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Monastic schools in Myanmar – a baseline study

Burnet Institute Myanmar &
Monastic Education Development Group

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Cover photograph: Monastic school classroom (Than Htet Soe, Monastic Education Development Group).

All other photographs in this report were taken by Burnet Institute and Monastic Education Development Group.

Executive summary

The Myanmar Education Consortium (MEC), established in 2012 and funded through the Australian and UK Governments, has the overall goal of increasing the number and proportion of children in Myanmar accessing and completing quality basic education, including monastic education. As part of the MEC, the Burnet Institute Myanmar (BIMM) and the Monastic Education Development Group (MEDG) are working to build the capacity of the Monastic School system to provide quality education and school facilities (including water, sanitation and hygiene) in a targeted number of schools across Myanmar.

Monastic schools are established and managed by monks and administered through the Ministry of Religious Affairs. They are located in every state and region, and provide education for over 150,000 children. Monastic schools follow the government curriculum, but until recently have received very little government support, and have traditionally relied on community donations. Monastic schools rarely charge fees, and are therefore accessible to children from disadvantaged backgrounds. Facilities are generally very basic, and there is a lack of minimum standards.

To understand the current situation and needs in monastic schools, to inform the development of the BIMM/MEDG project, and to enable change over time to be monitored, a large baseline assessment of monastic schools was conducted. The aim of this baseline assessment was to assess and describe:

1. Administration practices within monastic schools;
2. Teaching and learning practices and performance against minimum standards for child-centred education;
3. School environments and facilities, in particular, water, sanitation and hygiene characteristics;
4. Student health and hygiene practices, and school hygiene education; and
5. Level of involvement of parents and communities in the schools.

Qualitative and quantitative data were collected from 127 monastic schools randomly selected in eight states and regions. The main results and recommendations are summarised below.

School administration and management

- Over half of monastic schools were primary schools, and just under half had boarding students. Almost 20% of schools were attended primarily by students from ethnic minority groups.
- Systems for financial management, staff and student affairs, and record keeping were informal and inconsistent across schools. There didn't appear to be any minimum standards.
- Information on disability was not routinely collected.
- The proportion of students remaining in school five years after enrolment (five-year survival rate) was low at 50%. The proportion of students remaining in attendance at the end of the school term for 2012/2013 (retention rate) was high, at 96%. These figures need to be interpreted with caution.
- Staff recruitment and retention was reported to be difficult - monastic schools compete with government schools for teaching staff, and cannot match the salaries offered in government schools.

- The minimum level of qualifications required for teachers was low, despite over half (60%) having a university degree.
- Staff meetings were irregular and teacher participation in meetings was low.
- Schools were reliant on donations from individuals and the community. Some schools also supplemented their income by collecting student fees (22% of schools) or by engaging in income generation activities (30% of schools).
- The Government has not played a significant role in monastic schools through funding or support for administration and management; however this may change with the current reviews of the education sector.

Recommendations:

Support and training to schools in administration and record-keeping, financial management, and human resources management would be beneficial. Processes and systems should be streamlined across schools, and minimum standards established. Principals could examine ways to improve teachers' pay and conditions, and their level of participation in school affaires, in order to address recruitment and retention challenges. Achieving consistency across schools, for example through centralised management of teacher salaries, could be beneficial. The recently introduced government support for teacher salaries may assist with this.

Teaching staff, and teaching and learning practices

- The majority of teachers were female (82%).
- Fourteen percent of teachers were not paid a salary (28% of those are monks).
- Almost all principals and teachers had heard of child-centred approaches (CCA). Fifty-five percent of teachers reported attending some form of CCA training in the past.
- Only some schools (16%) performed well in terms of CCA.
- Most teachers and principals identified barriers to implementation of CCA including inadequate time, materials, classroom space and training.
- Only a very small proportion of teachers (5%) reported interest in attending school health training in the future.
- Assessment of student performance was inconsistent across schools
- Parental involvement in students' learning was minimal.
- Physical punishment of students for misbehaviour was reported in most schools.

Recommendations:

Implementation barriers to CCA in schools should be further explored and addressed. Training in CCA should continue, in particular, focusing on how teachers can incorporate CCA into the set curriculum with limited resources. Learning outcomes of students in monastic schools should be evaluated in consistent ways across schools, e.g. literacy and numeracy. Support and training for teachers in effective, non-physical forms of student discipline is required.

School environment, facilities, water sanitation and hygiene

- Monastic schools had basic facilities. Many schools did not have sufficient classroom furniture, or teaching and learning materials. Only 29% had a library or books accessible to students.
- Most schools (70%) conducted several different classes in the same room.

- Six percent of schools did not have toilets for students, and student-toilet ratios were higher than recommended in more than half of schools. Schools mostly had pour flush toilets (56%). The level of cleanliness and function of toilets varied – only 43% were judged to be clean.
- Nearly 20% of schools relied on an 'unimproved' water source, and one third of schools never treated drinking water.
- Hand wash facilities were only available in 79% of schools, and only 22% of those had sufficient soap or ash.
- The majority of schools (67%) had poor water drainage systems, and poor waste disposal (64%).

Recommendations:
Basic classroom facilities and teaching and learning materials should be prioritised and sourced by schools e.g. through community support and donations, income generation activities, or by engaging the school committee/ parent teacher association (SC/PTA). Separating classes could be encouraged. Schools should aim to establish basic water, sanitation and hygiene (WASH) facilities, using appropriate technology, and ensuring that facilities are clean, well-maintained and used by students. Again, community support should be mobilised to facilitate this.

School health, hygiene practices and hygiene education

- Government health checks were conducted in only 78% of monastic schools in the last year.
- There was limited capacity for schools to address illness in students, e.g. only 17% of schools have a clinic or health workers, 51% have a first aid kit but only 30% have a staff member trained in how to give first aid, and there are no formal referral pathways for unwell students.
- The quality, amount and effectiveness of hygiene education in schools was questionable, and there appears to be no set curriculum.
- Sixty one percent of students reported 'always' washing hands before meals, and 62% 'always' washing after toileting.
- Forty nine percent of students reported 'always' using the school toilet, 39% 'sometimes', 9% 'never', and 3% said 'there was no school toilet'. Boys were more likely to 'always' use the school toilets (52% vs. 47%, p=0.08).
- Levels of reported school toilet use increased with greater availability of toilets, or where schools had separate girls' toilets
- Common reasons for not using the toilets were that they were dirty, dark or busy
- Both hand washing and toilet use are likely to be over-reported.
- Twenty-three percent of students had experienced diarrhoea on one day or more in the week prior to the survey, and half of these students also had vomiting on one or more days
- Over half (59%) of students reported taking oral rehydration salts (ORS) the last time they had diarrhoea. Girls and grade five students were more likely to take ORS
- Diarrhoea and vomiting was associated with: reported poor hand washing before eating and after toileting, poor availability of hand wash stations, a water source that was functional on fewer than two days per week, and grade four (younger) students. There was no association found with other WASH factors.

Recommendations:
In order to promote behaviour change, more than just the provision of WASH 'hardware' is required. Training in hygiene education is needed for teachers, principals and SC/PTA to support behaviour change in students. Creative ways should be found to incorporate the training into curriculum, school activities and community events. These behaviour change initiatives need to be supported long term.

School committees (SC) and parent teacher associations (PTA)

- The majority of monastic schools (68%) had a SC/PTA.
- SC/PTA meetings were irregular for most schools, and the level of activity varied.
- The main functions included fundraising and school maintenance as well as organisation of community religious events.
- Regular meetings and support from the principal were identified as important factors for well-functioning SC/PTA.

Recommendations:
Schools could be supported to initiate or strengthen SC/PTA, through gaining principal support, mobilising sufficient funds, establishing regular meetings and ensuring the SC/PTA has direct involvement in school improvement activities.

Gender differences in monastic schools:

- There were about 12% more boys than girls in monastic schools, however five-year survival rates were equal.
- Girls were more likely to remember hygiene lessons.
- Boys were more likely to report poor hand washing before eating.
- Girls were less likely to 'always' use the school toilets.
- Girls had separate toilets in only 47% of schools, and were more likely to 'always' use the toilets in these schools.
- Girls were more likely to treat diarrhoea with ORS.
- A greater proportion of boys missed classes due to diarrhoea.
- Females were less involved in formal school committees or PTA.
- The female-male teacher ratio was 3:1.

Recommendations:
Schools should ensure that separate girls' toilets are provided, along with lockable cubicles and wash facilities in order to promote toilet use. Representation of women on SC/PTA should also be encouraged.

Disability in monastic schools:

- Data on disability is not routinely collected and is very limited.
- Principals reported students with disabilities in only 43% of schools, and students with disabilities made up less than 1% of the total student population.
- Some teachers were aware of strategies for including students with disabilities in class.
- Schools did not tend to have accessible facilities (toilets, drinking water, hand wash stations etc.)

Recommendations:
Training and support is needed for all schools in the following areas: awareness of disability, identifying children with disability, investigating and addressing barriers to education, methods for inclusive education and ensuring school environments are accessible.

Limitations
A degree of caution should be taken in interpreting the results of this baseline study, and applying them to all monastic schools across Myanmar. This study may not fully represent all monastic schools in Myanmar – it's likely that our sample presents a slightly better picture overall. There are likely to be some inaccuracies in self-reported behaviour of students, with hand washing and toilet use being over-reported. Observation and including children in focus groups may have addressed some of these issues.

Summary
Despite these identified areas of need in monastic schools, their accessibility (throughout the country and to children from disadvantaged backgrounds), community acceptance, and their autonomous and self-sustaining nature are all strengths that should contribute to the achievement of the MEC goal to increase the number and proportion of children accessing and completing quality basic education in Myanmar. These baseline results will be used to inform the design of BIMM/MEDG project activities to be implemented in monastic schools, including: administration and management support and training for principals; teacher training and hygiene education; improvement of school infrastructure and facilities including water and sanitation; and support for the establishment or strengthening of school committees/ parent teacher associations. Importantly, the baseline results will also enable an evaluation of the impact of the project in monastic schools, over the next few years.

1 Contents

Abbreviations

BI	Burnet Institute
BIMM	Burnet Institute Myanmar
CBO	Community Based Organisation
CCA	Child centred approach (to teaching and learning)
CESR	Comprehensive Education Sector Review
DFID	UK Department for International Development
DMR	Department of Medical Research, Lower Myanmar
EU	European Union
FGD	Focus Group Discussion
INGO	International non-government organisation
IQR	Inter quartile range
MEC	Myanmar Education Consortium
MEDG	Monastic Education Development Group
MEEP	Monastic Education
MoE	Ministry of Education
MoRA	Ministry of Religious Affairs
NGO	Non-government organisation
ORS	Oral rehydration salts
PTA	Parent Teacher Association
SC	School Committee

Monastic schools in Myanmar – a baseline study

1 Introduction & Background

The Myanmar Education Consortium (MEC), established in 2012 and funded through the Australian and UK Governments, has the overall goal of increasing the number and proportion of children in Myanmar accessing and completing quality basic education. MEC aims to increase the quality of and access to complementary (non-government) education systems such as the monastic education system , community and school-based early childhood development programs, and non-formal education programs for vulnerable young people who cannot attend formal education..

With funding from the MEC, BIMM has partnered with the Monastic Education Development Group (MEDG) - a national level coordinating body for the monastic education sector - to build the capacity of the Monastic School system to provide quality education and school facilities (including water, sanitation and hygiene) in a targeted number of schools. BIMM and MEDG have the following objectives:

1. To strengthen the management and leadership capacity of the monastic school system;
2. To support teachers and schools in the delivery of effective child-centred education;
3. To ensure that schools are safe, healthy and child-friendly environments conducive to learning;
4. To increase the active engagement of parents and communities in education.

The monastic school system in Myanmar operates over 1,400 schools catering for over 150,000 children[1]. Monastic schools have received very little government funding or support in the past, and were, until recently, considered part of the informal education sector. They are administered under the Ministry of Religious Affairs (MoRA) rather than the Ministry of Education (MoE), and although the government has recently begun to support the salaries of teachers in monastic schools, resources remain limited with many teachers working as volunteers. There is a lack of basic facilities, teaching and learning materials, and inadequate sanitation and hygiene facilities in many schools. Monastic schools tend not to charge any student fees and primarily operate on a system of community and non-governmental organisation donations. Monastic schools are located in all states and regions of Myanmar, and are often accessed by children from very poor families, or from remote locations and ethnic minorities. It is likely that children attending monastic schools are disadvantaged in terms of educational and health outcomes, not only because of their poorer socioeconomic backgrounds, but also because of the conditions within monastic schools.Following Cyclone Nargis in 2008, programs to build education capacity and improve water, sanitation and hygiene were implemented in some monastic schools in affected areas led by Phaung Daw Oo (Mandalay) and Pyi Si Mar Yone (Ayerawaddy) Monastic Schools, in partnership with the Burnet Institute. Building upon these programs, the EU-funded Monastic Education Enhancement Program (MEEP), initiated by Phaung Daw Oo School, commenced in 2011 to build the capacity of schools to

[1] 2013-2014 Academic year, Ministry of Religious Affairs

deliver quality education and to improve school administration and management practices in Mandalay, Sagaing, Yangon and Ayerawaddy regions, and Shan state. MEEP also established the Monastic Education Development Group (MEDG), made up of two senior monks from each state/region, to oversee the quality improvement initiatives.

In July 2011 MEEP conducted a baseline study in 25 monastic schools in Shan state and Mandalay and Ayerawaddy regions that examined teaching approaches, student participation, school administration and financial management, school committees, school infrastructure, hygiene knowledge and practices, and school health care. This current baseline study further builds upon that work and aims to develop a national picture of monastic education in Myanmar. It is the broadest assessment of monastic schools to date. School management and administration, teaching and learning practices, student health, and school facilities and environments including water, sanitation and hygiene (WASH) were examined. Baseline data will inform the design of education and WASH interventions in monastic schools throughout the MEC funding period and beyond. Accurate baseline data will also enable a rigorous study of the health impact of the WASH interventions within schools. A key health outcome measure will be the weekly prevalence of diarrhoea among students because diarrhoea is the most common WASH-related disease[1] and the leading cause of mortality and morbidity among young children.[2] Furthermore, diarrhoea has been associated with school absenteeism,[3] malnutrition[4] and reduced learning outcomes.[5]

This baseline study will inform the development of the evaluation framework, enabling progress in achieving key aims to be measured over time, and the effectiveness of certain interventions to be assessed, in order to better inform methods for scale up and sustainability. As yet, there is no national Education Monitoring and Information System (EMIS) in place in Myanmar, as there is in many other countries. UNICEF is trialling a Township Education Monitoring and Information System (TEMIS) in some regions, and this baseline study is designed to collect high quality and relevant data, consistent with standardised international indicators that could be incorporated into such a system in the future. Comparisons with data collected in other settings in Myanmar and abroad, for example in the government education sector and from household and other community surveys, will also be possible. Importantly, baseline data will make a valuable contribution to the education reforms currently taking place in Myanmar through the Comprehensive Education Sector Review (CESR) process and other more recent government initiatives.[2]

[2] Launched by the Government of Myanmar in 2012, the Comprehensive Education Sector Review (CESR) involved a rapid assessment of needs, followed by an in-depth analysis of the education system in Myanmar in order to inform new policy recommendations and a new comprehensive education sector plan for 2014. Late in 2013 the President's Office launched a further initiative known as the Education Pragmatic Implementation Committee (EPIC), which was designed to put recommendations from the CESR Phase 1 into action. EPIC is currently finalising policy and program recommendations, including for monastic schools and for the monastic education system.

Aims

This baseline study aims to assess the current situation in monastic schools, and identify key areas of need to inform project development.

Specific objectives of the baseline study are to assess and describe:

1. Administration practices within monastic schools;
2. Teaching and learning practices and performance against minimum standards for child-centred education, including profiling of teaching staff;
3. School environments and facilities, in particular, water, sanitation and hygiene characteristics;
4. Student health and hygiene practices, and school hygiene education; and
5. The level of involvement of parents and communities in the schools.

2 Methods

2.1 Study design

A cross sectional study design utilising both quantitative and qualitative research methods.

2.2 Ethical approval

This study received ethical approval from the Alfred Hospital Australia (HERC 282/13) and the Department of Medical Research (DMR) (Lower Myanmar)(49/Ethics 2013) (Appendix 1).

2.3 Selection of schools

Given the very large number of monastic schools in Myanmar, eight states and regions (Yangon, Mandalay, Bago, Shan, Chin, Ayeyarwaddy, Sagaing and Thanintharyi), representative of the various geographic areas, were purposefully selected (Figure 1). Some states/ regions were excluded due to security concerns and access difficulties. Stratified random sampling was used to select a ten percent sample of schools within each state/ region, using the most recent list of registered Monastic Schools available.[3] This sample was inflated by 10% for non-response (e.g. refusal, schools no longer open), and then again by 25% for any substitutions required (see Table 1). Inflated lists were sent to the head monks in each state/region for their review. They were asked to remove any schools that would not be feasible to include for the following reasons:

- Security concerns (e.g. ongoing conflict)
- Inaccessibility due to lack of transport in the wet season or impassable roads etc.
- Schools being closed/ no longer operating.

Schools that were removed were replaced with the next school on the inflated list by the study coordinator. Data collection teams were then provided with lists of schools to visit. If they could not access a school (for the above reasons), they contacted the study coordinator who made further substitutions from the inflated list. If there were no more schools left on the inflated list, the study coordinator selected the next school from the complete sampling frame for that state/region. This corresponded to the school that was geographically closest.

Table 1 Sampling frame for monastic schools in eight states and regions

Geographic Area	State/ region	Total no. schools	Selected sample (10%)	Inflated 10% for non-response	Inflated 25% for substitutions
Metropolitan	Yangon	182	18	20	27
	Mandalay	343	34	38	51
Plain Area	Bago	121	12	13	18
	Sagaing	212	21	24	31
Hilly	Chin	19	2	2	3
	Shan	62	6	7	9
Coastal	Ayarwaddy	159	16	18	24
	Thanintharyi	48	5	5	7
TOTAL		**1146**	**114**	**127**	**170**

Figure 1 Included states/regions

[3] Lists of registered monastic schools were provided by the Ministry of Religious Affairs. We used the most recent monastic school lists available. These were from 2010 – 2011.

