvement framework

3.3   *Joint Consultative Meeting to Launch EMACK II*

EMACK II started with a major joint consultative meeting in January 2007 in which the participants included key MoEST officials such as the Permanent Secretary, the Director of Education and departmental heads, Provincial Directors of Education, District Education Officers (DEOs), District Quality Assurance and Standards Officers (DQASOs), and senior officers from USAID and AKF. It was through this consultative meeting that the project was launched. From the onset, EMACK was declared the MoEST's project and was only implemented in partnership with AKF, and USAID as the donor. With the aim of information sharing and joint decision making, consultative meetings featured prominently throughout the life of the project resulting in a strong sense of ownership by the education officers charged with implementing EMACK II.

3.4   *Professional Capacity Development of Education Officers*

The professional capacity development of education officers to equip them with the necessary knowledge, skill and understanding to effectively implement EMACK II was considered a major priority. About 64 Education managers at the district, divisional and zonal levels comprising DQASOs, Area Quality Assurance Officers (AQAOs) and Area Education Officers (AEOs) and Teachers Advisory Centre (TAC) Tutors were trained. EMACK II also facilitated and supported the creation of 22 school clusters.

The 11 local organisations EMACK II was implemented in partnership with (three from the coast province and eight from the north eastern province) were also trained in project planning, performance monitoring, financial management and reporting

among other competency areas. The trainings were tailor made in response to the needs identified from the capacity assessment at the inception of the partnerships. The trainings were necessary to address challenges of technical capacity facing most of the partners, especially those from the north east province. The partnership approach to project implementation helped enhance the project output.

The original intention for this was to build on the experiences of early programmes like the DFID funded SbTD and develop these clusters into centres for facilitating school-based professional development and coaching, observation and feedback by head teachers, peers and TACs. Working within the national system of district education offices (DEOs), the school-based training was to be was supported by a zonal-based teacher advisory centre (TAC) tutors based in a zonal teacher advisory centre. TAC tutors were meant to visit schools to provide group-based support to teachers working with self-study learning materials and to conduct coaching, observation and feedback of teachers in the classroom. Having teachers and head teachers collaborate with other educational professionals, such as DQASO and TACs, to examine what is taking place in classroom and schools, and provide constructive and non-directive feedback, was therefore central to the EMACK II project.

However, the school-and cluster-based professional development system faced various challenges in facilitating school-based professional development. With the creation of new districts, education officers in district offices were in short supply due to transfers. As a result, TAC tutors, whose core-function was to run the teacher advisory centres and to monitor school-based professional development, were given additional administrative responsibilities, thereby constraining their time to visit school to monitor, observe and mentor teachers.

Similarly, the visit of a QASO often included the monitoring of school administrative matters such as teacher/pupil attendance and other administrative records. This meant that during school visits only a few teachers could be seen as the officer had to spread his time between lessons observation and other administrative matters at the school. Heavy workloads were also often cited as a key constraint for peer mentors at the school level since they often had to carry a normal teaching load in additional to their professional development responsibilities.

3.5 Whole School Approach

The whole school approach one of the key strategies used by EMACK II to empower communities to play a central role in school improvement interventions. The overall goal of the whole school concept was to have a holistic approach to educational development in schools whereby education officers and civil society groups would work with the local school community. This was to be done by adopting a participatory approach that empowered the entire school community, including pupils, parents, teachers, school management committee and other key members of the community in the school catchment area, to undertake a critical analysis of key challenges facing

their schools, identify workable solutions and agree on roles and responsibilities to bring about desirable changes.

Before the project was taken to the schools, education officials at district level were contacted and given an overview about the intervention and implementation strategy. Then they mobilised the head teachers who were the entry points to the schools. Once the head teachers had been consulted, a meeting was organised with the project staff where they were briefed about the objectives of the project and how it was to be implemented. The head teacher was then expected to brief the teachers and the SMC about the project. Parents were then invited to the school for a three-day capacity building workshop which sought to guide them in the development of the School Development Plan (SDP);

The process of designing the SDP began with the training of education officials at the district level. The officials included the TAC tutors and DQASOs. The training mainly focused on the entire process of implementation of the whole school approach from design, implementation, monitoring and evaluation. The TAC tutors were then used to train head teachers.

The core objective of the three-day workshop with parents was to enable them to reflect critically on the prevailing conditions of the school, challenges it faced and strategies for addressing the challenges. During the workshop, a brief situational analysis of the school was undertaken jointly with the parents. The trainers outlined the history of the school, how it started, progress made over the years and the prevailing circumstances. This helped parents decide on whether they were satisfied with the school's learning conditions.

The development of the SDP began once parents had agreed that collective action was needed to improve conditions of their school. To achieve this, the facilitator helped parents identify the challenges facing their school using a series of prompts as shown in Box 1. They were then prioritised according to the four aspects EMACK considered critical for an effective school: access and equity, quality of education/ learning outcomes, school governance and management and finally infrastructure.

Box 1 Key Questions in Development of School Development Plan

- What changes do we seek to ensure all eligible children are enrolled in school?
- What changes do we seek in improving quality of education in our school?
- What changes do we seek in improving the infrastructure/learning facilities of our school?
- What changes do we need in improving quality of governance of our school?
- Who will be involved in developing the school plan and how?
- Who will lead this process (perhaps SMC or Parent-Teacher Association (PTA) best suited?)
- Where will the resources for facilitating planning come from?

The roles and responsibilities of parents as part of the SDP process were also mapped during the three-day training workshop as shown in Box 2.

Box 2 Roles and Responsibilities of Parents in the School Development

- They contribute resources towards implementation of SDP activities
- They provide labour when needed in some activities such as infrastructural development
- They participate in review of SDP during quarterly meetings
- Through the SMC, they provide oversight role in implementation of SDP
- They take part in community enrolment drives to ensure all school aged children are enrolled in school
- They assist in mapping of resources within the community towards implementation of the SDP.
- Parents also hire teachers and pay them to supplement government efforts especially in schools with deficits. In addition, they buy supplementary readings for their children.

The SDP was not an end in itself, rather a product of the whole school development process. It was subjected to an annual review to track progress made in the implementation of yearly targets, the challenges encountered and ultimately formulate strategies to carry on with the SDP targets. At the end of the three years of the SDP, a comprehensive review was undertaken to take stock of the targets achieved, missed objectives and to identify targets for the following three years.

4 Impact and Outcomes of EMACK II

According to an EMACK II mid-term evaluation conducted through interviews, documentary analysis and observations by AKF in 2009, the following lessons were being learnt from the intervention activities:

- The close working and consultative relationship forged between EMACK and the MoEST at the district, zonal and school levels helped build a high sense of ownership amongst education officers. The same was also observed among the school level managers and participants such as the SMCs, head teachers and teachers. This had the advantage of guaranteeing the institutional sustainability of the project.
- Through the interventions, there was evidence that district, divisional and zonal level education officers were visiting schools more frequently for both curriculum and administrative monitoring.