2.4 Development of survey tools

Both qualitative and quantitative data collection methods were used to enable triangulation of data and to gather more in depth contextual information from monastic schools. Data collection tools were developed in English with a researcher from the Burnet Institute (BI), Australia. They were based on the objectives of the baseline study or key areas of interest (Box 1), key quality criteria that had already been developed (for child centred approaches to teaching and learning, and for school environments), and on standardised questions and indicators used internationally for monitoring of water, sanitation and hygiene programs in schools.[4] Qualitative and quantitative tools were designed to capture a broad range of information including objective, observational data and data from school records, as well as behaviours, knowledge and beliefs of principals, teachers, parents, students and community members.

Key areas of interest:

- School administration and management
- Teaching staff and teaching and learning practices
- School environment and facilities, including water, sanitation and hygiene facilities
- School health, hygiene practices and hygiene education
- Involvement of parents and community members in the monastic school.

Box 1 Key areas of interest

The following data collection tools were developed (see Appendices 2-10):

1. School environment observation checklist
2. Structured questionnaire for principal
3. Classroom observation checklist
4. Self-administered teacher profile
5. School records review
6. Self-administered student health questionnaire
7. Interview guide for principal
8. Focus group discussion guide for teachers
9. Focus group discussion guide for parent teacher association (PTA)/ school committee (SC)

Data collection tools were translated into Burmese and piloted by five data collectors at two schools. The tools were subsequently modified through discussion and feedback with the data collectors, the BI researcher and study coordinator. External feedback on the student questionnaire was also obtained.[5]

[4] UNICEF WASH in Schools Monitoring Package, 2011. Available from http://www.unicef.org/wash/schools/files/wash_in_schools_monitoringpackage_.pdf; World Health Organization. *Water, sanitation and hygiene standards for schools in low-cost settings,* 2009, Edited by John Adams, Jamie Bartram, Yves Chartier, Jackie Sims

[5] Monash University, Department of Epidemiology and Preventive Medicine, and London School of Hygiene and Tropical Medicine.

2.5 Recruitment and training of data collectors

In addition to the five lead data collectors employed by MEDG, a further 15 local data collectors were recruited through a formal process of application and interview, and then trained by BIMM staff and the BI researcher in qualitative and quantitative research methods, research ethics and data management.

2.6 Recruitment of schools

A basic protocol was developed by BIMM staff and the data collection team leaders for recruitment of schools. Data collection teams organised to meet with principals when they first arrived in each location to explain the baseline study, the MEC project and what participation would involve. They described each survey tool and the processes involved, and sought permission to proceed the following day. Written informed consent was gained from all principals (see Appendix 11) and verbal consent from all other participants. A monetary reimbursement for the principal's and staff time and any inconvenience was offered. Often the principal gathered school committee members and staff for this preliminary meeting with the data collection teams. This was also an opportunity for the principal to describe the school's history and functioning. The length of these meetings varied, sometimes lasting up to two hours. Once informed consent was gained, the data collection team then returned the next day to begin data collection. Sometimes the team would be accommodated overnight at the monastic school.

2.7 Data collection

Five teams of four data collectors (each one with a team leader) completed data collection. Phase one data collection was completed from July to August 2013, including 80 schools in three regions: Mandalay, Sagaing and Ayeyarwaddy. Phase two data collection was completed from September to November 2013, including 47 schools in five other states and regions: Yangon, Bago, Chin, Shan and Thanintharyi. The BIMM study coordinator accompanied each team for two days in the field to ensure quality data collection and to address initial issues. Following that, regular telephone support (every one to two days) was implemented. The study coordinator was responsible for any substitutions or extra sampling of schools required, for addressing any logistical issues and for quality control in the field. Team leaders took responsibility for managing funds, transport, accommodation, data management and communication with the study coordinator in Yangon.

All schools had quantitative data collected (tools 1-6 below), and 41 schools (approximately one third of the sample) also had qualitative data collected (tools 7-9 below). Data collection teams delegated roles and responsibilities among themselves. Those with more experience took responsibility for interviewing the principal and facilitating focus group discussions. Methods for each data collection tool will now be briefly described.

1. ***School environment observation checklist*** (Appendix 2)
   This checklist was completed with the assistance of a school staff member. The checklist included school grounds, water and sanitation facilities, and classrooms. Data collectors also took photos of key features of school environments and facilities to enable change over time to be accurately documented and assessed.

2. ***Structured questionnaire with principal*** (Appendix 3)
   This questionnaire comprised items on: school administration, financial management, student health and hygiene education, parent teacher associations/ school committees, and water and sanitation.

3. ***Classroom observation checklist*** (Appendix 4)
   An anonymous nine-point checklist of teaching practices and classroom features, indicative of a child-centred approach (CCA). Data collectors observed three classes in each school for 10 minutes each, recording if certain teaching practices and class features were observed.

4. ***Self-administered teacher profile questionnaire*** (Appendix 5)
   This anonymous ten-point questionnaire was completed by teachers and included: basic demographics, qualifications, teaching experience, training experience, salaries, and perceived training needs.

5. ***School records review*** (Appendix 6)
   This was completed with the principal or relevant administrator, and involved extracting non-identifying data from enrolment records from the past five years, and examining record-keeping systems. Photographs (also non-identifying) were taken of some school records to illustrate the record keeping systems in place.

6. ***Self-administered student health questionnaire*** (Appendix 7)
   This anonymous, ten-point questionnaire included basic demographic data (age, grade, sex), and items on hand washing, toilet use, and occurrence of diarrhoea or vomiting. A simple explanation was given by data collectors, and students were then invited to complete the questionnaire. Data collectors took the first ten volunteers (five girls and five boys) from both grades four and five. Data collectors offered assistance to students if required.

7. ***Interview with principal*** (Appendix 8)
   Interviews explored in more depth topics addressed in the structured questionnaire: school hygiene, sanitation and waste management, financial management and administration, human resources, student health and hygiene education, and PTA/ school committees. Interviews were generally conducted by the team leader.

8. ***Focus group discussion (FGD) with teachers*** (Appendix 9)
   FGDs with teachers covered perceptions of CCA, student health hygiene, and approaches to discipline. One data collector facilitated the groups while the other took detailed notes. Audio recordings were also taken and later transcribed by the data collectors.

9. ***Focus group discussion with parent teacher association (PTA) / school committee*** (Appendix 10)
   FGDs covered PTA/ committee formation, membership, activities and perceptions of CCA. As above, discussions were recorded and transcribed.

2.8 Data management

Data collection teams retained hard copies of data collection forms and electronic copies of interview notes and photos whilst in the field, either locked in a hotel room, or the vehicle. After each phase of data collection, data forms were brought by the teams to Mandalay where data checking, coding and entry was undertaken under the supervision of the study coordinator.

2.9 Data entry and analysis

All data collectors met in Mandalay to complete data coding (including coding "other" responses), and data entry. They were trained and supervised by the study coordinator and other BIMM staff. Quantitative data were entered into an EpiData database and then exported to Stata 11 for cleaning and analysis by the study coordinator and the BI researcher. Basic descriptive statistics and contingency table analyses were conducted. Variance estimates/p-values in analyses were adjusted for school level clustering and to take regional stratification into account.

Following Phase one, and prior to formal thematic analysis of the qualitative data, data collectors participated in a feedback workshop facilitated by the BI researcher to discuss the main qualitative results for the interim baseline report. Qualitative data was later transcribed and entered into Atlas.ti software in Burmese for thematic analysis following Phase two. Major themes and quotes were then translated into English by BIMM staff.

3 Results & discussion

This section will present results and discussion in broad categories according to the objectives and key areas of consideration of the baseline study:

- School administration and management
- Teaching staff and teaching and learning practices
- School environment and facilities, including WASH
- School health, hygiene practices and hygiene education
- Involvement of parents and community members in the monastic school.
- Gender
- Disability

3.1 School selection

From the original randomly selected list of 127 schools, 31 substitutions (24%) of schools were made. Reasons for substitution included: schools not being accessible due to the wet season, security reasons, schools no longer operating, or principals declining to participate.

3.2 In the field

Data collection teams faced and overcame many logistical challenges in the field including transport and access to schools (Figure 2). These will be reported on in a separate Process Evaluation document, along with reflections on the recruitment and training processes for the team of data collectors.

Figure 2 Challenges in the field for data collectors

3.3 School administration and management

3.3.1 School profiles

Schools varied greatly in terms of size, infrastructure, management practices, and available resources. There was less variation in teaching and learning practices, and teacher profiles, and some variation in student health and hygiene practices. The monastic schools had been established by monks who assumed the role of school principal. Schools had been operating for between two and 51 years (median 14 years).

Just over half (55%) of the schools included were primary schools (up to grade five or six). Twenty-four percent were post primary level (up to grade eight), and 13% were up to grade nine. Nine percent had high school students enrolled (up to grade 11)[6] (Figure3). Fifty four percent of schools were day schools, 36% had both day and boarding students, and 10% were boarding schools only. It's likely that novice monks/nuns made up the majority of boarding students, however we did not specifically collect this data. Six percent of schools offered two schooling shifts during the day. The majority of schools (79%) offered between five and 6.5 hours of schooling per day.

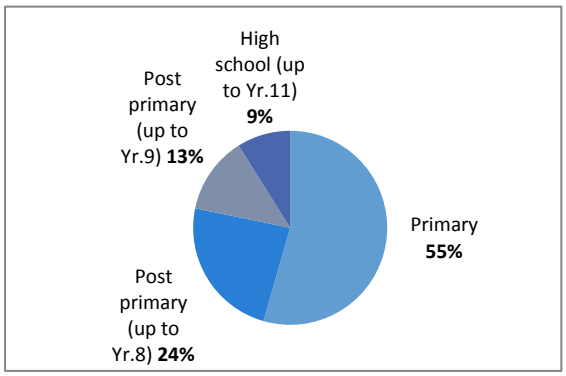

Figure 3 Types of monastic schools

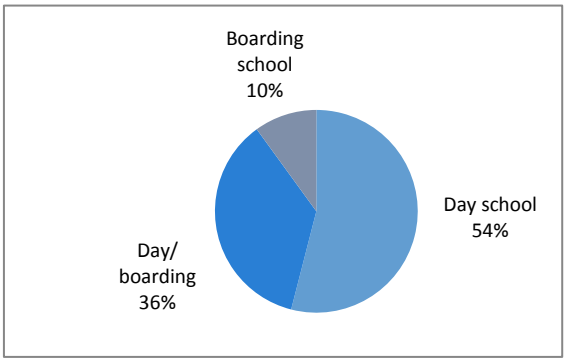

Figure 4 School types

Schools tended to have children from more than one village attending the school (see Table 2), with 75 percent of monastic schools having a catchment area of two or more villages. The majority (82%) of monastic schools had a state school nearby.

Table 2 Number of villages that schools serve

No. villages	% schools
<1	10
1	15
2 to >8	75

Table 3 describes the school population. The student population within schools ranged from 10 to 2947 students (median 126 students). Over half of schools had novice monks (56%) as part of their student population, and 15% of schools had novice nuns. (In 9% of schools the number of novice

[6] Although these schools enrolled students in high school, they may not have been officially registered as 'high schools'. E.g. the Ministry of Religious Affairs reports that there are only two registered Monastery High Schools in the country. These high school students would therefore need to sit their exams at nearby registered government high schools.

monks was not known, and in 5% of schools the number of novice nuns was not known). Overall, novice monks made up 9% of the monastic school student population, and novice nuns made up 4%[7] (see also Figure 5). The median number of teachers per school was six, with a range of one to 74. There were more female than male teachers, with a ratio of three to one. The median teacher to student ratio within schools was 1:24, ranging from one teacher for every five students, to one for every 57 students. Across all monastic schools, the teacher-student ratio was 1:27 - similar to the ratio of 1: 28 given by UNESCO in 2010, presumably from government school data.[8]

Table 3 School population

Monastic school population	Number/ percent/ ratio
Students within schools Median (range)	126 (10-2947)
Novice monks	9%
Novice nuns	4%
Teachers within schools Median (range)	6 (1-74)
Female : male teachers	3:1
Teacher : student ratio	1: 27

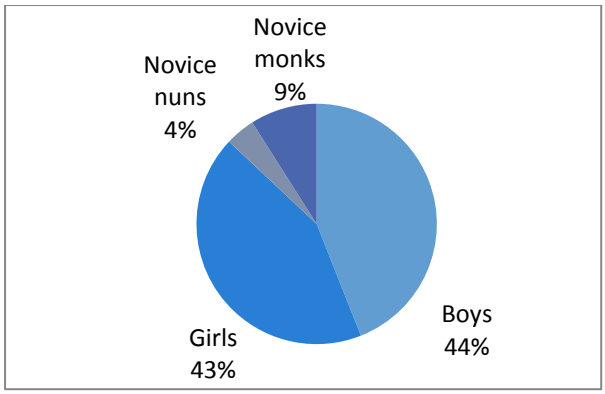

Figure 5 Student population in monastic schools

The main ethnicity of children in schools was Bamar (81% of schools).[9] In 19% of schools, the main ethnicity was Paou and/or Palaung. In Shan and Chin States the proportion of Paou and/or Palaung was much greater. As expected, the main teaching language in schools was Burmese (99%), and only two other schools (1%) had a teaching language other than Burmese (one in Mandalay, one in Shan state). Burmese was the main language spoken by students in 90% of monastic schools. It's possible that the proportion of Monastic schools without Bamar as the main ethnicity would have been higher if the assessment had included other states in Myanmar with large ethnic populations, such as Mon, Kayin and Kachin States.

[7] Percentages could be greater given that some schools did not have this data available

[8] UNESCO Institute for Statistics, Education Profile- Myanmar, available at: http://stats.uis.unesco.org/unesco/TableViewer/document.aspx?ReportId=121&IF_Language=en&BR_Country=1040

[9] The Bamar are the main ethnic group in Myanmar, making up about two thirds of the population. The remaining one third is made up of minority ethnic nationalities. There are also about two million Rohingya people living mainly in Rakhine state near Bangladesh, however, they are not recognised by the government as an ethnic nationality.

3.3.2 Management of records and student affairs:

In most schools the principal was responsible for the overall management and administration of the school. Very few schools had administrative staff, or dedicated teachers who were also responsible for the administration. Forty-nine percent of schools had a staff member who had completed training in administration.

Record keeping

Over 30 different kinds of records were observed in schools including: enrolment forms (94% of all schools), transfer certificates (92%), daily attendance record (91%), comprehensive personal record (CPR) (72%), admission register (69%), monthly report cards (69%), and staff profiles (54%) (Figure 6). Seventy-two percent of schools kept other records including: visitor records, meetings minutes, office attendance record, teachers' attendance records, exam records, financial records, and mail records. Four percent of schools did not maintain a basic set of records of enrolment forms, attendance records and an admission register.

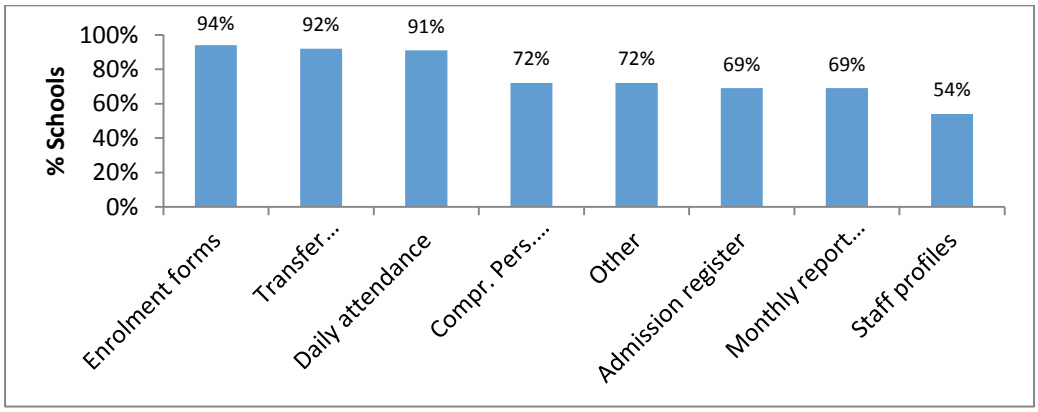

Figure 6 School records kept

Student enrolment in schools

Schools collected a range of student information at enrolment, as shown in Figure 7 below. It is notable that just over half of schools collected sex of students, and only two percent of schools collected information on disability. Other information collected included enrolment date, number of siblings attending the same school and parent's Identity Card number. About 30 different kinds of information were collected at enrolment.

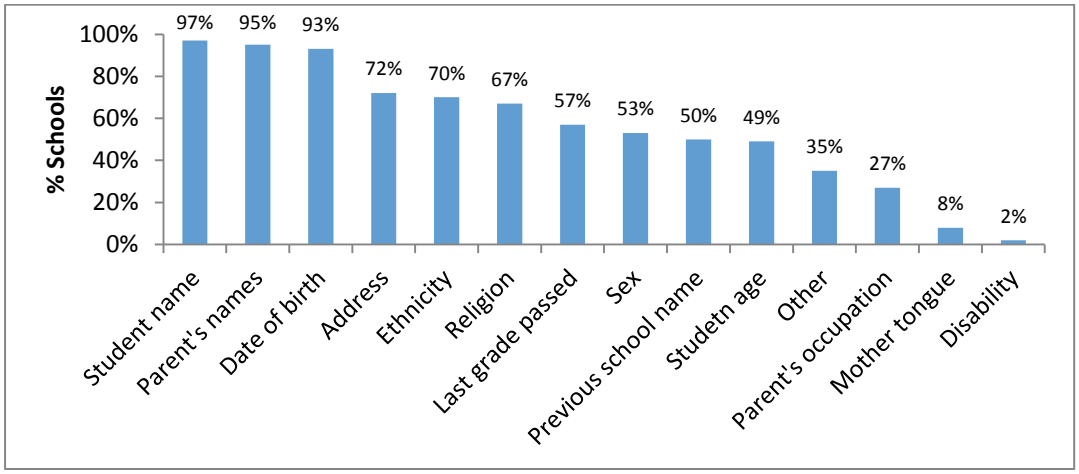

Figure 7 Information collected at enrolment

There is limited consistency across schools for record keeping. Some schools keep a considerable number of different records, while others only basic records. All use a paper system and there doesn't appear to be any established minimum standards of record keeping across schools.

3.3.3 Student survival until grade 5 and retention rates

Survival rate

Survival rate was defined as the proportion of children remaining in school from grade one to grade five. It was calculated by dividing the number of students in grade five at 2013 with the number of students in grade one in 2009. A crude measure of raw numbers was used, rather than looking at individual students remaining in school because such detailed student records were not kept by schools. This method doesn't take into account any students transferring into schools after grade one because that data was not collected by schools. Data to calculate survival rates were available for 57% of the sample. The survival rate overall was found to be 50% (95% CI [49, 51])[10], meaning that 50% of the number of students beginning grade one in 2009, remained in school until grade five in 2013 (Table 4). These rates demonstrate a significant drop out in monastic schools. When looking at survival rates within individual schools, half of the schools' survival rates fell between 40% and 81%.

The survival rate for girls (including novice nuns) was 52% (95% CI [50, 54]), and for boys (including novices) was 50% (95% CI [48, 52]). A test for equality of proportions found that the difference between boys' and girls' survival rates was not significant (p=0.18). When looking at survival rates within individual schools, ten percent of schools had girls' survival rates of greater than 100%, and the upper range was 575%, demonstrating that the numbers of girls in these schools had risen over the last five years. Five percent of schools had a boys' survival rate of greater than 100%, and the upper range was 170%, demonstrating that the numbers of boys in these schools had risen over the last five years, but that the rate of girls' enrolments over the past five years was greater than boys'.

These survival rates are likely to be an overestimate of the true survival rates in monastic schools given that students transferring into schools after grade one were not able to be accounted for and subtracted from the grade five total. Additionally, individual students were not able to be followed up over time due to limitations in student records. This crude survival rate for monastic schools is considerably lower than the most recent Ministry of Education estimates (2008–2009) from state schools which give a survival rate until grade five of 76 percent.[11] It is not known if students from monastic schools are truly "dropping out" and discontinuing education, or if they are transferring across to government schools, or even other monastic schools. The higher upper range for girls suggests that the rate of girls' enrolments over the past five years was greater than for boys in some schools, or that girls tend to start school later than boys.

[10] 95%CI refers to the '95% confidence interval'. These are the range of values between which we can be 95% certain that the true population value lies.

[11] Ministry of National Planning and Economic Development & UNICEF, *Situation Analysis of Children in Myanmar*, Nay Pyi Taw 2012

Table 4 Survival rates: proportion of children remaining in school from grade one to grade five (2009-2013)

	5-Year Survival rate	95% C.I.
Total	0.50	0.49, 0.51
Girls	0.52	0.50, 0.54
Boys	0.50	0.48, 0.52

Retention rate

Retention rate is the proportion of students beginning the school term who remain in school until the end of the school term. That is, an *annual* retention rate of students in school. A gross retention rate was calculated by dividing the number of students in a particular year level at the end of the school term (in February), by the number of students present at the beginning of the school term (in June). For example, dividing the number of students completing year two in February 2013 by the number of students beginning year two in June 2012 will give the retention rate for grade two. Any students transferring into the year level during term were excluded from the calculation where this data was available. Individual students were not able to be followed up and not all transfers in were able to be accounted for, therefore a crude rate was calculated.

Across all monastic schools, the retention rate was 0.96 (95% CI [95, 97]), meaning that 96% of the number of students who began the school term remained in attendance at the end of the term (Table 5). It likely that this rate is an over-estimate of the true rate given that high quality, accurate enrolment data and data on students transferring in was not available. When examining retention within individual schools, 25% of schools had a retention rate greater than 100%, demonstrating that in those schools, the student population grew during the course of the year.

Retention rates were also calculated per year level, as shown in Table 5 below, however data to enable a break down by sex were not available. There was no obvious trend of decreasing retention rates as year level increased as might have been expected. It is possible that low retention rates may have been obscured by increasing enrolments in schools.

Table 5 Retention rates within schools per year level 2012-2013

Grade	Retention rate (%) (95% C.I.)
Grade 1	98 (95, 100)
Grade 2	98 (95, 100)
Grade 3	97 (94, 100)
Grade 4	95 (91, 99)
Grade 5	99 (95, 100)
Grade 6	92 (88, 96)
Grade 7	95 (90, 100)
Grade 8	98 (92, 100)
Grade 9	100 (91, 100)
Overall	96 (95, 97)

*insufficient data available to calculate retention rates for years 10 and 11

3.3.4 Teacher recruitment and retention

Teacher recruitment was generally an informal process. Usually, there was no advertising, and an appropriate candidate was nominated by staff or the school committee, or enquiries made within the principal's circles. Generally the minimum requirement for a teacher was an education level up to grade 11. Some schools reported that applicants needed to submit a Curriculum Vitae and then have an interview.

Staff retention was recognised by the majority of principals as a challenge, and only about half felt that they had enough teachers. Principals reported that many teachers moved to government schools, even after having received training or professional development in their roles within monastic schools. The main reasons cited were that the government had been actively recruiting teachers, and that salaries were better for teaches in government schools. Other reasons given by principals for teachers leaving included interpersonal differences, or volunteer teachers leaving after they had completed distance education courses.

3.3.5 Teacher salaries and benefits

Teacher salaries were reported by almost all principals to be inadequate. All teachers within schools tended to be paid the same amount –there were no 'pay scales'- however if a teacher had extra responsibilities such as managing the school administration, or assistant to the principal, they tended to get paid more. Median monthly salaries ranged from 35,000 Kyats to 41,670 Kyats ($35 USD - $42 USD). Ten percent of schools paid 70,000 Kyats ($70USD) or more, and one school paid 100,000 Kyats ($100USD) per month. Some principals reported that they had not yet passed on the recent government salary support[12] to teachers, and had instead put it towards activities such as infrastructure improvement. Fourteen per cent of teachers were volunteers. Staff benefits for teachers at monastic schools included: provision of meals (56% of schools), training (79%), provision of items for personal use (17%), and some support for living and health expenses (27%).

3.3.6 Teacher promotion

There were no minimum standards for teacher promotion. Some schools promoted teachers based on years of teaching experience, through increasing their salaries or promoting them from teaching primary grades to middle grades. Some principals reported a reluctance to promote teachers due to financial and cultural factors:

> *"..this is because of working in the monastic schools, everybody is working at the same level…it's difficult to rank the teachers and give promotions…..but we try to increase the salary based on their experience, rather than naming a promotion."* (School principal).

3.3.7 Staff leave

In the majority of schools (59%), there was no formalised system for staff leave. Thirteen percent of all schools offered maternity leave, 10% medical leave, and 9% annual leave. Other leave identified by principals included: study leave (10%), casual leave (10%), and government leave (2%) (Figure 8).

[12] The Government of Myanmar recently announced support for salaries of teachers in monastic schools at a rate of one full-time salary for every 40 pupils.

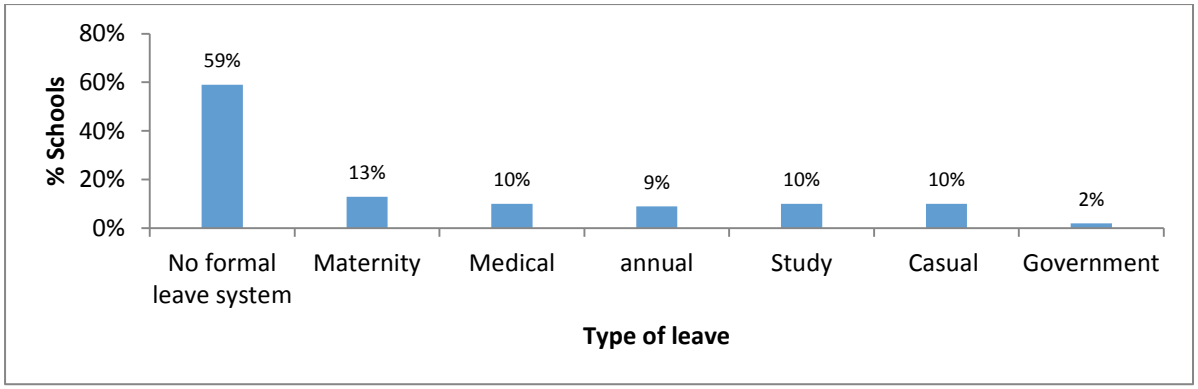

Figure 8 Type of leave available to school staff

3.3.8 Other school staff

It was not common for schools to have support staff; seventeen percent had administrative staff, 10% had clerks, 10% student affairs officers (usually a school committee member or one of the teachers), 15% of schools had a cashier. Cleaners/ maintenance workers were in 3% of schools, and 6% of schools had 'other' staff.

3.3.9 Staff meetings

Practices around staff meetings varied. Seventy-four percent of schools held staff meetings. Of those schools that conducted staff meetings, frequency varied: meetings were held weekly in 16% of schools, monthly (e.g. on pay day) or less than monthly in 41% of schools, three to four times per year in 22% of schools, and only once or twice per year in 10% of schools (Figure 9). Meetings tended to cover 'school needs', and teacher contribution and feedback was 'always welcomed' in only 35% of schools; 'sometimes welcomed' in 38%, and was 'not welcome' in 3% of schools. This question was not asked or was not answered in 24% of schools.

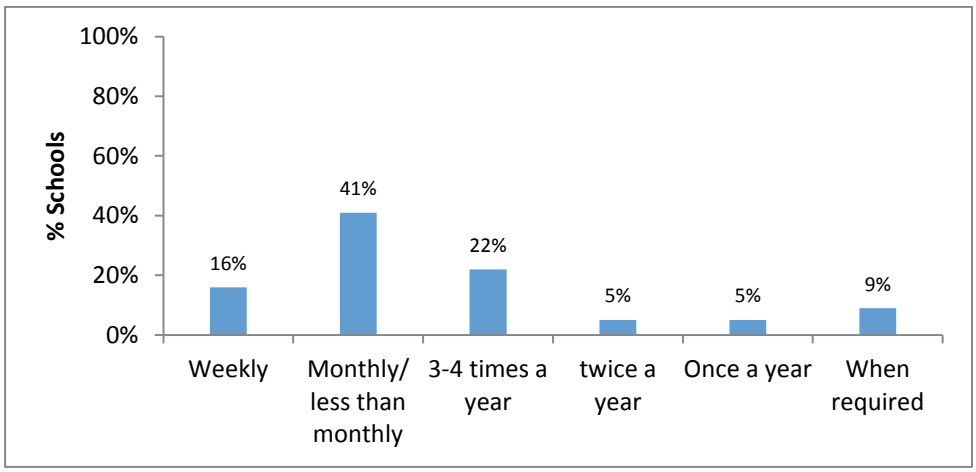

Figure 9 Frequency of staff meetings

3.3.10 Financial management

In most schools, the principal was responsible for managing the finances, however in some schools the school committee members had this responsibility, and even paid teachers' salaries. Income and expenditure records were not generally kept, and schools rarely banked their money; 3% (four schools) only made use of banks.

3.3.11 School funding and non-financial support

Funding and support for schools came from a range of sources: financial support from individual donations (72% of schools), outside organisations (33%), income generation projects (30%), school fees (22%), parent donations (18%), fundraising (13%), and donations from community members (13%) (Figure 10). Thirteen percent of schools reported receiving some government funding.

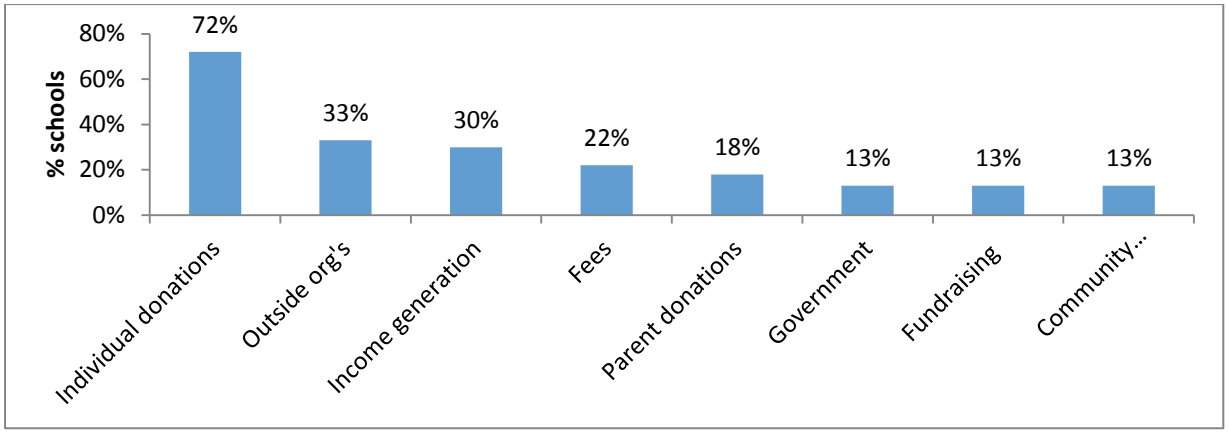

Figure 10 Funding sources for monastic schools

The majority of monastic schools (81%) did not charge enrolment fees. Enrolment fees ranged from 200 to 10 000 Kyat ($0.2USD to $10USD), with a median charge of 1500 Kyat ($1.5USD). Exam fees were charged in 11% of schools, ranging from 40 to 1400 Kyat ($0.04USD to $1.50 USD).

Non-financial support was gained through individuals (48% of schools), NGOs/INGOs (29%), community based organisations (CBOs) (29%) and/or political parties (18%) (Figure 11).

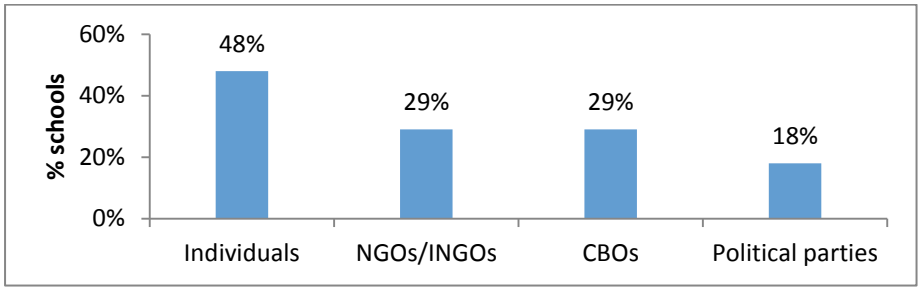

Figure 11 Non-financial support for monastic schools

3.3.12 Provision of items to students

Most schools provided some school items free to students, e.g. text books and stationary (94% and 93% of schools respectively), food (44%), uniforms or schoolbags (29%). Some schools (8%) provided other financial support as needed e.g. health or social costs (Figure 13).

Figure 12 Donated school bags

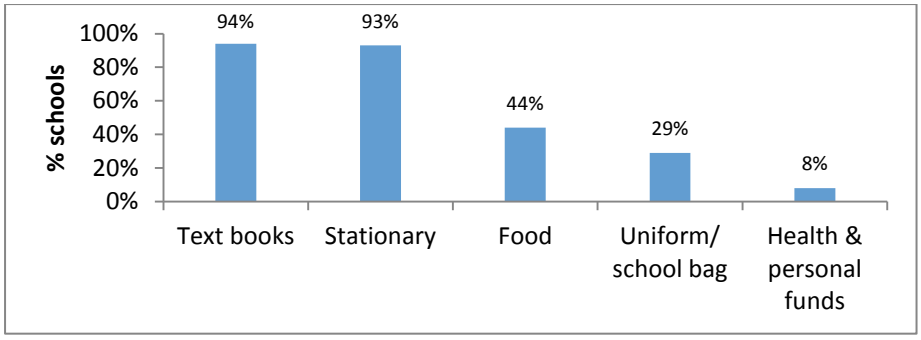

Figure 13 Provision of items to students

3.3.13 Income generation

Thirty-seven percent of schools owned some land outside of the monastery compound. For some, this land had multiple uses including for income generation projects. The land was used for growing crops (65% of schools with land), for leasing out (19%), or for brick-making (4%). In 8% of those schools with extra land, it was not used for anything. School committee members had various suggestions (during focus group discussions) for income generation for schools including: microcredit loans, horticulture, leasing out land, or renting out an owned vehicle.

3.3.14 Government collaboration

Fifty percent of monastic schools had some form of government collaboration. Interview data revealed that this is limited mainly to the provision of stationary and text books, trainings, and technical advice. As previously mentioned, 13% of schools reported receiving some government funding.

Main findings: School administration and management

- Over half of monastic schools were primary schools, and just under half had boarding students. The majority (75%) had children from two or more different villages, and almost 20% of schools were attended primarily by students from ethnic minorities (Paou and/or Palaung).
- Novice monks and nuns were present in over half of all monastic schools, and made up around 13% of the student population
- Record keeping practices were inconsistent across schools. Paper-based systems were used and there didn't appear to be any established minimum standards for record keeping.
- Information on disability was not routinely collected.
- Five-year survival rates were low at 50%, whereas retention rates appeared to be very good, at 96%. However these numbers should be interpreted with caution.
- Staff recruitment and retention was reported to be difficult. Processes were not formalised and the minimum level of qualifications for teachers appeared to be low.
- Monastic schools compete with government schools for teaching staff, and monastic schools cannot match the salaries offered in government schools.
- Staff meetings, if held, were irregular and teacher participation in meetings was low.
- Schools appear to be reliant on donations from individuals and the community. Income generation and student fees contributed to fewer schools' funds – e.g. only 19% of schools charged enrolment fees.

Box 2 Main findings: School administration and management

3.4 Teaching staff and teaching and learning practices

3.4.1 Teachers

Table 6 summarises teacher characteristics. Eight hundred and seventy-one teachers from 126 schools completed the teacher profile questionnaires. Teachers from one school declined to participate.

Eighty-two percent of teachers in monastic schools were female. The median age of teachers was 30 years, with a range of 16 to 80 years. Eighty-one percent of teachers lived nearby to the schools. Sixty percent of the teachers in monastic schools were university graduates, 17% were currently studying at university, and 18% had passed high school only. A small number of teachers had diplomas (1%) or Buddhism Studies degrees (3%), and 1% had only completed middle school. The median number of years' teaching experience was four, and the median number of years spent teaching in that school was three. Most teachers (68%) took one or two classes, and about a third (29%) took three, four or five classes. Teachers taught between zero to eight subjects, with a median of four.

Eighty-six percent of teachers were paid a salary, the remainder were volunteer teachers. Of all volunteer teachers, not including monks, 62% are female. Overall, the majority (75%) of teachers who are paid a salary reported being 'very satisfied' or 'somewhat satisfied' with their salaries. Seventeen percent felt 'neutral', and 8% 'not satisfied' or 'very dissatisfied'. Data collectors reported that many teachers answered this question reluctantly, and that they were not confident of the truthfulness of the responses. These results are also in contrast to FGD results where most teachers reported that they did not feel that their salaries were adequate.