- The trainings administered to SMCs seemed to have had significant impact on their understanding of their roles and responsibilities. Up to 94% of the SMCs interviewed were able to state at least three things that they understood to be their roles and responsibilities in providing oversight of the school. They were conversant with their SDP and had been consulted in drawing up priorities in the plan.
- The majority of SMCs, especially those in north eastern province, reported they were involved in enrolment drives and back-to-school campaigns, having acquired such skills from their training. Other SMCs also reported they had mobilised and sensitised parents to support and participate in various school development projects, including payment of additional teachers where there was understaffing, establishing school feeding programs for ECD, as well as in-kind contribution to make the 10% community contribution to small grant projects under EMACK.
- The whole-school development process had made a significant impact on the head teachers. Most head teachers reported increased levels of commitment in the school from the local community following the various engagement activities promoted under EMCK. Through the whole-school approach there was evidence of a closer working relationship between the SMCs, parents and the school's management team (head teacher/deputy etc.) covering a range of school level initiatives.
- The whole-school development approach had acted as a powerful community empowerment strategy. The participatory approach had helped to promote a sense of ownership and identification with the school resulting in a range of community-initiated projects.
- SDPs developed as part of the whole-school planning approach had acted as a powerful fundraising tool. It was reported that over 80% of SMCs were already using their SDPs to raise for money for school development projects which varied from infrastructure development to purchasing teaching and learning resources. The SMCs were also drawing on devolved funds such as the Constituency Development Fund and Local Authority Transfer Fund, and fund raising from NGOs and individual sponsors.
- Many schools reported an increased enrolment as a result of the enrolment drives and back-to-school campaigns, particularly in the north eastern province. Where there was a decrease, it could often be explained by drought and famine in some parts of the target provinces. Community-based school feeding programs helped in the recruitment drive, particularly in drought and hunger prone areas.
- The capacity building of various actors was crucial in supporting the design, implementation, monitoring and evaluation of the EMACK intervention.
- Partnerships with civil society organisations and with line ministries were very important for the quality assurance of the intervention through improved monitoring and accountability. It also helped to ensure resources were not duplicated.

The end of project review of EMACK II in August 2014 conducted by USAID reported that with a budget of $17.8 EMACK II had reached 808 primary schools and

ECDE centres, 10,504 SMC members, 4,000 teachers and benefitted approximately 399,132 pupils, comprising of 215,426 boys and 183,707 girls to improve the teaching and learning in Kiswahili, English, and mathematics and the effectiveness, efficiency, and accountability of school management, and improve parents and communities' participation to support literacy and numeracy outcomes.

Furthermore, it was reported that EMACK II had increased equitable access to education for 120,000 children in crisis and conflict environments and strengthened MoEST delivery systems at cluster and district levels to enhance the quality of education provision. In addition, 192,402 students had received reading interventions in grade 1, 2 and 3 and that 132 reading clubs meet outside of school hours had been established. Seventy-five schools in conflict affected areas had also been supported with relevant materials to improve safety and the learning environment.[3]

5   Conclusions

Overall, the findings of the EMACK II project review support the view that school-based training for teachers and head teachers offers the most potential for changing pedagogic practices and improving leadership and management practices, particularly in developing countries like Kenya where many students live in rural communities and where many teachers and head teachers lack training or under prepared because of the quality of their pre-service education and training (PRESET) and lack of INSET (Akyeampong et al., 2013). The findings also point to the importance of involving the local community in the running of the school so as to take the local socio-cultural context into account.

The sustainability of interventions like EMACK II is one of the most difficult challenges for governments and development agencies, particularly once donor funding is withdrawn. The situation is more challenging in remote rural areas characterized by high incidence of rural poverty and illiteracy. Using existing zonal cluster structures, such as those set up under the DFID SbTD programme, was crucial in reducing the cost of implementation of the EMACK II intervention thereby enhancing its sustainability. The emphasis on mobilising local resources by involving the local community in the running of the school also made the EMACK intervention more sustainable. Involving the community was seen as a self-sustainable strategy as it ensured continuity of the intervention even after withdrawal of donor funding.

The sustainability of a project like EMACK also points to the need for other factors to be considered beyond financial sustainability. The integration of an intervention like EMACK II needs to be embedded within the context of the long-term goals of the education system if it is to have a lasting impact. As discussed in the opening section to this chapter, the GoK and MoEST have made great strides to implement and fund a systemic approach to education reforms, including curriculum, assessment and

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[3] EMACK Fact Sheet, August 2014. Kenya: United States Agency for International Development.

teacher education reforms, supported by donor funded sector wide approaches such as KESSP.

Furthermore, the long-term sustainability of projects like EMACK II points to the need for ownership of the intervention not only at the government level but throughout the education system involving each level of stakeholder from national through regional down to provinces, districts, zonal and school level administrators, and including teachers, parents and local community leaders. It also points to the need monitoring and feedback systems that can sustain change and bring interventions to scale.

While the review of the EMACK II project suggests it was successful with pastoralist groups in arid and semi-arid areas, it was not as successful in enrolling nomads. The focus on supporting fixed point schools may not have been useful for attracting mobile learners (Dyer, 2014). It therefore calls for a commitment by the GoK and international donors to fund alternative basic education packages using open and distance learning packages along with the use of ICT in addition to fixed point schools as a way of addressing the needs of nomadic communities.

There is also a need to build a more rigorous evidence base for policy makers, teacher educators and teachers about the kinds of experiences that help to build head teacher and teacher capacity to bring about transformations in teaching practice and student learning. Longitudinal studies investigating the scale-up of national educational reforms will help build an evidence base for policy makers on the sustainability, efficiency and cost effectiveness of field-based approaches compared to other forms of professional development in resource-poor environments (Hardman et al., 2015).

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Chapter 5
Uganda: Improving the Quality of Rural Education Through Standard-Based Teacher Development and Management Reforms

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1 Introduction

Uganda is a landlocked country bordered by Kenya in the East, South Sudan in the North, Democratic Republic of the Congo (DRC) in the West, Rwanda in the Southwest and Tanzania in the South. It is comprised of four major ethnic groups (i.e. the Bantu, Hamites, Nilo-Hamites, and the Nilotics), with over 65 dialects. The Bantu-speaking ethnic group (who live in the central, southern and western parts of the country), currently constitutes the majority. The non-Bantu speaking ethnic groups occupy the eastern, northern and north western parts of the country. This ethnic composition plays a major role in shaping Uganda's national character, political economy and the way of life of the people (UNDP, 2015). Uganda's population has continued to grow rapidly over time and is one of the world's fastest growing populations and one of the most youthful with more than half its population—56 percent—under 18. The current population of Uganda according to national household survey data stands at 34.6 million with an annual population growth rate of 3.0 percent recorded between 2002 and 2014 censuses. Of this population, over 80 per cent live in rural areas and directly survive off the environment and natural resource base (UBOS, 2014).