Table 6 Teacher characteristics

Teacher characteristics	
% female	82%
Median age (range)	30 (16, 80)
Education level	
Middle school	1%
High school	18%
Diploma	1%
Currently studying at university	17%
University graduate	60%
Buddhist Studies degree	3%
Live nearby to school	81%
Median years teaching experience (range)	4 (0, 52)
Median years teaching in this school (range)	3 (0, 48)
Median classes taken (range)	2 (0, 9)
Median subjects taught (range)	4 (0, 8)
Paid a salary	86%

Teacher training

Seventy-five percent of teachers reported that they had attended various training courses in the past. Fifty-five percent of teachers reported attending some kind of CCA (child centred approach) training course in the past. Other trainings attended included general teaching/ education courses (22% of teachers), 'Life Skills' (18%), Buddhist studies (6%), computer courses (5%), specific subjects (5%), administration courses (4%), 'Leadership' (2%), English (2%), First Aid (1%), and health/hygiene (1%).

Teachers identified various training they would like to receive in the future including: CCA (41% of teachers), computer courses (25%), and English or other language training (22%) (Figure 14). Fewer teachers identified administration and management training (5%), school health (5%) or life skills (3%).

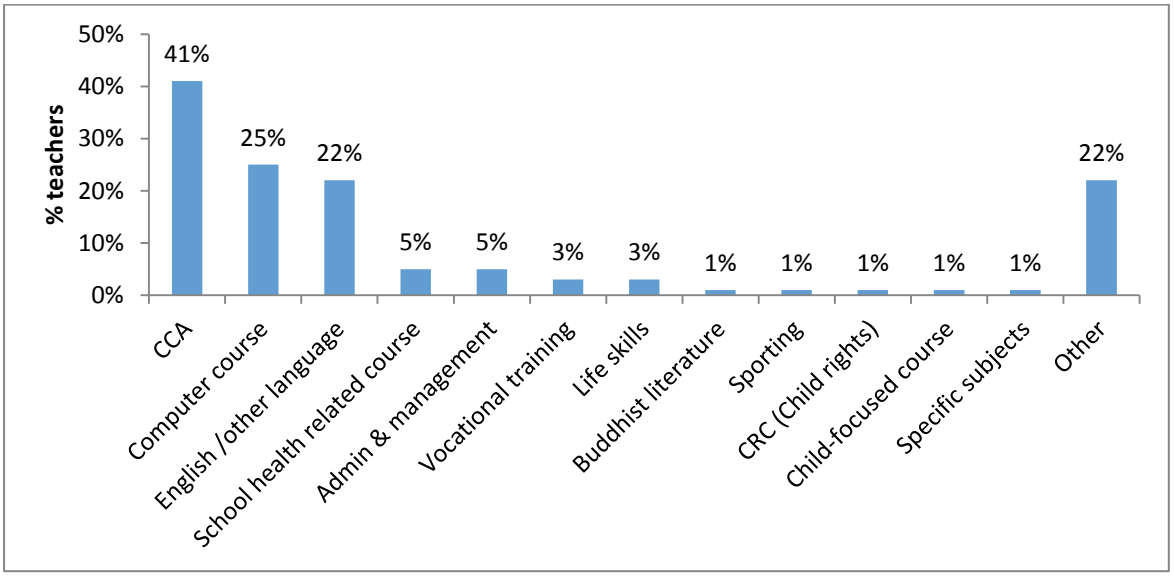

Figure 14 Training that teachers would like to receive

3.4.2 Child-centred approaches

Almost all principals and teachers had heard of CCA, and data collectors reported that almost all had positive perceptions of CCA. Approximately half reported attending CCA trainings in the past, from various organisations. Some teachers reported that the training they received was 'too theoretical' and that they did not have enough confidence to apply the methods to their teaching practices. A small number of teachers reported putting into practice some of the techniques they had learned such as conducting practical sessions in their classes, e.g. using plants in science class, or making learning cards. Principals and teachers reported that they would not be able to implement CCA because of a lack of resources, in particular classroom space given that classes were mostly conducted in one large hall with several classes occurring simultaneously.

> *"To me, a child-centered approach is a very good method…Using teaching aids as a technique makes the children learn easily without learning things repeatedly. But we need more training and resources."* (School principal)

Most teachers also cited a lack of teaching and learning materials, insufficient time to use CCA within the standard curriculum, or a feeling of being constrained by the government curriculum.

> *"For the sake of children, CCA is good, they get the confidence to talk in front [of the class]...but for us, we can't finish a [book] chapter using CCA…we don't know how to adjust ...and so we go back to usual methods…"* (Teacher)

There were common misconceptions among teachers that CCA meant that there was 'no need to write' for students, causing them to 'become weak in writing skills'. Another misconception was that students would end up 'leading' the classes.

Some members of the school committee/ PTA had heard of CCA, but generally there was a poor understanding of what it was among parents and community members.

> *"I think, some parents have no idea about CCA. If the teacher and students are singing, some parents think that teachers are not teaching lessons and are just playing and singing… So, parents should also know about CCA methods."* (Community member)

Classroom observation

A total of 354 classrooms in 127 schools were observed for 10 minutes each by data collectors. Evidence of CCA teaching methods were checked-off as they were observed within each class. Nine key CCA features and the prevalence of observation of each are shown below in Table 7. Areas that were poorly demonstrated included: group work, teachers having written lesson plans, and including students with disabilities.

Table 7 CCA features observed in classes

CCA feature	% classes observed in
1. **Teaching and learning materials are used by the teacher *e.g. flashcards, pictures, posters, counting blocks***	72
2. **Students have pens, pencils, notebooks, textbooks**	87
3. **Students are engaged in the class**	82
4. **Teachers give children the opportunity to share their ideas and experiences**	46
5. **Teachers allow children to work in groups**	12
6. **Teachers treat children in a positive and friendly manner**	75
7. **Students are not physically punished**	92
8. **Students with a disability, chronic illness and other special needs are actively included in class**	11
9. **Teacher has a written lesson plan**	30

A scoring system was also developed to give an indication of how well the CCA approach was employed. Classes were scored as 'low' if only four or fewer CCA features were observed; 'medium'

for five or six CCA features observed; and 'high' if seven or more CCA features were observed. Only 16% of classes observed scored 'high' for CCA methods, 43% 'medium' and 41% 'low' for CCA methods (Figure 15).

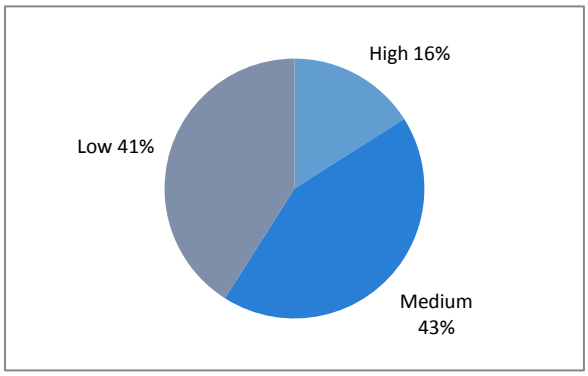

Figure 15 Overall CCA 'score' of observed classes

Figure 16 Class time

Lesson planning

The majority of teachers did not make formal lesson plans for classes; in classroom observation only 30% of teachers had written lesson plans (Table7). Teachers reported that they did not have enough time to plan because of the government curriculum, or that they were used to teaching without prepared lesson plans. Teachers tended to use government text books and a 'teacher-centred' approach. Teachers from one school however, reported that they prepared lesson plans one week in advance (after previously receiving training from Yin Thwe Foundation).

Teaching and learning activities and materials

Teaching and learning materials were observed in 72% of classes, and students had pens, pencils, notebooks, textbooks in 87% of classes (Table 7). Teachers tended to use similar practices across schools: getting students answer questions, to verbally repeat after them ('rote' learning), or to copy from a text book. Some teachers reported employing some strategies they had learned during CCA training such as using games when the students' energy was low, or group work in some subjects such as maths or science. During class observation, teachers gave students the opportunity to share their ideas and experiences in 46% of classes, and group work was observed in only 12% of classes (Table 7). To encourage classroom participation, some teachers reported using story-telling, games, singing or poems. Some teachers reported using different teaching materials such as plants, seeds and magnets for science, cards, flip-charts, maps, bottles, cups, glasses, or toys.

3.4.3 Student assessment and performance

Assessment was usually undertaken through monthly and chapter tests. There were also mid-term exams and a once-yearly final exam. Test results were usually recorded in the students' results book and kept in the school. Some teachers reported giving monthly report cards to students which their parents must sign; other schools don't have report cards. A few teachers reported visiting parents of poorly performing students to discuss their child's progress, however most reported that parents very rarely come to teachers to ask about their children's performance. A common perception was that in general, parents 'don't really care' and don't enquire about their children's education. Teachers did not tend to keep records of students' achievements in their learning, such as good attendance, good homework, good behaviour or good work. Reward systems in schools were also

reported: some schools offered token prizes to students who came first, second, third in the monthly examinations; and a few schools held yearly awards ceremonies where outstanding students were acknowledged.

3.4.4 Student discipline

Student discipline was enforced in similar ways across schools. Many teachers and principals noted that students were not punished for poor study performance, only for poor behaviour or manners. Most principals reported that there was physical punishment if students were fighting with other students or if they were engaging in bullying. One principal reported that students were physically punished in front of their parents if they had misbehaved. Some teachers physically hit students with a stick or their hand or by knocking on the student's head, leg or knee. Physical punishment was observed in 8% of classes. Other forms of punishment reported to data collectors included making students repeatedly sit and stand, collect rubbish from around the school yard, or expelling students from the school if they were absent without permission more than three times. In a few schools students were made to clean toilets as punishment.

Main findings: Teaching staff, and teaching and learning practices

- The majority of teachers are female (82%)
- Over half (60%) of teachers are university graduates
- Fourteen percent of teachers are not paid a salary (28% of those are monks)
- Almost all principals and teachers had heard of child-centred approaches (CCA), and 55% of teachers reporting attending CCA training
- Teachers also reported interest in future CCA training (41%)
- Most teachers and principals identified barriers to implementation of CCA including inadequate time, materials, classroom space and training
- Misconceptions about CCA were common
- Only some schools (16%) performed well in terms of CCA
- Areas that were poorly demonstrated included: group work, written lesson plans, and including students with disabilities
- Parental involvement in students' learning is minimal
- Physical punishment of students for misbehaviour is common

Box 3 Main findings: Teaching staff, and teaching and learning practices

3.5 School environment and facilities

3.5.1 School facilities and environment

Almost all schools surveyed (96%) were constructed with brick and/or wood (41% solely out of brick). Three percent of schools were primarily constructed out of bamboo, and one percent from other materials.

Most schools (79%) had a meeting space available for teachers. Only 29% of schools had a library. For those schools without a library, about half (39%) had storage space for books, however these books were not accessible to students in 29% of cases. In 83% of schools, there was sufficient amount of space for students to play, and in 35% of schools there was play equipment/balls/games available for students (Figure 18). Most schools (83%) had trees that provided shade to students. About half of the schools surveyed (53%) had fencing around the whole school with 12% have no fencing at all. Seventy-two percent had rubbish bins in the school yards (Figure 17).

Eighty-three percent of schools had electricity. Of these, 57% had a generator, 20% had solar electricity, and 49% had government-supplied electricity.

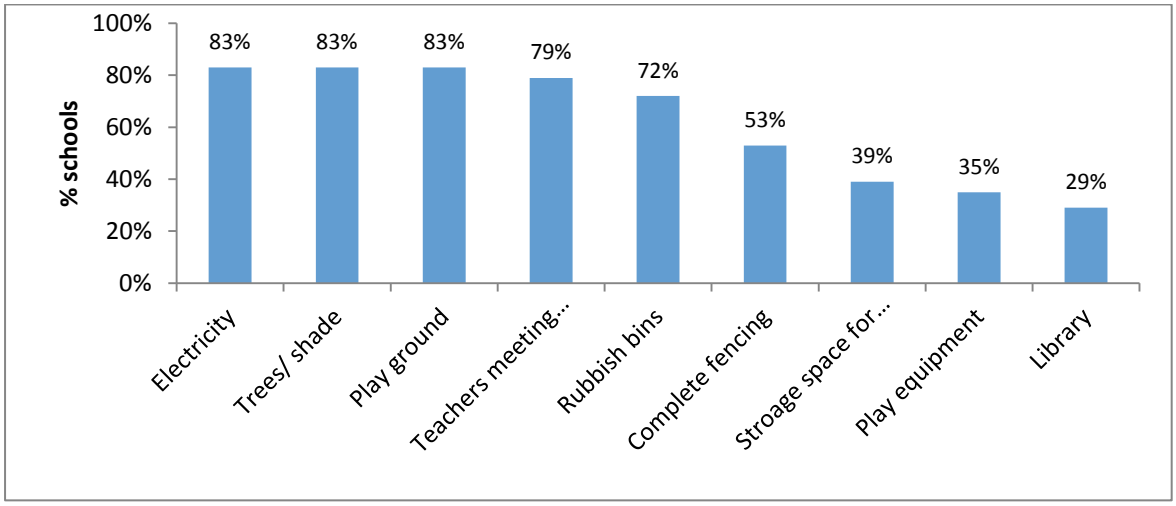

Figure 17 School facilities

Figure 18 School play areas

3.5.2 Classrooms

Most school classrooms (81%) were judged to be clean and tidy with 60% of schools having rubbish bins in classrooms. Sixty percent of schools had both chairs and desks for students, 34% had just desks (no chairs), and 6% had neither chairs nor desks (Figures 19 and 20). Schools ranged in size; the median number of classrooms is nine and the range is one to 47. The median number of students per classroom was 50, with a range of 9 to 308. Teaching several classes in one room was common, taking place in 70% of schools, with one school teaching up to nine classes in one room.

Pictures or posters were seen in 62% of schools, and only 22% of schools had classroom decoration or student artwork displayed. The majority of schools (93%) had a black board or white board in all classrooms. In 5% of schools only some classes had black/white boards, and 2% of schools did not have either.

Figure 19 Different classroom settings

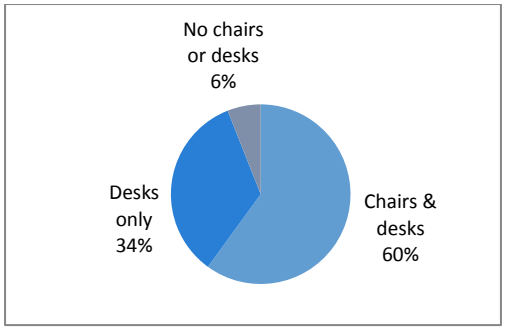

Figure 20 Classroom furniture

3.6 Water, sanitation & hygiene facilities

3.6.1 Waste management

Almost all schools (98%) reported that they disposed of solid waste weekly. Various methods were employed with only 38% of schools practising good waste disposal or having good waste disposals systems in place (e.g. rubbish collection, tip, used as fertiliser or burying waste). The majority (62%) of schools had poor waste disposal practices, including burning waste and throwing it outside the school compound or into rivers (Figure 21).

Figure 21Waste disposal in schools

3.6.2 Water source

Eighty-one percent of schools (95% CI [74, 88]) primarily relied on an 'improved' water source[13] (see Appendix 12 for a complete definition of 'improved water sources'), including tube wells (58% of schools), water that is piped water into the school (9%), protected dug wells (5%), rainwater stored in a container, tank or cistern (4%), or a public tap or standpipe (3%) and water from a protected spring (2%) (Figure 22). These results are similar to what has been reported in government schools where 82% have access to an improved water source on site throughout the year.[6] Nineteen percent relied on 'unimproved' water sources. Unimproved water sources include surface water (9%), unprotected dug wells (7%), tanker truck water (1%), and unprotected springs (2%). The main water source was located within the schools grounds in most schools (85%) (Figures 22-24).

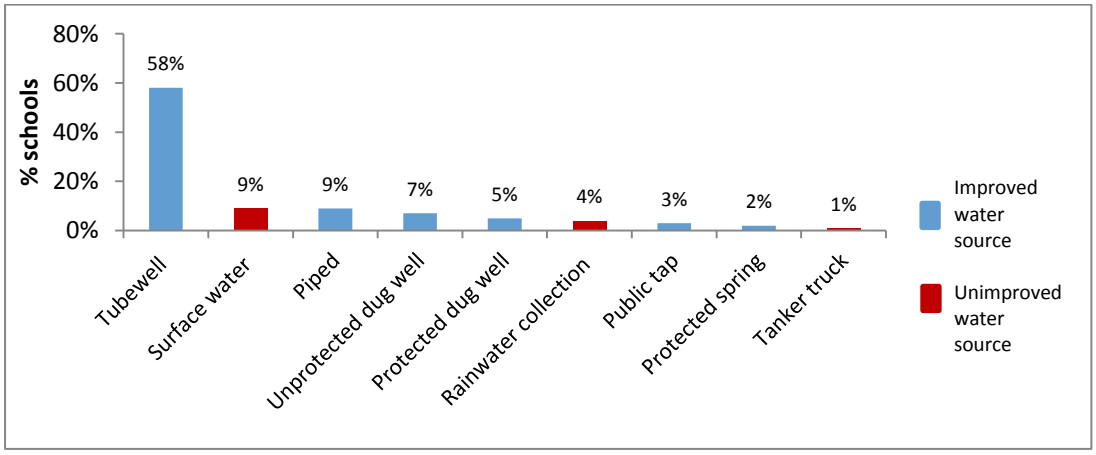

Figure 22 Main water source for schools

[13] 'Improved drinking water sources' include sources that, by nature of their construction or through active intervention, are protected from outside contamination, particularly faecal matter (http://www.wssinfo.org/definitions-methods/)

Figure 23 Rain water stored in tank

Filter tanks

Figure 24 Covered water pots

Unprotected dug well

Across regions, the proportion of schools relying on an improved water source varied, however sample sizes were small for some states/ regions. Mandalay and Sagaing had 95% and 87% of schools respectively with improved water sources; and Thanintharyi and Shan state had only 40% and 57% of schools respectively with an improved water source (Table 8).