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Ethnic conflict and civil war continued into the mid-1980s until President Museveni and the National Resistance Movement (NRM) took power in 1986 after waging a bush war against the Obote regime in the aftermath of the 1980 elections.[1] The new NRM government promised to build a broad-based movement system built on inclusion and equality. Central to the rapid reforms the NRM introduced in the public sector and the economy was the need to rebuild the education sector to make it more accessible and equitable. As a result, it set up a commission—the Educational Policy Review Commission - to appraise the state of education in Uganda and in 1992, in response to the commission's recommendations, the government published a white paper on education providing the basis for the introduction of Universal Primary Education (UPE) in 1996 (Government of Uganda, 1992). Significant financial support from donors, including the UK's Department for International Development (DFID), the World Bank, The Netherlands, Irish Aid, and the Swedish International Development Agency (SIDA) was also provided to the Government of Uganda (GoU) since 1997, creating the financial resources needed to roll out a universal primary education programme (UPE) (Hedger et al., 2010).

By 2015, primary school enrolment was recorded at 8.3 million and the average years of school increased by 2.8 to 7.2 years (UBOS, 2016). This raised the Net Enrolment Rate (NER) at primary level to 96.0% (male 95.6%, female 96.4%) leading to a record 100% achievement of EFA goal by 2015 (UNESCO, 2015). Similarly, Uganda's literacy rate for the general population significantly improved to 74.6% (male 82.4%, female 66.8%) by 2014 (UBOS, 2016). In 2007, Universal Secondary Education (USE) was also launched providing a greater opportunity for students from poor families to go on to secondary school. It was also helped the government re-elected under a multi-party system in 2006 achieve its commitment to providing a secondary school in every sub-county in Uganda.

In response to the growing concerns about the quality of basic education in Uganda and a decline in government funding in 2002 following the introduction of UPE, two major donor-funded teacher development programmes were implemented: USAID's Uganda Initiative for Teacher Development Management Systems and the Presidential Initiative on AIDS Strategy Communication to the Youth (UNITY) in 2008 and the UNICEF-supported Quality Improvement in Primary Schools through BRMS Implementation (henceforth QIPS-BRMS) in 2010 funded by The Netherlands, Irish Aid and SIDA. In response to growing public concerns about the quality of UPE following the 2006 general election, the Ministry of Education and Sports (MoES) also revised its Basic Requirements and Minimum Standards (BRMS) indicators for education institutions generally referred to as BRMS (Republic of Uganda, 2008).

Following this introduction, the chapter is divided into five sections. Section 1 presents a brief review of the Teacher Development and Management System

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[1] Instability, however, prevailed in the north of Uganda over 20 years from 1987 to 2007, in the form of many conflicts, most notably from the Lord's Resistance Army (LRA). This conflict engulfed not only the Acholi region which took the brunt of the violence, but also regions to the east and west, with a very different social makeup. The conflicts exacted severe socio-economic losses, leading to population displacement, a breakdown in social infrastructure, severely weakened governance, especially at the regional and district levels, and service delivery.

(TDMS) introduced into Uganda in the late 1990s along with UPE to improve the quality of basic education before going on to discuss the design and implementation of the UNITY and QIPS-BRMS programmes in Sects. 2 and 3. Section 4 discusses the emerging lessons and key priorities for policy makers in Uganda for improving the quality of education as part of the new post-2015 education agenda.

2 Teacher Development and Management System

As discussed in the introduction, Uganda's education system has undergone significant development since the mid-1990s. In 1998, following the large growth in primary school numbers, the GoU launched the Education Strategic Investment Plan (ESIP). The plan formed part of its sector-wide approach supported by international donor agencies and the Ministry of Education and Sport (MoES, 2000). It was committed to a decentralised approach to education to increase local leadership, capacity and transparency in the distribution of resources, and to achieve greater integration of development partner and government effort to arrive at coherent and comprehensive approach to aid management.

Following on from its commitment to UPE and the abolition of school fees in the mid-1990s, there was a growing recognition by the government of Uganda of the need to increase access, equity and the quality education. With it came the need for a strategy to increase the number of trained teachers and improve the quality of head teacher management skills and the pedagogical skills of teachers for the schools to run efficiently and effectively (Hardman et al., 2011). It was estimated in the ESIP that half of the countries teachers were untrained and that those who had received training were under-trained requiring a teacher education system to be put in place to address this challenge. As a result, the TDMS was devised with a focus on both the teachers in the field and teacher trainees in Primary Teacher Colleges (PTCs). A major part of the strategy was the institutionalisation of a coherent pre-service education and training (PRESET) and in-service education and training (INSET) approach to the primary teacher education system in order to address inherent weaknesses in classroom pedagogy (Penny et al., 2008).

The TDMS was conceived as an integrated delivery system for primary education reform services focusing on improved student learning. (MoES, 2000). The national TDMS network was to operate from the national level of the MoES through its different departments (e.g. Teacher Education Department (TE Dept), National Curriculum Development Centre (NCDC) and Educational Standards Agency (ESA)), down to the District Councils (DC) and County Administrative Office (CAO) and PTCs, Coordinating Centres (CC), selected core CC primary schools, managed by the Centre Head Teacher (CHT) and overseen by a Coordinating Centre Tutor (CCT), to reach out to schools clustered around the CC.

The TDMS was made up of 46 PTCs of which 23 were seen as being core to the delivery of school-based INSET. Kyambogo University, acting on behalf of the

MOES, was made responsible for all of the PTCs, and relied on 9 co-ordinating-centres to act as a mechanism for the delivery of a mixed-mode education diploma for practising teachers, offering face-to-face contact during the vacations.

A uniform PTC curriculum was also produced by Kyambogo University which consisted of professional studies, mathematics, language, science, social studies and cultural studies. It also organised training for tutors, moderators and monitors of college examinations. Each core PTC had up to 40 INSET teacher educators, called coordinating tutors (CT), attached to the college. They were provided with a motorbike to enable them to do in-school continuing professional development work (CPD) work, which comprised the majority of their time. Each CT was responsible for providing workshops at the CC on Saturdays and during school holidays, and school-based support involving lesson observation and feedback to teachers and head teachers within a reasonable distance of their centre. District Inspectors of Schools (DIS) also provided some support supervision but their role was mainly to monitor and evaluate the effectiveness of implementation. During the first four years of the TDMS programme, activities were implemented in six phases, and covered 56 districts of Uganda.

A Core PTC had a number of CCs connected to it. These CCs had a number of outreach schools connected to them and they are also connected to a CPTC. This formed an administrative network through which Core PTCs operated under the TDMS. The school-based cluster model was designed to provide INSET/upgrading training opportunities to under qualified and untrained (licensed) teachers to acquire grade three teachers certificate without leaving their jobs and families for a long time. It was a three-year on-the job training programme. The programme also made use of self-study modules, weekend seminars and short face-to-face residential sessions of 10 days run by CCTs and held at the PTCs during the holidays. During term time, the INSET students continued teaching their classes in their respective schools, thereby applying the knowledge and skills acquired from self-study modules and peer group meetings/week-end seminars.

The CPD provision was designed to support all practising teachers and head teachers through workshops, seminars and short courses that were mainly held at week-ends during term time and over school holidays at CCs and outreach schools. INSET for the CCTs was also conducted during the residential courses. Resource centre at the CC were also set up to provide professional development and support to teachers within the CC catchment area. It was through such courses that new approaches in improving quality of education were introduced to teachers. Topics included multi-grade teaching, equity in the classroom, management of large classrooms and the use of positive reinforcement approaches to student behaviour management.

The TDMS network was implemented through a network of 539 CCs each of which coordinated a cluster of an average number of 25 outreach categories of schools including government of Uganda, community and private schools. One school in each cluster was selected using national criteria to serve as the CC school.

3 UNITY Teacher Development Programme

One of the major donor funded teacher development programmes in Uganda over the past decade has been the UNITY teacher development programme funded by USAID which started in 2006 and ran until 2011. Following an evaluation of the TDMS in 2003 which suggested that the system and the PTCs were inadequately staffed and funded, thereby undermining its overall contribution to improving the quality of education, UNITY's focus was on quality education through a large teacher education and training component aimed at strengthening the effectiveness of TDMS (USAID, 2008).

Working through the MoES's decentralised TDMS, UNITY focused on developing the skills of the district level education officers to support schools and clusters and build collaboration with the PTCs. By utilizing the TDMS's existing structures, UNITY's aim was to build capacity and strengthen ownership of the system structures at the district level to ensure the longer-term sustainability of the initiative. Among the professional development activities offered by UNITY was the Certificate in Teacher Education Proficiency aimed at the capacity building of teacher educators in modern pedagogy, classroom management, and skills in how to provide peer-to-peer support accredited and institutionalized by Kyambogo University.

In addition to working 'upstream' at the national level, UNITY also worked 'downstream' at the district, school and community level by employing a range of strategies to improve district monitoring, whole school planning and to motivate parents to become more involved in their children's education and to hold schools accountable for their provision. To effectively address the challenges of education service delivery under a decentralised policy framework, it was recognised that the districts needed a system of collection, integration, processing, maintenance and dissemination of school performance data. This would support evidence-based decision making, policy-analysis and formulation, planning, monitoring and management at the district and school levels.

Focusing on 22 districts (i.e. 20 per cent of Uganda's districts)**,** UNITY trained district officers in using the Education Management Information System (EMIS) in evidence-based decision making, policy-analysis and formulation, planning, monitoring and management at the district, sub-county and school levels. In this way it introduced school performance reviews to audit school and district performance against the nationally approved indicators and to share the information with parents and community members. It also helped 2,028 primary schools to set up and train School Management Committees (SMCs) and head teachers in developing and implementing school improvement plans and to mobilise local leaders, civil society, parents and communities to tackle critical issues in education facing the schools (USAID, 2008).

4   Quality Improvement in Primary Schools Through BRMS Implementation

The Quality Improvement in Primary Schools Through BRMS Implementation (QIPS-BRMS programme) built on the MoEST's review of the Basic Requirements and Minimum Standards (BRMS) indicators for education institutions, generally referred to as BRMS, which was designed to increase child participation and survival rates in primary schools and improve the quality of primary education through innovative projects.

The focus of the QIPS-BRMS programme was to be on four key support systems:

- District education offices (DEOs) which acted as coordination centres, liaising between education and local government in the district;
- The 23 PTCs which under the TDMS had outreach capacity provided through the CCTs who were based in the colleges but worked in schools;
- The national Directorate for Education Standards (DES) which was mandated with inspecting schools and advising on improvements to the quality of the student learning experience;
- District education authorities who also conducted school inspections at municipal and district level through the DIS and the Municipal Inspectors of Schools (MIS).

It therefore aimed to improve CCT's engagement with schools to provide professional development and support, enhance teacher performance and community engagement to improve completion rates and learning outcomes, and to improve the coordination of district education partners (i.e. DEO, PTC, DES).

The QIPS-BRMS programme supported a comprehensive long-term coaching and mentoring training programme to develop the capacity of all CC tutors and DIS across 73 districts, covering two-thirds of the country, in Uganda to support primary teachers and head teachers to implement the MoES's minimum standards. The rationale for adopting a mentoring approach was to address the well documented failures of cascade training workshops to transfer to schools and to improve the practices of participants (Save the Children, 2012). It also built on research suggesting mentoring was highly effective at the school and classroom level in changing pedagogical and leadership practices and was, in the long term, more cost effective (Bean, 2014).

Specifically, the QIPS-BRMS mentoring programme focused on strengthening the TDMS and inspectorate systems by developing the capacity of CC tutors and DIS to successfully support primary teachers and head teacher in implementing the BRMS standards in primary schools together with the new lower school thematic curriculum and revised upper primary curricula. A new, concise 33-page inspection manual focusing on both quality assurance and quality enhancement was also produced along with a self-evaluation guide for schools to be conducted prior to an inspection (MoES, 2012a, 2012b).

In an end of programme review by UNICEF in 2016, it was reported that over the four years of its implementation 2,860 'model' schools and, indirectly, 15,962 schools in 77 districts have benefited from the QIPS-BRMS training. It also included

the training of 4,369 SMC members (2,897 male; 1,472 females and the production of a 'best practices' booklet for the CCTs and for distribution to schools arising from the mentor training and the provision of instructional materials to the model schools (UNICEF, 2013). The pedagogical practices collected by UNICEF from the mentors reflect the richness of the experience and the ideas that were generated by the international mentors working across the fifteen PTCs with the 313 CCTs.

One hundred and twenty-seven CCTs were also provided with new motorbikes to facilitate their visits to schools and a mobile phone-based system for the collection of baseline and evaluation data in 19 districts and 1600 schools. In terms of QIPS-BRMS's impact on the quality of education provision, it was reported that completion rates to the end of primary had risen by 2 percent from the 2010 baseline of 50 percent (52% males; 47% females) and the drop-out rate had declined by 3 percent. Primary Leaving Exam (PLE) results had also improved by 3 percent in the 2,860 schools reached by 286 CCTs supported by the 17 mentors compared to a 2010 baseline. A system for reporting violence against children was also found to be effectively functioning in 44 percent of the schools.

5 Conclusions

In the Ugandan context, the TDMS system set up in the late 1990s working through the PTCs with outreach to schools through the CCTs is a key element in sustaining their impact on the education system. However, there is a need for greater political, financial and policy commitment on the part of the GoU and MoES to invest in the future continuation of the school-based cluster system. While the CCTs form a natural link between the schools and the education system and therefore have a key role to play in supporting pedagogical improvements in the schools, most of the present cadre of CCTs are nearing retirement. Both the USAID and UNICEF-supported programmes have shown that a motivated and better trained and resourced cadre of CCTs can make a significant and positive impact on schools. Therefore, adequate funding from the government needs to be secured for both the continuation of the school-based cluster system and the necessary capacity development of the CCTs.

Sustainability also goes beyond financial sustainability as integration of any intervention within the context of the long-term goals for the education system is a major priority. For this there needs to be a good understanding of the political, social, economic and cultural context in which the programme will operate, as 'best practices' cannot merely be transferred from one country to another. If programmes like UNITY and BRMS are to be sustained in the education system once donor funding and international support is withdrawn they must also have a systemic impact. This suggests they need to impact on national policy and building capacity and be owned by the state institutions with clear role and responsibilities mapped out. Ownership of the programme needs to involve each level of stakeholder throughout the system,

from national through regional down to school level head teachers and including teachers and parents.