Table 8 Percent schools with improved water sources across regions

State/ Region	% schools with improved water source	95% C.I.
Chin	100*	
Mandalay	95	
Sagaing	87	
Yangon	85	
Bago	69	
Ayeyarwaddy	67	
Shan	57*	
Thanintharyi	40*	
Overall	81	74, 88

* Sample size <10

3.6.3 Water Supply

Principals were usually responsible for the maintenance of the water supply (60% of the time); in other schools this was the responsibility of the monks (9%), or the PTA/ school committee (9%), or teachers (6%). In 15% of schools however, no one has direct responsibility for maintaining the water supply to the school. The water source was functional in the majority (96%) of schools for five to seven days per week. In two schools (2.5%), it was functional fewer than two days per week. When the water source was functional, principals reported that it provided enough water for the needs of the school (including water for drinking, hand washing and food preparation) in 94% of schools. In 6% of schools insufficient water was available. Water was available in all seasons in 89% of schools (95% CI [82, 94]), and in 11% of schools there can be a shortage in the dry season. Water availability varied across regions (Table 9). When water was not available, schools reported that they bought it (33% of schools), obtained it from the village (53%), or used stored water (13%). A third of schools never treated water to make it safe to drink.

Table 9 Percent schools where water is available all seasons

State/ Region	Water available all seasons
Sagaing	100
Yangon	97
Bago	93
Mandalay	88
Ayeyarwaddy	76
Thanintharyi	76*
Shan	73*
Chin	50*
Overall (95% CI)	89 (82, 94)

* Sample size <10

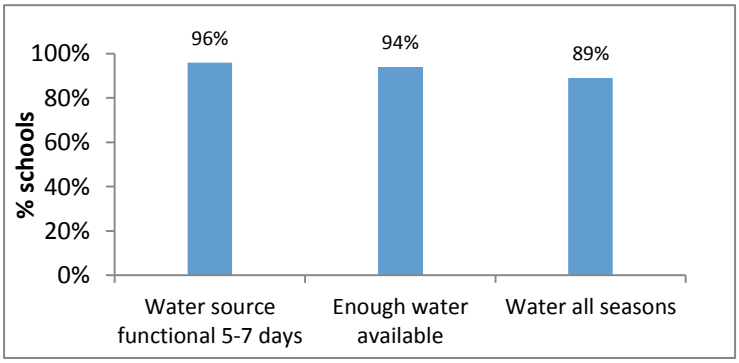

Figure 25 School water supply

3.6.4 Drinking water storage

Drinking water was available in all schools. Schools often had more than one method of storing drinking water; commonly, in a covered water pot (57%) and/or a tank with a tap (45%). Other methods included: a filter pot with tap (12%), an uncovered water pot (13%), bottled water (22%), piped water (6%) or getting drinking water directly from the tube well (4%) (Figures 26-27).

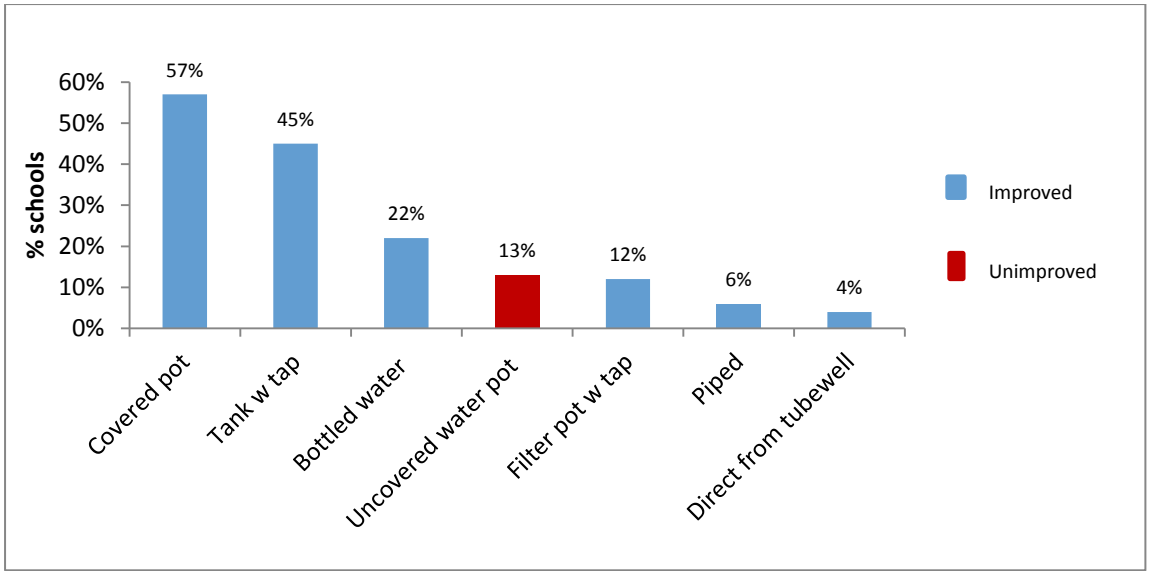

Figure 26 Drinking water storage

Uncovered water pot

Covered water pot (with strainer)

Tank with tap

Covered container with tap

Filter pot with tap

Figure 27 Examples of drinking water storage

3.6.5 Water drainage

This survey was conducted during the wet season in Myanmar. The eight regions experience different rainfall, with Thanintharyi having the highest rain fall, followed by Bago and then Yangon. In 67% of schools visited, large puddles or areas of water collection were observed (Figure 28). Only 41% of schools had a water drainage system near school buildings (Figure 29), and 68% had a water drainage system at the water source.

Figure 28 Poor water drainage in schools

Figure 29 Water drainage systems

3.6.6 Toilets

Six percent of schools did not have toilets for students. Most schools (71%) had designated toilets for teachers. Forty-three percent of toilets were judged to be clean (i.e. no unpleasant smell, no flies and no faecal matter present), 47% somewhat clean and 10% not clean (Figure 30).

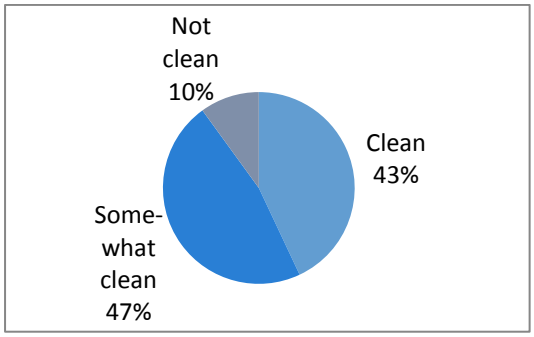

Figure 30 Cleanliness of school toilets

The median number of total toilets within monastic schools was three, with a range of zero to 20. Most toilets (80%) were judged to be accessible to small children. Disability access to WASH facilities will be discussed below. The median student to toilet ratio was 51:1. Half of all schools had a ratio between 26-75 students per toilet. Five percent of schools had a student to toilet ratio of greater than 180:1. The UNICEF/WHO guidelines for student-to-toilet compartment ratio is 25 girls per toilet compartment and 50 boys per toilet when a urinal is available, plus one toilet for male staff and one for female staff.[14] Based on this, at least half of all monastic schools did not meet this target. It's also likely that the true ratio is higher than 51 students to one toilet because this calculation didn't take into account the level of function or cleanliness of toilets available to students.

Toilet types

Toilet types varied, with schools often having more than one type of toilet (Figure 32). Most commonly, schools had pour flush (56%), fly proof toilets (45%) and/or septic tank systems (46%). These are recognised as 'improved' sanitation facilities (see Appendix 13 for definitions of 'improved' and 'unimproved' sanitation facilities). Twenty-five percent of school had urinals. Only a small proportion of schools had pit latrines without a slab (6%) which are considered 'unimproved' facilities (Figure 31).

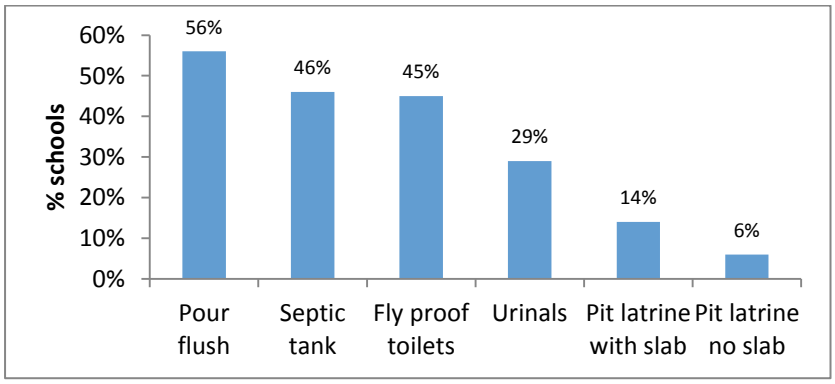

Figure 31 Types of toilets in monastic schools

[14] UNICEF. (2011). "WASH in schools monitoring package." from http://www.unicef.org/wash/schools/files/WASH_in_Schools_Monitoring_Package_English.pdf

Figure 32 Examples of toilets in monastic schools

Maintenance and cleaning of toilets

Forty-eight percent of schools reported that when filled, sewage from toilets was 'always' emptied, 10% said it was 'not always' emptied and 18% said toilets were 're-located will filled'. 25% said the toilets had 'never been filled up'.

Most commonly, students (88% of schools) were responsible for cleaning of toilets. Teachers assumed this role in only 9% of schools. Toilets were cleaned on a daily basis in 78% of schools; twice a week in 7% of schools and once a week in 13% of schools. Toilets were 'always' repaired when broken or damaged in 88% of schools, 'sometimes' in 9% and 'never' repaired in 2% of schools. In most cases, it was the principal's responsibility for maintenance and repairs of toilets (78% of schools). The school's committee assumes this responsibility in some cases (14%), and more rarely it

is teachers (4%) or youth from the village (3%). Four percent of schools reported that it was not anybody's responsibility for maintenance and repairs of toilets.

3.6.7 Hand washing facilities

Hand washing facilities were available in 79% of schools (Figure 33). The median number of hand washing stations was two, with a range of 0-20. The median student to hand wash facility ratio is 76 to one (IQR 37, 140), with a range of two to 2947 students to one hand washing station. Only 22% of those schools with hand washing facilities had sufficient soap or ash (Figure 34). Eighty-five percent of schools with hand washing stations had sufficient water to wash hands. Only 61% of those schools with hand wash stations had them located close to the toilets, with 18% having hand wash facilities inside the toilet compartments. Hand wash facilities were located in or near the main school building in 68% of schools with hand wash stations, and near the kitchen in 2% (Figure 35). Fifty-two percent of schools with hand wash stations, did not have drainage systems at the wash stations.

Figure 33 Availability of hand washing facilities in schools

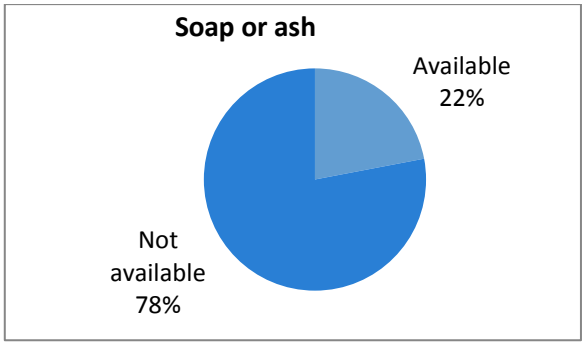

Figure 34 Sufficient soap or ash at hand wash stations

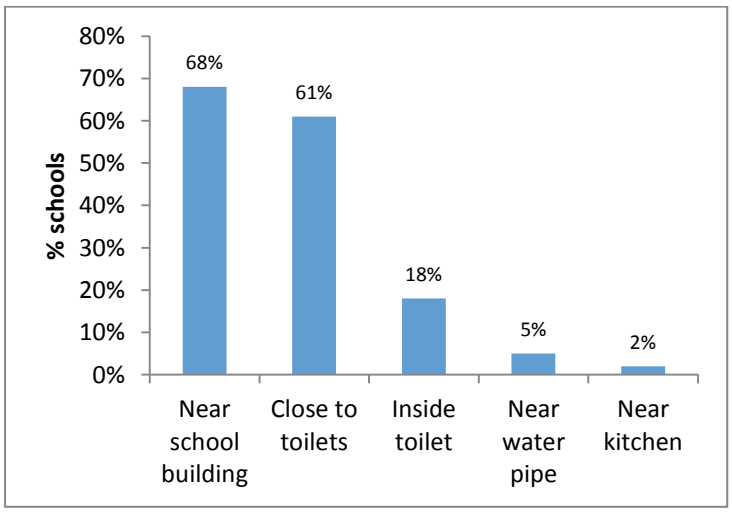

Figure 35 Location of hand washing stations

Hand wash station

3.6.8 Quality criteria for safe, healthy, child-friendly schools conducive to learning

The MEC log frame specifies seven core quality criteria for 'safe, healthy, child-friendly schools conducive to learning'. These are listed in Appendix 14. For analysis, these seven criteria were further broken down into:

1. Permanent classroom (constructed with brick or wood)
2. Clean classroom
3. Sufficient desks and chairs for students
4. Learning materials available
5. Trees for shade
6. Bins in school yard
7. Fencing around school
8. Play equipment
9. Access to an improved water source
10. Water available all seasons
11. Separate girls' toilets
12. Clean toilets
13. First aid kits
14. Hand washing stations available
15. Garbage management (good waste disposal, defined as collection or burial)
16. Disability access to WASH facilities and classrooms

No schools met all these quality criteria. Two percent of schools met 15 of the 16 quality criteria for being safe, healthy, child-friendly schools conducive to learning, and 9% of schools met 14 or more quality criteria. The median quality score out of 16 was 11.

Main findings: School environment, facilities, water sanitation and hygiene

- Most school buildings were permanent structures, however quality varied
- Many schools lacked basic teaching facilities: books were not readily available for students and only 29% of schools had a library, only 60% of classrooms had both chairs and desks for students, and classroom decoration was rare
- The median number of students per classroom was 50, and in most schools (70%) more than one class was taught per classroom
- Only 36% of schools practiced good waste disposal
- Most schools (81%) primarily relied on an 'improved' water source – usually tube wells (58%)
- The water source was functional in the majority (96%) of schools for 5-7 days per week, and provided enough water (94% of schools). 11% experienced a shortage of water in the dry season, and 33% of these had to then buy water.
- One third of schools never treated water to make it safe to drink.
- Drinking water was usually stored in a covered water pot, however some schools stored drinking water unsafely in uncovered pots (13%)
- The majority of schools (67%) had poor water drainage systems
- Schools mostly had pour flush toilets (56%), fly proof toilets (45%) and/or septic tank systems. The condition and level of functionality of toilets varied considerably, e.g. only around half (43%) of toilets were clean
- Availability of student toilets was limited – the median student to toilet ratio was 51:1- and some schools (6%) did not have toilets for students
- Students were mostly (88%) responsible for cleaning toilets. Toilets were cleaned on a daily basis in 78% of schools, and 'always' repaired when broken or damaged in 89% of schools
- Hand washing facilities were available in only 79% of schools, and only 22% of those had sufficient soap or ash and 85% had sufficient water
- Hand wash facilities were located close to the toilets in only 61% of schools that had hand wash facilities.

Box 4 Main findings: School environment and facilities

3.7 School health, hygiene practices and hygiene education

3.7.1 Student health checks

Health checks were conducted in 78% of schools during the previous school year (95% CI [71, 85]). Ayeyarwaddy region was most poorly covered with only 44% of schools having health checks in the previous year. In Shan and Chin states 100% of schools had had health checks, however sample sizes were small. Mandalay had health checks in 85% schools, and Sagaing in 78% of schools. In some schools, the Township Medical Department had been providing annual general health checks for students including dental and eye checks. Some reported iron supplementation programs, however no immunisation or micronutrient supplement programs were reported by principals.

3.7.2 Student health care

If students were sick or injured, some principals reported that they made use of their own stores of basic medicine (e.g. paracetamol, Betadine), or traditional remedies. Most reported that if the illness or injury was serious, the student would be sent to a nearby (public or private) health clinic, and then if required, onto the township hospital. No formal referral systems were reported. Common illnesses in students reported by teachers and principals include colds/respiratory infections, skin infections and dengue. In some schools, principals reported that the City Development Committee visits twice per year to spray mosquitoes for dengue and malaria control.

Seventeen percent of schools had health clinics or health workers available. Forty-three percent of these were available Monday to Friday. Yangon had the greatest proportion of schools with health clinics (30% of schools) and Sagaing the smallest (4% of schools). Most school health clinics (81%) were staffed by a doctor, 33% by a nurse and 24% by a traditional health worker (Figure 36). For those schools without a clinic, 91% had a clinic nearby, and at 60% of these a doctor was available, and 30% a nurse. Fifty-one percent of schools have a first aid kit (with basic supplies only such as paracetamol, betadine or traditional remedies), and only 30% of schools reported having somebody trained in how to give first aid.

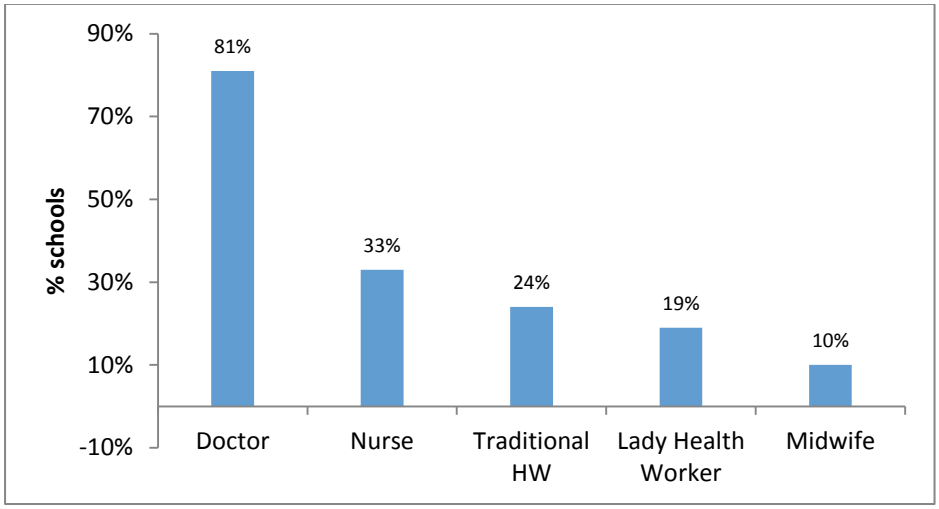

Figure 36 Staffing of school health clinics

3.7.3 Hygiene education

Teachers reported in FGD that they sometimes taught hand washing, personal grooming and washing of clothes, however there was no set curriculum reported by any teachers. It was not clear whether hygiene education was provided through special sessions, as part of life skills training modules or as part of the regular curriculum. It was very rare for teachers to have attended any health awareness or hygiene education training – only 1% of teachers reported (on the teacher profile questionnaire) attending health or hygiene training in the past. Although many teachers were aware of the "4 Cleans" hygiene promotion campaign,[15] hand washing was not generally well-taught, and no one reported giving hand wash demonstrations. Teaching and learning materials for hygiene were very rare.

Teachers did not generally report seeing significant behaviour change following health or hygiene lessons, although some cited that some students subsequently started showering more and coming to school clean. In a school where the principal demonstrated how to wash hands, teachers reported more successful behaviour change – students even began collecting and pooling money to buy soap themselves.

> *"Previously, the students didn't know how to use the toilet and to keep themselves clean. We trained them to cut their nails, hair, to wear clean clothes, to take baths and to come to schools with 'thanakar'[16]. Nowadays, they come to school clean, neat and tidy with 'thanakar'… their behavior change after a few years is amazing!! We are so glad to see them and their changes..."* (Teacher)

3.7.4 Student hygiene knowledge and practices

2289 grade four and five students completed the student health questionnaire (Figure 38). Forty-nine percent were girls. The median age of respondents was 10 years (Table10).

The questionnaire comprised ten items covering hand washing, toilet use, drinking water source, frequency of diarrhoea and vomiting, treatment of diarrhoea, and hygiene awareness (Appendix 7).

Results will be presented for behavioural factors such as hand washing and toilet use, and then associations between student behaviours and various school environmental factors (availability of hand washing stations, water, number and status of toilets etc.) will be considered. Following that, student health data (diarrhoea and vomiting) will be presented, and associations with environmental factors as well as behavioural factors examined.

[15] The '4Clean' health promotion campaign was led by UNICEF after Cyclone Nargis in the Ayeyarwaddy region. It promotes the message of 'Clean Hands, Clean Latrine, Clean Food, and Clean Water'

[16] Thanakar is a cosmetic yellow paste made from ground bark, commonly applied to the face of women, girls and boys in Myanmar to protect the skin.

Table 10 Student demographics

	Male n(%)	Female n(%)	Missing (%)	Total n(%)
Overall	1155 (50)	1118 (49)	16 (1)	2289 (100)
Median age	10 yrs	10 yrs	-	-
Year level				
Grade 4	556 (50)	551 (49)	11 (1)	1128 (49)
Grade 5	577 (51)	546 (48)	5 (<1)	1128 (49)
Other/missing	10 (2)	20 (2)	3	33 (2)
Region				
Mandalay	380 (54)	314 (44)	14 (2)	708 (31)
Sagaing	203 (49)	207 (50)	1 (<1)	411 (18)
Ayeyarwaddy	170 (57)	129 (43)	0	299 (13)
Yangon	176 (45)	217 (55)	1 (<1)	394 (17)
Bago	122 (52)	110 (47)	0	232(10)
Shan	52 (43)	68 (57)	0	120 (6)
Chin	16 (57)	12 (43)	0	28 (1)
Thanintharyi	36 (37)	61 (63)	0	97 (4)

Hand washing

Six percent of students reported 'never' washing hands before eating, 15 % 'sometimes', 18% 'mostly' and 61% 'always'. Similarly, 5% of students reported 'never' washing hands after going to the toilet, 16% 'sometimes', 17% 'mostly', and 62% 'always' (Figure 37). Responses of 'never' and 'sometimes' were grouped together and defined as 'poor hand washing'. A slightly smaller, but not statistically significant, proportion of grade five students reported poor hand washing before eating compared with grade four students (20% vs. 22%, p=0.28). Similarly, a slightly smaller but not statistically significant proportion of grade five students reported poor hand washing after toileting compared with grade four students (20% vs. 23%, p= 0.13). Girls were less likely to report poor hand washing before eating (18% vs. 23%, p=0.02), however rates of reported poor hand washing after toileting were similar for boys and girls at 21% each (p=0.76). True rates of hand washing in students are likely to be lower as over-reporting of hand washing is likely to have occurred.

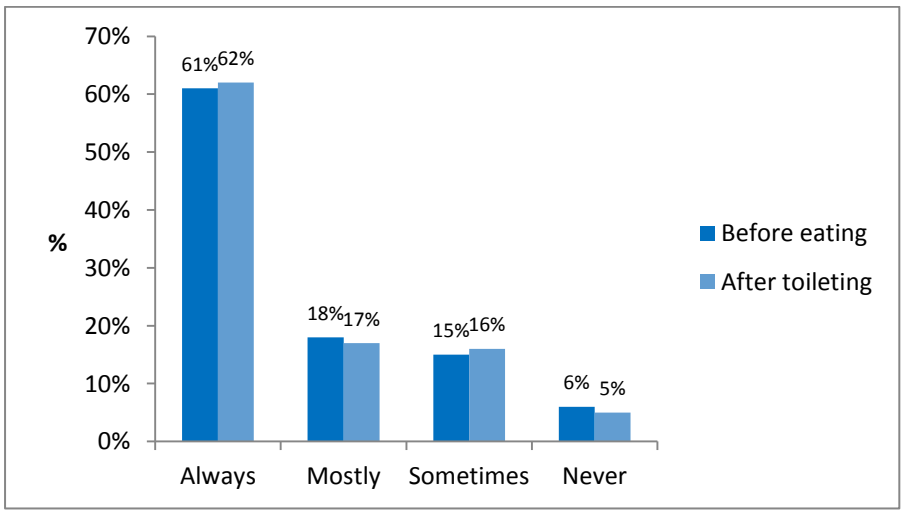

Figure 37 Reported hand washing behaviour by students

Hand washing and hygiene lessons

Eighty-six percent of students reported that they remembered any lesson about hygiene or cleanliness. A higher proportion of girls than boys remembered hygiene lessons (88% versus 84%, p=0.02). A smaller proportion of those who reported remembering hygiene lessons, reported poor hand washing before eating (20% vs. 25%), however this difference was not significant (p= 0.07). Similarly, a slightly smaller proportion of those who remembered hygiene lessons reported poor hand washing after toileting (21%), versus those who did not report remembering hygiene lessons (23%); however this result was not statistically significant (p=0.35). This lack of association between hand washing and remembering hygiene lessons could be due to several factors: the hygiene education being inadequate, students reporting that they remembered when they didn't (responder bias), or other factors that prevent the practice of hand washing for the person.

Hand washing and hand wash facilities

No association was identified between reported hand washing behaviour (before eating or after the toileting) and location of the hand wash stations, availability of soap, or whether there was sufficient water to wash hands. There was no association between poor hand washing before eating and poor availability of hand wash facilities (as shown by a high student to hand wash station ratio).[17] Unexpectedly, students were more likely to report poor hand washing after toileting if they were at schools with better availability of hand wash stations, compared with schools with poor availability of hand wash stations (22% vs. 14%) (p= 0.02). In schools where there were no hand washing facilities available, 56% of students still reported that they 'always' washed hands before meals, and 57% reported 'always' washing hands after toileting. Again, this suggests considerable over reporting of hand washing behaviour by some students, and indicates that these data need to be interpreted with caution.

Figure 38 Students completing the questionnaire

Drinking water

Students primarily relied on drinking water supplied by the school, with 89% of students reporting that they obtained drinking water from school. A greater proportion of girls than boys reported bringing drinking water from home (12% vs. 9%, p=0.06).

[17] Poor availability of wash stations was defined as a student to hand wash station ratio of greater than 140:1; this corresponds to 25% of schools.

School toilet use

Forty-nine percent of students said they 'always' used the school toilet, 39% 'sometimes', 9% 'never', and 3% said 'there was no school toilet'. For those who didn't always use the toilet, 35% went in the fields/under a tree, and 65% held on all day or went at home. There were significant differences in toilet use between boys and girls (Table 11). A greater proportion of boys 'always' used the schools toilets (52% vs. 47%, p=0.08). For those who didn't 'always' use the school toilet, they went in the fields/bushes (35%), or would hold on all day or go at home (61%) (Table 12). For those who didn't 'always' use the school toilet, girls were more likely to go in the fields/ trees, (52% vs. 48% of boys). Various reasons for not using the school toilet were given (see Figure 39). Common reasons were that the toilets were dirty, dark, busy or broken. However, there was no difference in reported toilet use (proportion of students who 'always' used the school toilet) in schools where the toilets were judged to be clean versus not clean (both 50% p= 0.95).

Reported toilet use was greater in schools where the availability of toilets (indicated by the student to toilet ratio) was better. Fifty-two percent of students reported 'always' using the school toilets when the student-toilet ratio was less than 50 to one, compared with 48% in schools where the student-toilet ratio was greater than 50 to one (p= 0.51). When availability of toilets was much poorer (student-toilet ratio of 100 or greater), only 34% reported 'always' using the school toilet, compared with 53% in schools where the student-toilet ratio was less than 100 to one (p=0.01).

Reported toilet use by both boys and girls was greater in schools with separate girls' toilets: 56% of girls reported 'always' using the school toilets, compared with 38% in schools without separate toilets (p<0.01); and 58% of boys reported 'always' using the school toilets, compared with 43% in schools without separate girls' (p<0.01).

There may be other factors in schools where with separate girls' toilets, that may account for increased reported toilet use, such as more toilets overall, toilets in better condition, or more awareness in students that they 'should' use school toilets. Therefore, similar to other hygiene behaviours such as hand washing, there may be over-reporting of toilet use by some students.

Table 11 Comparing toilet use patterns for girls and boys in monastic schools

Use of school toilet	Overall %	Boys %	Girls %	p-value
Always	49	52	47	0.08
Some of the time	39	38	40	0.18
Never	9	9	9	0.53
There is no school toilet	3	2	4	<0.01

NB. 16 cases did not report sex

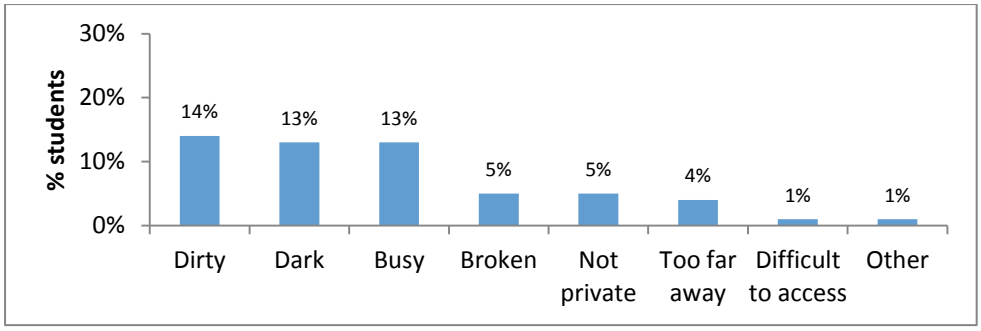

Figure 39 Reasons students identified for not using school toilets

Table 12 Alternative toileting locations

If you don't use the school toilet every time, where do you go?	Overall %	Boys %	Girls %
Fields/under a tree	35	48	52
Held on all day / Home	65	51	49

3.7.5 Student health – diarrhoea and vomiting

A weekly period prevalence measure of diarrhoea and vomiting was calculated from the student questionnaire. Students were asked if they had experienced diarrhoea or vomiting on one or more than one day (or not at all) during the last week. Diarrhoea was defined as the passage of three or more loose bowel movements in a 24 hour period.[18] Overall, approximately one quarter (23%) of students in monastic schools had experienced diarrhoea on one day or more in the week prior to the survey (95% CI [21, 24]). Diarrhoea was most commonly experienced on a single day of the last week (16%), with fewer students reporting diarrhoea on more than one day (7%). There was no significant difference in the proportion of girls and boys experiencing diarrhoea on one or more days in the past week: 21% vs. 23% respectively (p=0.41) (Table 13). A slightly higher proportion of grade four students experienced diarrhoea on one or more days in the past week compared with grade 5 students: 24% vs. 21%; however this difference was not statistically significant (p=0.14).

Table 13 Proportion of students with diarrhoea in last week

Diarrhoea in last week (%)	Total	Girls	Boys	*p*-value
One day only	16	15	15	0.69
One or more days	23	21	23	0.41

Severity of diarrhoea

Of the 23% of students who had diarrhoea on one or more days, 49% also had vomiting on one or more days. Forty-two percent reported that that last time they had diarrhoea, it stopped them from going to classes. For boys, the proportion not going to class because of diarrhoea was greater than for girls (43% vs. 40%) but not statistically significant (p=0.25).

[18] World Health Organization definition, http://www.who.int/topics/diarrhoea/en/

Diarrhoea across regions

Diarrhoeal rates varied across regions (Figure 40). Shan state had the highest weekly prevalence rate of diarrhoea among students: 39% reported diarrhoea on one or more days in the last week (95 CI [18, 60]); and Chin state the lowest at 7% (95 CI [-7 to 21]). However, the small sample sizes and wide confidence intervals for both of these states mean that these results should be interpreted with caution.

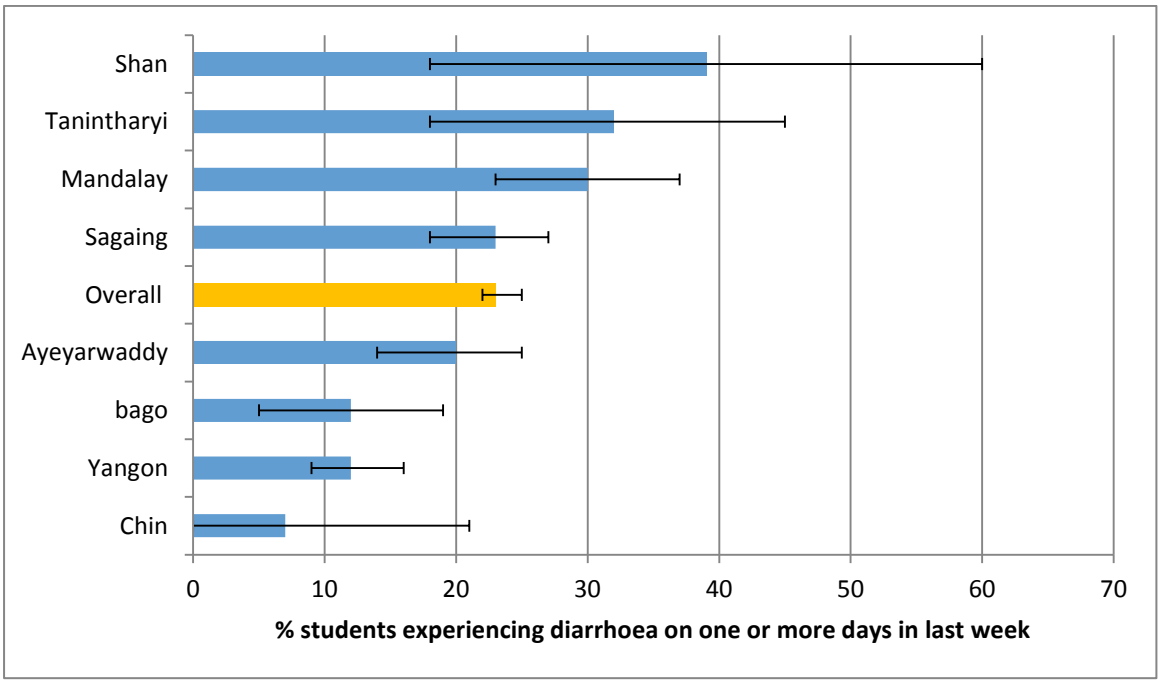

Figure 40 Diarrhoeal weekly prevalence across regions

Management of diarrhoea

Fifty-nine percent of students reported that they drank oral rehydration salts (ORS) the last time they had diarrhoea. A greater proportion of girls than boys reported taking ORS last time they had diarrhoea (62% vs. 57%, p=0.06); and a greater proportion of grade five than grade four students: 62% vs. 56% (p=0.04). Forty-five percent of students reported that last time they had diarrhoea, they took 'medicine/ syrup/pill', 14% reported that they 'did nothing', 10% 'drank tea and sugar', and 7% did not know (Figure 41).

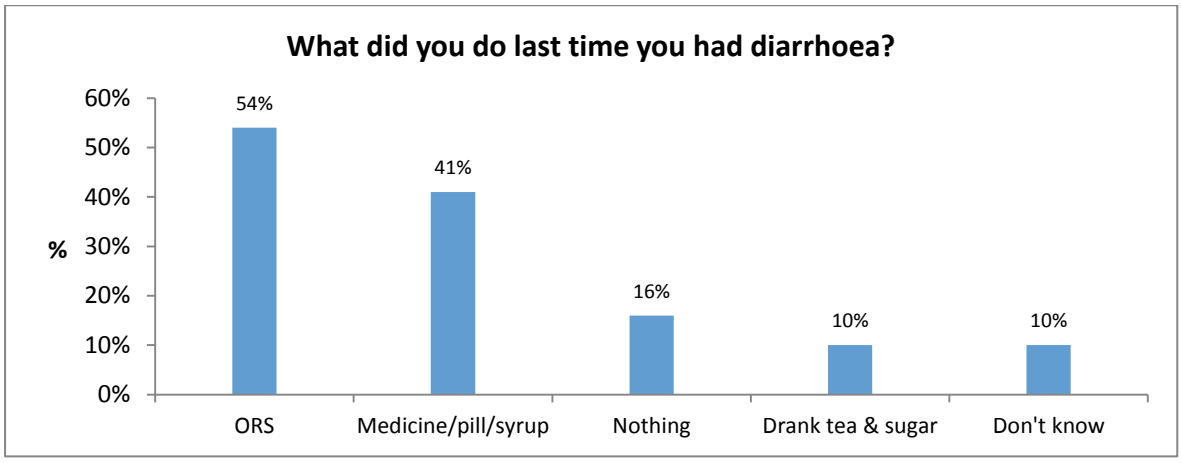

Figure 41 Management of diarrhoea

Diarrhoea and hand washing

For those students who reported poor hand washing before eating (i.e. 'sometimes' or 'never' washed hands before eating), 26% experienced diarrhoea on one or more days in the previous week, compared with 22% of those who 'mostly' or 'always' washed their hands before eating (p=0.04). For those students who reported poor hand washing after toileting, a greater proportion experienced diarrhoea on one or more days in the previous week, compared with those who 'mostly' or 'always' washed their hands after toileting (26% vs. 22%), however this difference was not statistically significant (p=0.1).