There also needs to be transparency throughout the system with feedback mechanisms that can sustain change and bring interventions to scale by, for example, gaining political support, devising incentives and ensuring adequate funding is made available to each level of the system for it to carry out its roles and responsibilities. Such feedback mechanisms to ensure transparency and accountability throughout the system are fundamental to sustainable development, systemic change and continuous improvement, requiring the alignment between institutional leadership and stakeholder ownership. Without such stakeholder involvement and ownership, surviving frequent changes in political leadership will be difficult.

As the education programmes discussed in this chapter suggest, putting in place a systematic monitoring and evaluation system in Uganda with input from stakeholders across all levels of the education system will improve accountability, planning and implementation, and assist in knowledge sharing. As discussed in the UNICEF-supported QIPS-BRMS, the starting point should always be a baseline assessment of existing classrooms practices. A broad situation analysis of all factors affecting education quality and access is also highly desirable, as is an analysis of existing structures, systems and policies and plans. Research suggests, too often new teacher education initiatives start at the micro-level and are very seldom scaled up because they have not addressed systemic issues that need to be identified through feasibility studies, audits and baseline studies to gauge existing capacity and identify developmental inputs (Riddell 2012).

Understanding the political economy of education at the municipal and district level is also necessary if we want to know why education reforms are often not fully implemented or sustained and to understand the political economy factors explaining local-level variance in school performance (Kjær and Nansozi 2016). In supporting decentralisation of the education system down to municipal and district level, it must be recognised that this brings problems in implementing national reforms, including corruption and leakages at various levels of education expenditure (UWEZO, 2012). Given the decline in funds to the education system by the national government to provide for across-the-board improved quality of education since 2002, the variation in performance of schools will also be impacted on by local contextual factors, such as the wealth of the municipal government, and the strength of the local community.

As Kjær and Nansozi (2016) suggest, the extent to which a school's performance varies within its local community relates very much to the position of the school within local patronage networks, and the relationship of the head teacher, SMC and parents to local elites and politicians. As discussed in the introduction, prior to 1996 and the rebuilding of a national education system in Uganda, throughout the 1970s and 1980s PTAs effectively ran schools, thereby empowering local political elites and vested interests at the municipal and district level. It is also recognised that despite the introduction of UPE, many parents face hidden costs of education and that schools that perform well often rely on the support and input of the parents, as well as their political connections with local council.

As a result of the need for additional educational from parents and weak monitoring and auditing systems, it is estimated that there is considerable leakage of education funding at several levels through, for example, the payment of 'ghost teachers' and the misuse of budgets at the district level. Also, local councillors and district officials may use their discretion to, for example, allocate teachers or grant permission to set up private schools. Within schools, leakages also occur due to high rates of absenteeism by students, teachers and head teachers and many parents turn to low-cost private schools to achieve what they see as a better education for their children. Such trends militate against the idea of UPE as being an economic equaliser and social leveller. Corruption with the education system also discourages international donors from supporting the GoU through sector-wide approaches, thereby perpetuating programme/project initiatives rather than systemic reforms funded through government channels (Riddell 2012).

As the government supported by the international donor community continues to expand the system through the introduction of universal secondary education and vocational training programmes, it is clear that a political commitment to educational quality is required by significantly increasing the funding of education along with the national growth in GDP and GNI in Uganda to ensure systemic reforms that will bring about pedagogical solutions. Increased funding is needed to expand the capacity of the school-based cluster system to run an integrated and unified teacher training which combines both pre- and in-service teacher education and training, to rehabilitate all non-core PTCs to the level of the core PTCs and to expand the CCT system to include pre-primary, special educational needs, secondary and technical and vocational education and training.

As the review of the education programmes discussed in this chapter suggests, the sustainability of the school-based cluster system set up under the TDMS in Uganda to bring about pedagogical solutions will largely depend on the motivation of personnel in the PTCs and outreach faculties who continue to offer professional mentoring, support supervision and training to teachers and head teachers (Lyseight-jones, P.E. 2016). Providing professional development opportunities for PRESET and outreach teacher educators will be central to their capacity building and effectiveness when working with schools and teachers. The creation of district head teacher leadership and peer mentoring will also go a long way to augment and complement the efforts of CCTs in providing the necessary synergies in improving teaching and learning, as well as management and governance. Securing the future of the CCT's role in supporting education development in all sectors at the district and school level will play a key role in improving the quality educational outcomes in Uganda.

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Chapter 6
Summary and Policy Recommendations

Frank Hardman

A common trend emerging from the four country case studies has been the need to broaden the focus of educational development in rural communities from improving access to improving the quality of education and that teachers are at the heart of such improvements. While all four case studies show significant gains have been made in improving access to education in developing countries since the launch of Education for All (EFA), there remain significant challenges for improving the quality of education once the students are in the schools, particularly in rural areas.

The 2015 Global Monitoring Report (GMR) estimated that out of a total world population of 650 million primary age students, 250 million were not achieving the basic literacy and numeracy skills even though 130 million of them have spent at least four years in school (UNESCO, 2015). Overall, the poor quality of learning at primary level still has millions of children leaving school without basic skills. Similarly, it is estimated there are still 58 million children out of school globally and around 100 million children who do not complete primary education. Inequality in education has increased, with the poorest and most disadvantaged, often living in remote rural areas, shouldering the heaviest burden. As the chapters also show, a high proportion of out-of-school children living in harsh, remote and arid rural areas are often affected by conflict.

Each of the case studies featured in this publication points to the fact that teachers are central to addressing the twin issues of access and quality in developing countries. However, they also show that there are not often enough teachers to meet the needs of expanding educational systems and support the general estimate that 1.7 million additional teachers, including 1 million in Africa, will be needed to reach universal primary education world-wide. The capacity of many of the teachers in the systems also remains low due to weak academic qualifications and poor pre-service education

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and training (PRESET). For example, in east and southern Africa, a regional assessment of 15 countries conducted by the Southern African Consortium for Measuring Educational Quality (SACMEQ, 2010), found that by international standards average teacher academic qualifications and levels of training are low as many teachers are unqualified or underqualified.

The Myanmar and Uganda case studies also highlight that in addition to often living in remote and arid areas prone to natural disaster, many communities and schools also face the challenges posed by conflict. In such contexts, it is now widely accepted that schools and teachers can be used to provide a safe space and sense of normalcy during situations of instability, and contribute to the physical, psychosocial, and cognitive protection of children, adolescents, and adult learners. School can also become a focal point for interventions to improve child protection and as a cross-cutting developmental factor in capacity development, gender, social cohesion and human rights awareness. In the long term, education can help reduce violence, and build bridges between deeply divided communities, giving hope and opportunity to young people (Barakat et al., 2013).