In schools with poor availability of hand wash stations (defined by a very high student to wash station ratio, that is, greater than 140[19] students to one hand wash station), the proportion of students experiencing diarrhoea on one or more days in the last week was greater (26% vs. 21%) than schools where hand wash stations were easily available, however this difference was not statistically significant (p= 0.18). There was no association seen between the location of hand wash stations (near to toilets) and diarrhoea, whether soap was always available, or whether sufficient water was available (see table 15).

Diarrhoea and water source

Various associations between diarrhoea and WASH factors are shown in Figure 42 and Table 15. There was no association between reported diarrhoea on one or more days in the last week and source of drinking water from home versus school (27% vs. 22%, p= 0.24), or whether or not water was always treated at school (24% vs. 27%, p=0.70). Similarly, there was no association between reported diarrhoea on one or more days in the last week and whether or not the water source was located inside school grounds (22% vs. 24%, p= 0.75). The proportion of students experiencing diarrhoea on one or more days in the past week was greater at schools where the water source was functional on fewer than two days per week, compared with greater than five days per week (31% vs. 22%, p<0.01). Unexpectedly, the proportion of students experiencing diarrhoea on one or more days in the last week was *greater* in schools where it was reported that there was "enough water" for the school's needs (23% vs. 13%, p= 0.03), as well as in schools where water was available all seasons (24% vs. 15%, p= 0.04) (Figure 42). There was a higher proportion of students from schools with 'improved' water sources experiencing diarrhoea on one or more days in the last week, compared with those at schools with 'unimproved' water sources: 24% versus 17%, however this difference was not statistically significant (p=0.12).

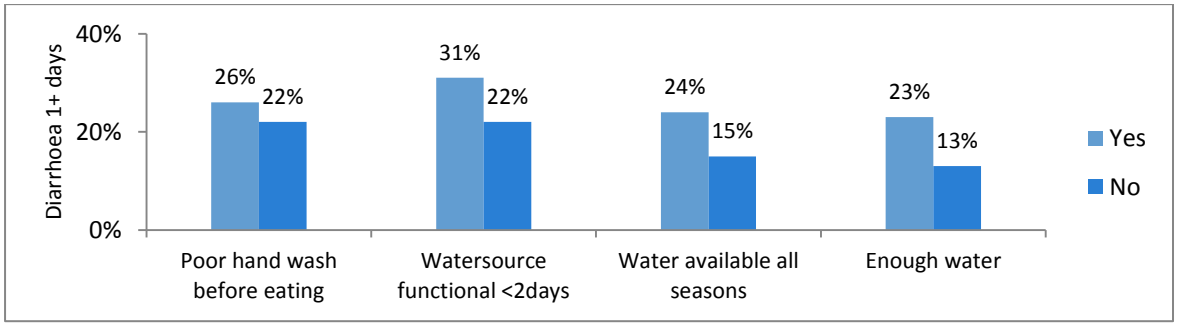

Figure 42 Risk factors for diarrhoea

[19] This was the 75th percentile, meaning that 75% of schools had a student to hand wash station ration less than this number.

Table 14 Association between WASH factors and diarrhoea

Risk factors for diarrhoea	Increased risk	No association	Reduced risk
Poor hand washing before eating	✓		
Water available all seasons/ enough water	✓		
Water source functional < 2 days per week	✓		
Student grade		✓	
Student sex		✓	
Availability of hand wash stations		✓	
Hand wash stations near toilets		✓	
Soap available		✓	
Water available for hand washing		✓	
Drinking water source		✓	
Water always treated at school		✓	
Water from an 'improved' water source		✓	
Water source located within school grounds		✓	

The proportion of students experiencing diarrhoea on one or more days in the last week varied with each different water source (Table 14), however overall, there was no association seen between any type of water source and diarrhoea (p=0.34). Similarly, there was no association seen between different sources of storage and supply of drinking water and diarrhoea.

Table 15 Water source and diarrhoea

Primary water source for school	% with diarrhoea 1+ days in last week
Protected dug well	34
Protected dug well	34
Protected spring	29
Water piped into the school yard	28
Unprotected dug well	25
Tube wells	23
Tanker truck	22
Rainwater	20
Public taps/ standpipe	19
Surface water	11

Vomiting

Nineteen percent of students reported that they vomited on one day in the past week, and 5% on more than one day. Overall, 24% of students reported vomiting on one or more days or more in the past week (95% CI [22, 25]). Of those who had vomiting on one or more days, 49% also had diarrhoea on one or more days in the past week. There were no significant differences between boys and girls for vomiting – 22% of girls versus 24% of boys experienced vomiting on one or more days in the past week (p=0.30). However grade five students were less likely to report vomiting than grade four students (20 vs. 27%, p=0.01).

Diarrhoea and/or vomiting

When examining associations with diarrhoea and/or vomiting in students, a number of factors increased the risk: poor hand washing before eating and after toileting, poor availability of hand wash stations, and being in grade four versus grade five (Table 16 and Figure 43).

Table 16 Association between WASH factors and diarrhoea/vomiting

Risk factors for diarrhoea and/or vomiting	Increased risk	No association	Reduced risk
Poor hand washing before eating	✓		
Poor hand washing after toileting	✓		
Poor availability of hand wash stations	✓		
Grade 4	✓		
Water source functional <2 days per week		✓	
Student sex		✓	
Hand wash stations near toilets		✓	
Soap available		✓	
Water available for hand washing		✓	
Drinking water source		✓	
Water always treated at school		✓	
Water from an improved water source		✓	
Water source located within school grounds		✓	
Water available all seasons/ enough water		✓	

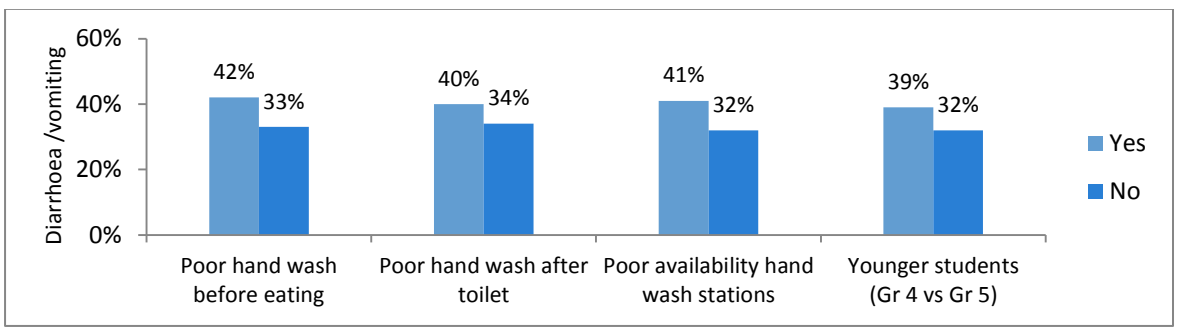

Figure 43 Risk factors for diarrhoea and/or vomiting

Discussion

Twenty-three percent of students reported experiencing diarrhoea on one or more days in the past week. Half (49%) of those also reported vomiting and around half (42%) also reported missing classes indicating more severe gastrointestinal illness. The diarrhoeal rates reported in this study in monastic schools are high compared with other data from Myanmar. A WASH study completed in 24 townships in Myanmar by UNICEF in 2011, sampled over 6000 households and found that 8% of households with children under five reported that their children had suffered diarrhoea during the two weeks preceding the survey.[7] The Post-Nargis Periodic Review in 2010 sampled 1400 households in Ayeyarwaddy region and found that the two-week prevalence of diarrhoea in children under five years was 13%[8]. A randomised cluster survey of rural households in 2012 found that in the two weeks preceding the survey, 5% of children under-five years had diarrhoea.[9] No data on rates in children older than five years, or in school children in Myanmar could be found. Although the mortality risk of diarrhoea is less in older children, the negative impact of diarrhoeal illness on health and learning is still considerable, and it appears that it has not been well-investigated in school children in Myanmar.

There may have been some over-reporting by students of rates of diarrhoea. Self-reported diarrhoea is not the 'gold-standard' measure to detect gastrointestinal illness related to poor water, sanitation or hygiene, however it was the most practical for this baseline study. A one week recall period was chosen because it gives more information than one day recall (thus increasing study power), and is more accurate than longer periods of recall such as two weeks or one month.[10] We used a set definition of diarrhoea, and translated and back-translated questionnaires to check meaning, however it's still possible that not all students understood or could answer the question accurately, and subsequently over-reported diarrhoea. Alternatively, there may also have been a degree of embarrassment in answering the question for some, resulting in an under-estimation of the prevalence of diarrhoeal diseases.

It is also possible that poor sanitation and hygiene in monastic schools contributed to these high rates. This is supported by the association seen between reported poor hand washing behaviour before eating and after toileting with diarrhoea and/or vomiting, as well as the association with a water source that was poorly functional. Higher rates of diarrhoea were also seen in schools where water was available all year. This may relate to schools in locations that experience significant rainfall and therefore also have higher rates of diarrhoea through contamination of drinking water.[11] The close living conditions within many of the monastic schools, including those with boarding students, may also contribute to higher rates of disease transmission. This could be further exacerbated by the fact that many children attending monastic schools are from poor or vulnerable backgrounds and are therefore more susceptible to disease.

There was no association between diarrhoea/vomiting and having hand washing facilities close to toilets, or soap and water available for students. It may be that simply having hand wash facilities available is not enough to result in hand washing behaviour to prevent diarrhoeal illness. There are other important steps that must take place for behaviour change to occur, for example, hygiene education, learning and attitude change, and changes to social norms and expectations within the school environment. The limited hygiene education and awareness within monastic schools would suggest that these precursors for behaviour change are not well in place yet.

There was no association between diarrhoea and location or type of water source or drinking water factors. It may be that analysis is comparing groups that are not very different; for example, schools with 'improved' and 'unimproved' water sources may not actually differ overall in terms of water quality. Information on water, sanitation and hygiene factors at students' homes and in their villages was not collected; for example, we do not know if students have toilets at home, or whether they practice open defecation in their villages. Overall, there was considerable heterogeneity between schools for factors that may contribute to diarrhoeal illness. Data was not able to be collected on all variables, and it may be that other factors (that we did not measure) are influencing these results.

Main findings: School health, hygiene practices and hygiene education

- Government health checks covered only 78% of monastic schools in the last year, and this varies across region, e.g. 44% of schools in Ayeyarwaddy, and 85% schools in Mandalay
- There is limited capacity for schools to address illness in students, e.g. only 17% of schools have a clinic or health workers, 51% have a first aid kit but only 30% have a staff member trained in how to give first aid, and there are no formal referral pathways for sick students
- Although 86% of students reported remembering some lessons about hygiene or cleanliness, the quality, amount and effectiveness of hygiene education in schools is questionable, and there appears to be no set curriculum
- 61% students reported 'always' washing hands before meals, and 62% 'always' washing after toileting. Hand washing behaviour is likely to be over-reported
- 49% of students reported 'always' using the school toilet, 39% 'sometimes', 9% 'never', and 3% said 'there was no school toilet'. Common reasons for not using the toilets were that they were dirty, dark or busy.
- Boys were more likely to 'always' use the school toilets (52% vs. 47%, p=0.08)
- Levels of reported school toilet use increased with greater availability of toilets, or where schools had separate girls' toilets
- 23% of students had experienced diarrhoea on one day or more in the week prior to the survey, and half of these students also had vomiting on one or more days in the past week
- The proportion of students with diarrhoea on one or more days varied across regions
- Over half (59%) of the students reported taking oral rehydration salts the last time they had diarrhoea. Girls and grade five students were more likely to take ORS
- Diarrhoea was associated with: reported poor hand washing before eating, a water source that was functional on fewer than two days per week, and having water available all year
- Diarrhoea and vomiting was associated with: reported poor hand washing before eating and after toileting, poor availability of hand wash stations, and grade four (younger) students
- A mixed picture has emerged from these data regarding possible contributing factors to the high rates of diarrhoeal illness in students in monastic schools.

Box 5 Main findings: School health and hygiene

3.8 Involvement of parents and communities in monastic schools

School committees (SC) or parent teacher associations (PTA) were present in 68% of monastic schools visited. Some SC/PTA had been going for as long as 28 years; the median duration was six years.

3.8.1 Parent teacher association membership

The median number of members in SC/PTA was 13, with a range of three to 50 members. Membership consisted of: principals (in 49% of PTA/SC), teachers (49%), monks (48%), parents (73%), and other community members (87%). Twelve percent of SC/PTA had local authority members, and 2% had students on their committees. Female members were present in only 49% of SC/PTA (Figure 44).

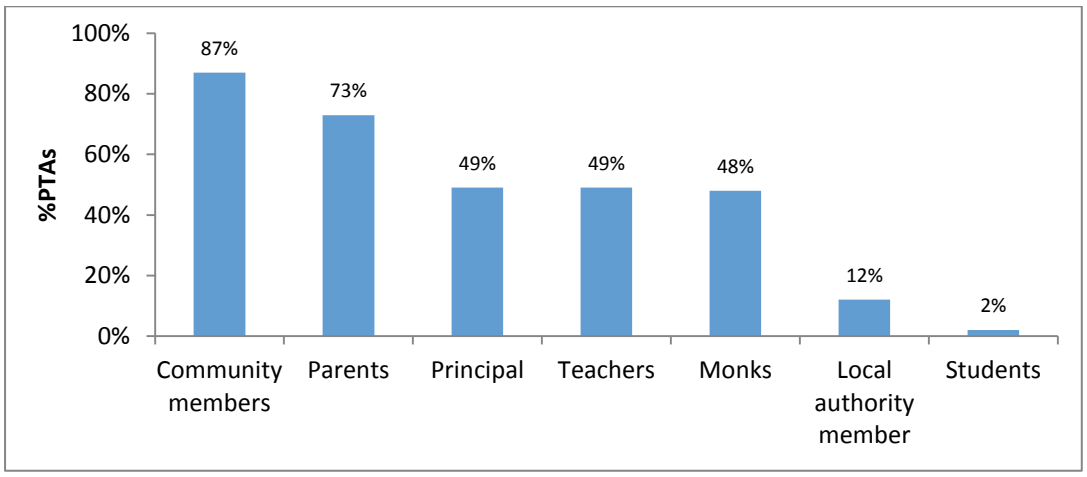

Figure 44 Parent teacher association /school committee membership

3.8.2 Role and activities of parent teacher associations/ school committees

Most groups met quarterly or twice per year (49%), 7% monthly or less than monthly, 24% yearly or as required , e.g. convening an emergency meeting. Only 3% had weekly meetings, and 7% rarely or never had meetings (Figure 45). Topics covered at meetings include: school funding, foundation management, school festival and community cultural and religious ceremonies, sporting events or education awards, school construction and hiring of teachers. The focus of some SC/PTA was more on coordinating and planning community cultural and religious events, rather than school or student affairs.

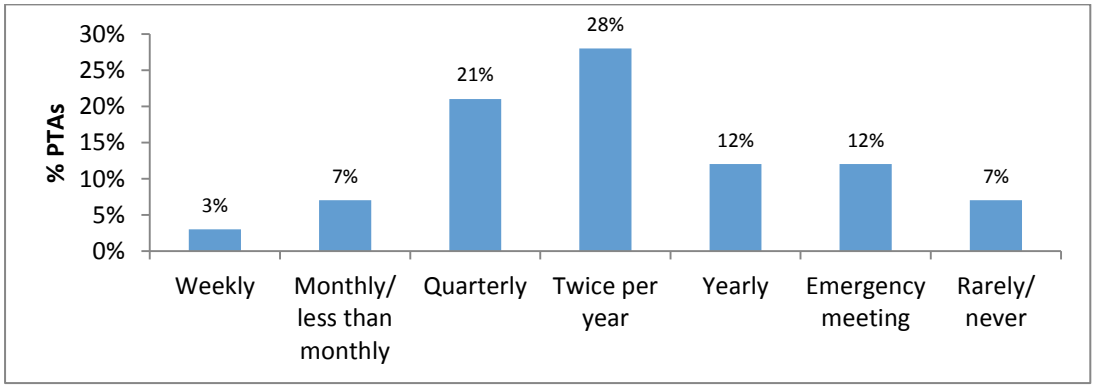

Figure 45 Frequency of PTA/SC meetings

The functions and activities of the PTA/SC varied, as shown in Table 17 below.

Table 17 SC/PTA activities

SC/PTA Activity	% schools
Fundraising	61
Facilitating school repairs and maintenance	60
Coordinating parental involvement in the school	46
Support for building of new school infrastructure	42
Encouraging out-of-school children to go to school	44
Hiring of new teachers	13

3.8.3 Maintaining active involvement

Factors identified by the SC/PTA members as being important for an active group, include: having sufficient funds available, involvement in raising funds, regular monthly meetings, being involved in school improvements such as construction, having a principal that consults with them about what they would like to do, and other characteristics such as team work, coordination and negotiation.

Factors that were identified that might make it difficult to establish an active SC/ PTA include: a lack of support and encouragement from the principal or members being too busy with their work commitments and not able to spare enough time for school activities. It was thought that those who are poor or uneducated may lack the confidence to become involved. It was also noted that young people did not participate well in the SC/PTA. Data collectors reported back on a situation in Chin state where Christian parents were keen to become involved in the school committee and contribute, however they feared that their Christian community would not approve of their involvement in the monastic school.

Schools at which FGD were conducted with SC/PTA were randomly selected, therefore, some schools with very active and successful SC/ PTA may have been missed in this baseline study. Data collectors reported that in many of the schools where FGD were conducted, the SC/ PTA were not active. Although this offered opportunities to discover the real status of some SC/ PTA, information on many well-functioning SC/ PTA may have been missed.

Main findings: Involvement of parent and communities in monastic schools

- The majority of monastic schools (68%) had a SC/PTA
- SC/PTA generally did not met regularly
- The main functions include fundraising and school maintenance as well as organisation of community religious events
- Regular meetings and support from the principal were identified as important factors for well-functioning SC/PTA.

Box 6 Main findings: Involvement of parent and communities in monastic schools

3.9 Gender

3.9.1 Gender and enrolment

There were more boys (and novice monks) than girls (and novice nuns) attending monastic schools in 2013, as shown by the girl-boy ratio of 0.88 (95% CI [0.87, 0.89]) (Table18). It appears that over time, the girl-boy ratio has been relatively stable; in 2009, it was 0.87 (95% CI [0.85, 0.89]).