Where teachers have received PRESET it is often judged to be of poor quality. It is found to be largely institution-focused, lecture-based (usually from trainers who lack experience and expertise in primary education) with little in the way of supervised practical teaching, thereby creating a large gap between theory and actual classroom practice, and a repetition of secondary education at several times the cost (Akyeampong et al., 2013). Similarly, the provision of in-service education and training (INSET) is also often judged to be of poor quality with little transferability to the classroom. Where it does exist, it is often found to be ad hoc with little follow-up in the classroom and mainly concentrated in urban areas (Orr et al., 2013). Studies have also found that there is often confusion in the way INSET is conceptualised in developing countries with teacher certificate upgrading to improve academic qualifications rather than pedagogic skills being the norm (Hardman et al., 2015).

As can be seen in each of the case studies, such identified weaknesses at the PRESET and INSET stages have led to strategic moves towards providing for teacher development at school and school cluster level. Such forms of professional development also address the limitations of cascaded training delivered through workshops with little transference to the classroom as discussed in the Uganda case study (Save the Children, 2012). In all of the countries featured, ministries of education supported by international donors and agencies have been introducing reforms to decentralise education through a network of provision at the regional, municipal and district level in order to monitor and support school-based programmes.

From the review of the case studies the use of school-based teacher professional development supported by distance learning materials and school clusters seems to offer economies of scale due to its wide reach and ability to reach remote rural areas. School- and classroom-based professional development also help to close the gap between theory and practice as a way of developing pedagogical practices and improving student retention, progression and learning outcomes. Each case study

shows how local support agents, including teacher educators, mentors and inspectors, have also been put in place to work with head teachers and teachers in the schools. These initiatives have been supported by calls for increased governmental responsiveness to regional differences, greater community participation and more flexible provision to meet local needs.

As discussed in the case studies, embedding the reforms in very diverse education systems has brought with it many challenges in terms of contextualisation, ownership, capacity building, and monitoring of the systems. Sustaining an intervention once the programme or project officially ends and donor funds are withdrawn has also presented major challenges. In light of these challenges, this final chapter considers some of the tensions between policy and practice as revealed in the case studies. It goes on to consider their implications for policy makers and practitioners as they embark on building systemic approaches to improving the quality of their education provision in rural areas. Although the challenges are grouped into themes—teacher development, capacity building, community engagement, monitoring and evaluation, systemic approaches, sustainability—it should be recognised that they are interrelated requiring a systems wide approach to reform.

1   Placing Teachers at the Centre of the Quality Debate

A recurring theme throughout each of the case studies and supported by the international research reviewed in the introductory chapter has been the need to focus on creating an effective learning environment for students in rural areas through the provision of adequate facilities, well-trained teachers, a relevant curriculum and clearly defined learning outcomes.

An important feature of the reforms discussed in the case studies was the introduction of an active learning approach for students with improving the quality of classroom interaction at the heart of the pedagogy (Westbrook et al., 2013). They also show that teaching and learning are deeply embedded in the cultural, resource, institutional and policy contexts in which they take place. Most importantly, the case studies suggest that educational quality is largely obtained through pedagogical processes in the classroom and that what students achieve is heavily influenced by the knowledge, skills, dispositions and commitment of the teachers in whose care students are entrusted.

Therefore, it is recognised that teachers are central to improving the quality of education in rural schools and each of the interventions discussed in the country case studies have focused on improving the pedagogical practices of teachers at the school and classroom level. The interventions also included the provision of teacher guides, instructional materials and ensuring improved institutional capacity at the school and cluster level and a new style of leadership and that learning requires opportunities to reflect on practice. The case studies also point to the importance of developing and promoting a shared understanding of pedagogy which can be adapted to national and

local contexts so as to support a range of pedagogical approaches and introduce and support mentoring programmes for teachers and school leaders.

In defining pedagogy, Alexander (2008) argues that it is made up of both the observable act of teaching and its attendant discourse. It comprises teachers' ideas, beliefs, attitudes, knowledge and understanding about the curriculum, the teaching and learning process and the learning of their students. In other words, it is concerned with what teachers actually think, do and say in the classroom, and how the act of teaching links with the social, cultural and political context in which teacher operate. It therefore points to the importance of making the school and the classroom the key site for teacher professional development so that are teachers are able to critically reflect on their beliefs and classroom practices and to arrive at a shared understanding of 'best practice' informed by the political, institutional and cultural context in which the school operates.

Studies of pedagogy in the four featured case studies show that teachers have traditionally relied upon a transmission mode of teaching made up of teacher lecturing, rote and recitation. In response to this finding, each of the interventions had tried to broaden the teaching and learning repertoire used by teachers to include the use of dialogue and discussion in whole class, group-based and one-to-one activities alongside the more traditional approaches. As discussed in detail in the Myanmar chapter, for example, helping teacher educators and teachers transform the quality of classroom requires training in alternative classroom interaction and discourse strategies to dialogue and discussion through, for example, the use of open questions (i.e. allowing for more than one possible answer), probing and building on pupil answers, and peer-to-peer discussion, into their whole class teaching alongside the more traditional drilling, closed questioning and telling, thereby raising student cognitive engagement and understanding. It also suggests, as the China and Uganda case studies discuss, the need for teacher being trained in implementing a new curriculum, and about how to assess it effectively.

As all the case studies discuss in the implementation of new initiatives, changing the pedagogical practices of teachers cannot only be driven only by top-down reforms, but by teachers themselves embracing and leading on reform and taking responsibility for their professionals learning at the school and classroom level. It also points to the dangers of international agencies urging developing countries to adopt 'best practices' with regard to teacher professional development that ignore the everyday realities of the classroom, and the motivations and capacity of the teachers and teacher educators to deliver such reforms.

1.1 Policy Recommendation

Training teachers in an effective pedagogy and formative assessment techniques at the school and cluster level is central to engaging students and raising achievement and should be a key priority for policy makers. It requires education systems to strengthen and build on their existing teacher development and support systems to promote a

collaborative enquiry approach at the school level supported by external expertise to explore learning and teaching issues, uncover assumptions and misconceptions, explore possible alternatives and identify practical next steps. It is important that teacher educators have the time and resources to visit schools to offer coaching and feedback and to provide advice on teaching, learning and assessment approaches. It is also important that teachers are given the release time, which research suggests should be a minimum of 50 h over the course of a school year, to engage in collaborative learning activities. In addition, school cluster networks and teacher resource centres are an important additional resource for professional learning. In order to provide leadership in the clusters and school, head teachers need additional training to help build their leadership capacity so that they can, in turn, lead on curriculum reform and build the capacity of teachers in their schools.

2 Capacity Building

The case studies suggest that institutional and organisational capacity development remains a major challenge. Across all four country case studies, the capacity development and commitment of those charged with designing and implementing education reforms at the national, regional and municipal levels varied, as did building the capacity of those charged with organising and providing training such as district officers, inspectors and college tutors. It highlights the need for designing appropriate capacity development policies for those charged with implementing education reforms at all levels of the system.

For example, the Myanmar and Uganda case studies found large variation in the number and quality of external visits and support provided to schools. As discussed in the Myanmar case study it also raises the issue of fidelity and whether the school-based teacher development intervention had been delivered as intended. In some townships and schools, it was found that the UNICEF-supported teacher development intervention was not well implemented because of the lack of staff meetings, classroom observations and external visits by township officers and cluster heads. It was found that such variation in the quality of implementation across townships and schools has a large impact on students' learning and wellbeing.

Variation in the quality of the support provided to schools is a particular problem in many rural settings because of the isolation of schools. This suggests teacher educators need to be equipped with the resources and skills necessary for coaching and mentoring teachers so they can conduct discussions in which the focus is on the teacher's own practice with recognisable benefits for teachers, mentors and students. In the Uganda case study, for example, much of the training tutors and inspectors received was often made up of one-off, workshop-based provision that did not include on-site coaching and refresher courses in mentoring skills.

2.1 Policy Recommendation

Developing the capacity of those charged with conducting sector wide review of education and policy reforms and organising and providing school and cluster-based professional development should be a major priority for country programmes. Governments supported by the international donor community should continue to prioritise the development of ministry officials, teacher educators, pedagogic advisors and inspectors as they are often overlooked in teacher professional development programmes despite the centrality of their role in delivering effective school-based teacher professional development. Teacher educators also need the time and resources to visit schools to provide on-site training, coaching, observation and feedback to teachers.

3 Community Engagement

Alongside the decentralisation of education systems, there has been a general trend towards involving the local community in the running of schools. For example, in China school development planning was introduced into remote rural areas in the west and southwest of the country in late 1990s and community leaders were trained in assisting school managers in the production, implementation and monitoring of whole school development plans. School-based training materials and workshops were offered to head teachers, teachers and community leaders to ensure their participation in the school development plans. A school development management committee was required to be set up which was to be composed of ten persons with at least two female representatives and one of the two being a local women resident.

In Uganda, a range of strategies have been used to motivate parents to become more involved in their children's education and to hold schools accountable for their provision, including school-based training sessions for parents and observations of teaching by parents. Quality education also requires an enabling home and community environment different, particularly for the most socio-economically disadvantaged groups of learners living in rural areas. By fostering closer links with the community, schools can also provide adult basic education opportunities to parents and help educate them about ways to create a more enabling home environment for their children.

In countries like Myanmar and Uganda affected by conflict, it may make sense to concentrate efforts on education and peacebuilding 'downstream' at the municipal and district level, while working alongside the ministries of education at the regional level to ensure systemic change through, for example, curriculum reform, teacher training and the development of secondary, vocational and technical education with an explicit focus on peace building. The Uganda case study suggest there is a strong case for working with municipal and district level actors to implement education

programmes at the community level to help manage and reduce violence, manage environmental changes, and create economic opportunities for unemployed youth.

In Kenya, Tanzania and Uganda civil society groups such as UWEZO have been independently monitoring the quality of basic education provision by conducting and reporting on national assessments of literacy and numeracy levels in government and low-cost private schools. Parent report card systems have also been developed in Kenya to assess the quality of the education services (IOE, 2016). They are designed to allow parents as service consumers to assess the quality of the education provision in government primary schools since they understand the real context and can give authentic information about their levels of satisfaction. The Citizen Report Card Survey as it is known is an instrument that provides important feedback to the ministry of education on the adequacy, efficiency and quality of services it provides. One of the primary purposes of the survey, therefore, is to empower citizens to hold politicians and policy makers accountable and to motivate service providers to engage with them on service delivery.

3.1 Policy Recommendation

Developing the capacity of the local community to become involved in running of the school alongside the school management team should be a major priority for country programmes. Government ministries supported by the international donor community should continue to prioritise the capacity development of school management committees and parent-teacher associations so they can effective participate in the planning, implementation and monitoring of whole school development plans. Community and civil society groups should also be mobilised in creating greater transparency and accountability so that officials are held accountable for the quality of education provision at the national, municipal, district, community and school levels.

4 Monitoring and Evaluation

As discussed in the introduction, teachers need dedicated time to reflect on their pedagogical beliefs and experiences and to explore alternative pedagogical practices through structured conversations with mentors based on observations of teaching. As the China, Myanmar and Uganda case studies illustrate, data on school and cluster-based training also needs to be aggregated for monitoring purposes and to contribute to whole school development plans. Head teachers also need to be included in this process to develop their skills, knowledge and opportunities for professional development at the school level so as to provide opportunities for teachers to work together on issues of instructional planning, to learn from one another through mentoring or peer

coaching, and by conducting action research on the outcomes of classroom practices to collectively guide curriculum, assessment and professional learning decisions.

There also needs to be clear and concise profiles of what teachers are expected to know and be able to do at different stages of their careers so as to guide professional learning. The establishment of national and local benchmarks to assess progress in professional development over time means that appraisal and feedback can be used in a supportive way to recognise and reward good performance. They can be used in dialogue with teachers, to support reflection on practice and to monitor the quality and ongoing development of teachers and teaching. They can also be used to gather and compare evidence on sound local practice which respects both the nationally agreed professional standards and local variations and enactments of the bench marks.

Putting in place a systematic monitoring and evaluation system with input from stakeholders across all levels of the education system will also help improve account-ability, planning and implementation, and assist in knowledge sharing. As discussed in the Myanmar and Uganda chapters, the starting point should always be a baseline assessment of existing classrooms practices. A broad situation analysis of all factors affecting education quality and access is also highly desirable, as is an analysis of existing structures, systems and policies and plans. Too often new teacher education initiatives are very seldom scaled up because they have not addressed systemic issues that need to be identified through feasibility studies, audits and baseline studies to gauge existing capacity and identify developmental inputs.

Strengthening an education system so that it efficiently delivers better learning outcomes requires a number of interrelated actions, particularly around account-ability and monitoring. As is discussed in the Uganda case study, corruption and leak-ages of funds within an education need to be addressed through improved auditing at the municipal and district levels. As the case studies also show, without well-defined responsibilities and performance goals for different levels of an education, there is no way to generate the information needed to manage and assess a service delivery system. In addition to adequate financing of education by government it requires the development of policies and regulations on quality assurance and learning standards, and budgetary processes that are transparently implemented and enforced.

For example, as the China and Uganda case studies demonstrate, it often requires strengthening the capacity of inspectors and quality assurance officers both to assure the quality of the education and to enhance its provision by working directly with schools and teachers on self-evaluation and improvement. The case studies also emphasise that a system wide approach must include a strategy for addressing equity problems across population groups, particularly for rural communities by aligning its governance, management, financing, and performance incentive mechanisms to produce learning for all.

There is also the need to build a more rigorous evidence base for policy makers, teacher educators and teachers about the kinds of experiences that help to build teacher capacity and bring about transformations in teaching practice and chil-dren's learning. The greater use of comparison groups in evaluations, comparing trained with untrained teachers, with baseline and post-testing of student learning, combined with systematic observation of classroom processes, will enable both

impact and process evaluations of teacher training interventions. It will help build a more robust evidence base for answering outstanding questions about the most effective approaches to teacher development.

4.1 Policy Recommendation

Ministries of education supported by national and international stakeholders and donors should develop a strategy for improving monitoring and evaluation of teacher education at the national, regional, municipal, district, cluster and school level. This will allow for the identification of the most promising strategies for achieving strategic goals for basic education and for providing data for tracking teacher education programmes against agreed objectives and ensuring resources are used effectively. This will help to build a more robust evidence base about the kinds of approaches that help to build teacher capacity and improve learning outcomes and student wellbeing so as to answer outstanding questions about the most effective approaches to teacher development and their cost effectiveness in resource poor environments.

5 Systemic Approaches to Teacher Development

As the case studies illustrate, a systemic approach to educational reform will include the obvious basic inputs of teachers, classrooms and instructional materials. It will also need to consider the status, salary scales and deployment of teachers, the curricula and design and use of examinations, the mentoring, supervision and support of teachers at the school level, and the policy analysis and targeting of resource allocation to embrace systemic and specific needs. In addition, such needs include meeting ethnic, locational and gender requirements, advancing increased access for those with additional learning needs and disabilities, and paying sufficient attention to quality improvement in rural schools so as not to create a second-class system provided for those without alternative choices.

As discussed throughout the case studies, teacher education reforms are unlikely to be achieved through focusing on single initiatives like teacher education alone. They need to be introduced alongside curriculum, assessment, language policy and teacher governance reforms. Such reforms need to ensure that the curriculum is relevant to students' present and future lives so they are able to engage with and apply what is being taught within the context of their private and social worlds. They also need to be responsive to particular situations, such as those arising from conflict or natural disaster and to address the needs of the most marginalised and vulnerable students from minority groups, nomadic and internally displaced communities, and develop skills and attitudes relevant for citizenship, including critical and creative thinking and learner autonomy (UNESCO, 2016).

Similarly, there needs to be reforms to align the curriculum with the assessment system. For example, end-of-primary examinations continue to exert a powerful influence on teaching and learning in Kenya, Uganda and Myanmar because of their focus on memorisation and factual recall, leading to transmission forms of teaching. It is therefore important that teachers are trained in other approaches to supplement the current normative evaluation and that teachers have a thorough understanding of formative and competency-based assessment. As seen in the Uganda case study, a lack of coherence between school and teacher education curriculum reforms often results in teachers not being adequately prepared to teach and assess the national curriculum.

The policy of teaching the primary curriculum through a national or international language in many low-income countries also exerts a powerful influence on the quality of teaching and learning by presenting communication difficulties for both teachers and pupils. For the preschool and primary years in particular, teaching in a language which is not familiar to a child is often too demanding for them to cope with—particularly when they face other barriers to education, such as poverty, hunger and poor learning conditions. As discussed in the Kenya, Uganda and Myanmar case studies, not having access to primary schooling in a familiar language is leading to the exclusion of large numbers of students from education, particularly in rural areas. Training teachers in the use of mother tongue and second language teaching to make the curriculum more relevant to students from diverse ethnic groups is crucial.

The Uganda chapter also suggest that there needs to be clear linkages between PRESET and INSET and an alignment of policies, plans and institutional arrangements for teacher education, so that an effective school and cluster-based professional development programme can ultimately be implemented at a national scale. Ideally teacher education should be treated holistically and PRESET should be linked seamlessly to INSET provision, although in practice these linkages are often not made and INSET is developed while antiquated PRESET systems remain (Orr et al., 2013). As all the case studies show, there is a need to adopt a planning continuum that integrates the use of distance education and face-to-face delivery in a flexible model, and supports teachers in the classroom by ensuring resources, capacity building and incentives are devolved to those responsible for observation, mentoring and assessment.

In decentralising teacher education, it will also be necessary to encourage transparency about the budget, to build capacity at all levels of the system, and to consult all stakeholders on the distribution of responsibilities, resources and incentives. Capacity development and incentives also need to be devolved down to those responsible for delivering school-based professional development with a clear division of roles and responsibilities between national, regional and district offices, and between head teachers, schools and teacher educators.

5.1 Policy Recommendation

Policy makers and those charged with the responsibility for implementing teacher education reforms need to ensure they are systematic in approach and are introduced alongside curriculum, assessment, language and governance reforms to build an enabling environment. There also needs to be clear linkages between PRESET and INSET, and an alignment of policies, plans and institutional arrangements for teacher education at national, regional and district level.

6 Sustainability

Many teacher education interventions have failed because of the lack of funds and sufficient involvement and incentivisation of all stakeholders, especially when attempts were made to scale them up (Riddell, 2012). If an intervention is to have a lasting effect, it needs to be provided within a longer-term timeframe with attention being paid to the educational system as a whole, including the institutions, organisational practices and incentives. There also needs to be sufficient understanding of the political, economic and social context in which the education system operates, and of the goals and purpose which underpin it, in order to address the critically important cultural interface, as 'best practices' cannot merely be transferred from one country to another. This suggests interventions need to impact on national policy and building capacity and be owned by the state institutions with clear role and responsibilities mapped out. Furthermore, ownership of the programme needs to involve each level of stakeholder throughout the system, from national through regional down to school level head teachers and including teachers and parents.

In all four case studies, funding, particularly once donor support was withdrawn, was a major challenge to the sustainability of the interventions. Increased funding was needed to improve their effectiveness of the school and cluster-based systems, to sustain staffing levels, and to provide basic minimum conditions for learning, including pupil-teacher, pupil-classroom and textbook ratios. Funding was a particular issue at the local level in the Kenya and Uganda school-based systems, with the ministries of education providing insufficient funds for meeting the school outreach service delivery demands. Across all four case studies, additional funding was needed to help develop and renew the capacity of all education officers and teacher educators at regional, district, community and school levels in light of the decentralisation of the education system. Increased funding was also needed to expand and sustain the capacity of the school-based systems, supported where possible by ICT resources, to run an integrated and unified teacher training which combines both PRESET and INSET.

6.1   Policy Recommendation

In order to sustain an intervention, there is a need for governments to commitment to improving policies, governance and institutions. This includes committed leadership at the country level, committed government budgets, community and country ownership, capacity development of officials at all levels to implement the initiative. It also includes developing the capacity of communities to participate effectively in the intervention and creating the right incentives for their participation. For international donors, the lessons for scaling up programmes include: external support for change and capacity development; adequate resources adequate to scale up programmes that work; coordination amongst donors and long-term commitment.

Political will and financial commitment by government to scale up a donor-supported initiative once funding is withdrawn will be necessary if a successful pilot is to be sustained. Roles and responsibilities for implementing the initiative at different levels of the education system also need to carefully mapped out and monitoring systems put in place to ensure transparency and accountability. In addition, funding for school-based teacher development requires separate budget lines at the district, cluster and school-based level. The planning and costing of school- and cluster-based training with separate budget lines at each of these levels should be made a mandatory part of national school-based teacher development and support systems.

7   Conclusions

Overall, this summary chapter concludes that a systemic approach to building a teacher education system, which recognises the importance of the interaction of the education system with the wider community and other sectors of society, and which recognises the realities of the context in which teachers work, is key to improving the quality of education in rural areas. It also recognises that capacity building and the equitable distribution of resources at national, regional, district and school level are required. As all four case studies illustrate, school and cluster-based professional development systems, together with management and career structures that result in consistent and high-quality performance by teacher educators, head teachers and teachers, will do much to improve teacher professionalism development and classroom practice, and significantly help raise educational achievement in rural contexts.

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