Across year levels the girl-boy ratio remains under one (except for in grade eight), and there doesn't appear to be any obvious trend. Sample sizes for the upper year levels are small, and these results should be interpreted with caution (Table 18). Five-year survival rates were equal between the sexes, however, within schools, the upper range for girls was greater suggesting a relative increase in girls' enrolments over the last five years (see section 4.3.3 Table 4).

Table 18 Girl-boy ratio by year level

	Girl:Boy Ratio	95% C.I.	No. schools included
Total	0.88	0.87, 0.89	125
Grade 1	0.87	0.84, 0.90	121
Grade 2	0.84	0.81, 0.88	118
Grade 3	0.84	0.80, 0.87	68
Grade 4	0.87	0.83, 0.91	68
Grade 5	0.83	0.79, 0.87	63
Grade 6	0.86	0.81, 0.91	31
Grade 7	0.56	0.52, 0.60	23
Grade 8	1.10	1.00, 1.20	20
Grade 9	0.91	0.83, 1.00	12
Grade 10	0.54	0.46, 0.63	2
Grade 11	0.94	0.81, 1.10	2

Across regions the girl-boy ratio varied, from 0.81in Shan state and Mandalay region, to 1.30 in Chin state (Table 19). Yangon region had an equal girl-boy ratio across monastic schools.

Table 19 Girl-boy ratio by region

	Girl : Boy Ratio	95% C.I.
Mandalay	0.81	0.78,0.84
Sagaing	0.97	0.92, 1.00
Ayeyarwaddy	0.83	0.78, 0.88
Yangon	1.00	1.00, 1.00
Bago	0.84	0.81, 0.87
Shan	0.81	0.78, 0.85
Chin	1.30	1.05, 1.50
Thanintharyi	1.05	0.96, 1.12

Figure 46 Girls playing soccer in monastic school

Figure 47 Girls' wash station inside toilet block

3.9.2 Gender and water, sanitation and hygiene

Girls had separate toilets in only 47% of schools (Figure 47). Of these, 85% were lockable from the inside, and 45% had a tap inside the cubicle. For schools with higher year levels, availability of separate girls' toilets tended to increase. Sixty-four percent of schools with high school students had separate girls' toilets, compared with 41% of primary schools (Table 20).

Table 20 Separate girls' toilets in schools

Year level	Separate girls' toilets (%)	No separate girls' toilets (%)	Schools with no girls (%)	n (schools)
Primary	41	56	3	66
Post primary (up to grade 8)	52	45	3	31
Middle (up to grade 9)	59	41	0	17
High (9-11)	64	36	0	11

Some differences between boys and girls have already been reported above in sections 4.7.4 and 4.7.5, and are summarised here:

- Girls were less likely to report poor hand washing before eating (18% vs. 23%, p=0.02)
- A higher proportion of girls than boys remembered hygiene lessons (88% versus 84%, p=0.02)
- A greater proportion of girls than boys reported bringing drinking water from home (12% vs. 9%, p=0.06)
- A greater proportion of boys than girls 'always' used the schools toilets (52% vs. 47%, p=0.08)
- Girls were more likely to toilet in the fields/ trees if they didn't 'always' use the school toilet (52% vs. 49% of boys).
- In schools with separate girls' toilets, both boys and girls were more likely to report 'always' using the toilets than in schools without separate girls' toilets (57% vs. 42%, p<0.01)
- There were no gender differences in relation to diarrhoea
- A greater proportion of girls than boys reported taking ORS the last time they had diarrhoea (62% vs. 57%, p=0.06)

These gender differences in hygiene and health behaviours could be explored in more detail through qualitative data collection with students.

3.9.3 Gender and school involvement

Female representation was poor in SC/PTA, with only 49% reporting female membership. Reasons given for this included that traditionally, women have not taken leadership roles within the community, or been involved with monasteries or monks. Men therefore tended to take up positions on the SC/PTA, and it was seen as "more difficult for women to work with the male monks". Others reported that many committees started with only men as members, but that when these men were busy, their wives attended and gained membership informally in that way. Women were recognised as being "good fundraisers" and better at "asking for money for the schools".
In some schools there were mothers' groups, however this survey did not ask specifically about them. Eighty-two percent of teachers were female and the female to male teacher ratio was 3:1. This is consistent with many other countries. Of all voluntary teachers (not including monks), women made up 62%.

Main findings: Gender differences in monastic schools:

- There are fewer girls than boys in monastic schools, however five-year survival rates are similar
- Boys were more likely to report poor hand washing before eating
- Girls were less likely to 'always' use the school toilets
- Girls had separate toilets in only 47% of schools, and were more likely to 'always' use the toilets in these schools
- Girls were more likely to remember hygiene lessons
- Girls were more likely to treat diarrhoea with ORS
- A greater proportion of boys missed classes due to diarrhoea
- Females were less involved in formal school committees or PTA
- The female-male teacher ratio was 3:1

Box 7 Main findings: Gender differences in monastic schools

3.10 Disability

In preparation for capturing data on disability, a brief education session on disability was conducted with data collectors during their training. They were provided with written information on disability (Appendix 15), and brief training on 'what is disability?', different types of disability and what accessible classrooms, toilets and wash stations might look like.

Only 2% of schools routinely collect information on disability at enrolment. Data collectors asked principals if there were any students with disabilities in their school. They probed with questions around difficulty walking or with movement, difficulty with vision, hearing or with speech, concentration or learning. Forty-three percent of schools reported students with disabilities. Of all students in monastic schools in this study, children with disabilities made up only 0.4%. Physical disabilities made up 42%, sensory 40% and mental or intellectual disabilities 18%. Twenty-one percent of schools reported one student with a disability, 20% between two and four students with disabilities, and two percent of schools reported more than four students with disabilities (Table 21). Of all students who were reported by principals to have disabilities, boys made up 61%.

Table 21 Students with disabilities in schools

No. students with disability	% schools
0	57
1	21
2 - 4	20
>4	2

When teachers were asked about how they included children with disabilities in their classes, some reported that students with eye problems were permitted to sit at the front of the class. Some teachers reported taking extra time to explain class tasks in detail to students with disabilities. Overall, few teachers were aware of any students with disabilities or how to include them in classes.

School facilities, including classrooms, toilets, drinking water and hand wash stations, were generally not accessible to people with disabilities.

Figure 48 Toilets not accessible to small children or people with disabilities

Drinking water facilities were noted to be accessible to students with disabilities in 42% of schools visited. In schools with hand wash facilities, 49% were accessible to children to disabilities.

Classrooms in 55% of schools were not accessible to children with disabilities. Of those schools with hand wash facilities, only 50% were accessible to children with disabilities. Data collectors noted that toilets were not disability-accessible in 74% of schools, however no schools had custom-built disability-accessible toilets, that is, with ramps, wide doors and rails, suitable for wheelchair users. Nineteen schools had students with physical disabilities but did not have accessible toilets. It is not known if these particular students had any difficulty accessing the toilets. There were no wheelchair users reported at any of the monastic schools in this baseline study.

An overall measure of disability access was developed, based on access to classrooms, toilets, wash stations and drinking water. Schools where every facility was accessible were deemed to be 'accessible schools'. Less than ten percent of schools met all criteria for being an 'accessible school'. Examination of photographs from data collection at the monastic schools suggests that this may be an overestimate, and that no schools were fully accessible.

The proportion of children with disabilities reported in monastic schools was very small, particularly given that children with disabilities make up approximately 5% of all children aged between 0 and 14 years. [12] It's likely that the number of children with disabilities is considerably under-reported – only 2% of schools routinely collect information on disability at enrolment. Furthermore, awareness of disability was very low, and children with mild disabilities may have gone unnoticed. Our data collectors completed only minimal training on disability; to accurately measure disability prevalence, a validated assessment tool is required.[20] Alternatively, actual numbers of children with disabilities attending monastic schools could be very low. This may be because the community does not tend to send children with disabilities to schools; education may not be inclusive, and the physical environments of schools are not likely to be accessible. There was considerable variation among schools and more investigation is warranted into disability in monastic schools.

Main findings: Disability in monastic schools:

- Data on disability is not routinely collected and is very limited
- Principals reported students with disabilities in only 43% of schools, and students with disabilities made up less than 1% of the total student population
- Some teachers were aware of strategies for including students with disabilities in class
- Schools did not tend to have accessible facilities (toilets, drinking water, hand wash stations etc.)

Box 8 Main findings: Disability

[20] For example, the Washington Group Short Set of Questions on Disability, available from http://www.cdc.gov/nchs/washington_group/wg_questions.htm

3.11 Identified needs of the monastic schools

Data collectors reported that principals identified the following as the primary needs for their schools:

1. Funding for teacher salaries
2. Improvement of school buildings
3. Toilet construction
4. Improvement in the water source

4 Conclusions & recommendations

4.1 Administration and management practices

The majority of monastic schools (79%) were primary or post-primary level. Principals were primarily responsible for school affairs in monastic schools, and schools operated in a mostly autonomous way. Systems for financial management, staff and student affairs were informal and inconsistent across schools. Although information was collected, and record books were maintained in many schools, comprehensive and standardized systems across schools did not exist. There didn't appear to be any minimum standards which schools were required to meet. Funding sources were variable and all schools relied on donations. Some schools appeared to be better than others in mobilizing resources for teacher salaries, school maintenance, and provision of materials for students.

Support and training to schools in administration and record-keeping, financial management, and human resources management should be provided. Processes and systems should be streamlined and some consistency across schools, as well as with government schools should be developed. Some form of centralized accountability for quality assurance should also be established.

4.2 Teaching staff and teaching and learning practices

Minimum standards for teachers such as qualifications, recruitment processes, salaries and promotion were not formalised. Teacher salaries were lower than in government schools in general, and many teachers in monastic schools were not paid salaries. Recruitment and retention of teachers was recognized to be a challenge.

Despite 55% of teachers reporting that they attended some CCA training in the past, and most teachers and principals having heard of the concept, CCA have not been well-adopted and most schools retained a 'teacher-centred' approach. Perceptions of CCA were generally positive, however many noted barriers to implementation of CCA, in particular insufficient time, resources and training. Teachers were interested in attending training in CCA, computer skills, English and other languages. Only a very small proportion of teachers (5%) reported interest in attending school health training in the future. Physical punishment of students was reported to occur in most schools. The government curriculum was taught however student assessment is not standardized.

Minimum standards should be developed for teacher qualifications, recruitment processes, and teacher salaries. The government support for teacher salaries should assist to this end. Supporting principals to examine staff retention through looking at teacher pay and conditions, and participation in school affairs could also be beneficial. Implementation barriers to CCA should be further explored and addressed. Training in CCA is important and should continue, however attitudes, resources and methods of incorporating CCA into the set curriculum should also be addressed. Supporting principals to advocate for non-physical forms of discipline, and to promote a culture change in this area is important. Learning outcomes of boys and girls in monastic schools should also be evaluated in a standardised way.

4.3 School environment and facilities, including WASH

In general, monastic schools had basic facilities. Many schools did not have basic classroom furniture, or teaching and learning materials. Only 29% had a library or books accessible to students. Several different classes were commonly conducted in the same room. Student-toilet ratios were

higher than recommended in more than half of all schools, and six percent of schools did not have toilets for students. The level of cleanliness and function of toilets varied – only 43% were judged to be clean. Nearly 20% of schools relied on an unimproved water source. Hand wash facilities were very limited.

Basic classroom facilities and teaching and learning materials could be sourced by schools, however training on ways to use the materials and how to incorporate them into teaching should be undertaken. Separating classes could be encouraged. Schools should establish basic WASH facilities, using appropriate technology, and ensure that they are clean and maintained.

4.4 School health, hygiene practices and hygiene education

Health checks were not routine and monastic schools had minimal capacity to address student health care needs. Access to health care could be poor and formal referral systems were not established for monastic schools. Reported hand washing and toilet use was poor in many schools, and is likely to be poorer in reality given over-reporting. The quality, amount and effectiveness of hygiene education is questionable, and there was no set health education curriculum in monastic schools.

Reported diarrhoeal and vomiting rates in students are high compared with findings from other settings. Higher rates of diarrhoea and/or vomiting were associated with reported poor hand washing before eating, and after toileting, poor availability of hand wash stations and having a water source that was functional on fewer than two days per week. Grade five students were less like to report diarrhoea and/or vomiting than grade four students. There was no association found with other WASH factors. It's likely that there are other factors contributing to the high rates such as poor hygiene behaviour, poor food hygiene, poor sanitation in homes and villages, and the vulnerability of the monastic school population, generally coming from poor and disadvantaged backgrounds.

In order to promote behaviour change, more than just the provision of WASH 'hardware' is required. Training in hygiene education is needed for teachers, principals and school committee/ parent teacher associations (SC/PTA). Creative ways should be found to incorporate the training into the curriculum, school activities and community events. Behaviour change initiatives need to be supported long term.

4.5 Level of parent and community involvement

There was a low level of parental engagement in children's education in monastic schools. Most schools did not have active and organised parent and community involvement. Where they existed, the functions of SC/PTA were broad; they appeared to be underutilised for education and school purposes, instead focusing on the broader community and monastery needs.

Schools could be supported to initiate or strengthen SC/PTA. Principal support, sufficient funds, regular meetings and direct involvement in school improvement activities were identified as 'enabling factors' for SC/PTA.

4.6 Gender

There were about 12% more boys than girls in monastic schools. Five year survival rates however were equal. There were many more female teachers than male, at a ratio of 3:1, and a greater proportion of the voluntary teachers are female. Only around half of SC/PTA had female representation. Boys were more likely to 'always' use schools toilets and girls were more likely to

toilet in the fields/bushes. Forty-seven percent of schools did not have separate girls' toilets. Both girls and boys were more likely to report 'always' using the school toilets in schools where there were separate girls' toilets.

Representation of women on SC/PTA should be encouraged. Schools should ensure that separate girls' toilets are provided, along with lockable cubicles and wash facilities.

4.7 Disability

Levels of awareness of disability in monastic schools were low. Data on disability was not routinely collected, and reported numbers of children with disabilities were very low. Some teachers reported practicing inclusive education, however in general, the physical environments of most monastic schools were not accessible to children with disabilities.

More investigation into the barriers that children with disability face in accessing education, including at monastic schools, in Myanmar is needed. Training and support is needed for all schools in the following areas: awareness of disability, collecting relevant information on disability, addressing barriers to education, the importance of providing education to all children, methods for inclusive education and ensuring school environments are accessible. Given the link between poverty and disability, this is even more pertinent for monastic schools that generally provide education for more disadvantaged children.

4.8 Future studies

Future data collection in monastic schools should incorporate similar indicators that were used in this study. Well-trained and well-supported data collection teams are essential for quality data collection.

4.9 Overall strengths of monastic schools

This assessment has identified a number of strengths of monastic schools, including their coverage, access by the community, community acceptance, and their autonomous and self-sustaining nature.

Monastic schools are numerous are in every state and region of Myanmar. By providing education for over 150,000 students, often those from poor backgrounds, orphans or from remote villages and ethnic minorities, monastic education appears to 'fill a gap' and complement the government education system. Monastic education is generally free of charge and often offers boarding for children from poor families who may otherwise not have been able to access government schools. Most monastic schools are well-established and accepted and supported by their communities. Many monastic schools have been in operation for many years, and are an integral part of the community in which they are located, playing a key role in cultural and religious activities. By supporting the monasteries that provide education to children, the community members are able to live by the important Buddhist notion of '*parahita*' which involves giving for the benefit or welfare of others.

Monastic schools have, until very recently, operated without government support. They have managed to remain viable and provide education to thousands of students, and employment to hundreds of teachers, through a combination of donations, community support, and a small amount of income generation. Monastic schools operate autonomously, while providing the government curriculum. This has enabled many models of education and school management to emerge, that will be able to inform future positive development in monastic education.

5 Limitations

This baseline study of monastic schools in Myanmar is one of the broadest to date, and although it gives a good picture of the situation in monastic schools, a degree of caution should be taken in interpreting the results, and applying them to all monastic schools across Myanmar.

A random sample of monastic schools was selected from a list of all registered monastic schools, proportional to the population size of monastic schools in each of the targeted states/regions; however many schools remain unregistered and it is possible that unregistered schools differ from those that are registered. The list of registered monastic schools was somewhat dated- from 2011- and had some missing pages that were replaced by 2010 lists. The selected states/regions did not include some of the more ethnically diverse populations, or the most remote areas. Twenty-four percent of our original sample was substituted, usually for reasons of inaccessibility (flooded roads), or security threats, and these schools not included may have differed from those that were sampled. By not including unregistered monastic schools and all sates/ regions, and by substituting several schools, our sample may not be truly representative of monastic education in Myanmar. It's likely that our sample represents a slightly better picture of monastic education.

Selection of students to complete the student questionnaire was not proportional to the size of the school – instead approximately 20 students from each school were selected. This means that smaller schools are over represented in our student sample. So, although calculations were adjusted for clustering, there still may be an over- or under-estimation of diarrhoeal rates and other factors, depending on if students from smaller schools are more or less likely to get diarrhoea or report other behaviours. Some responder bias is likely for the student questionnaire, with students potentially answering questions based on what they *think* is the right answer, or what they think is more socially acceptable (e.g. they may have been embarrassed by some questions). Although the questionnaire was self-administered, in many cases students required assistance or explanation from the data collectors and this may have also resulted in some responder bias. To minimise this risk, older students were sampled.

Some misclassification of various school features by the data collectors is possible, for example, within all the different kinds of toilets and water sources. There were also some more subjective elements of assessment such as deciding on the level of cleanliness of a toilet, whether a teacher was friendly in class, or whether or not something was accessible to students with disabilities. Careful training and support of data collectors aimed to minimise this risk of misclassification.

Qualitative data was not collected from students because of ethical considerations - gaining consent from students' parents would not have been possible due to the study timeframes. Often the included schools were not invited to participate until the evening before the day of data collection because there was no way to contact the principals earlier. More time and more resources would have been required to gain parental consent. This means that greater insight into the motivations, perceptions, knowledge and behaviours of students is unfortunately limited. Observation of hygiene behaviour was not conducted due to time constraints; this may have provided a more reliable measure of some factors such as hand washing.

Although this baseline study was extensive and collected detailed information on many school characteristics, it was not exhaustive. Results should be interpreted with some caution, and many aspects of monastic schools would benefit from further investigation.

6 Glossary

Child Centred Approaches (CCA) to learning
Focus on the needs and interests of the child. Learning tasks should be meaningful and promote curiosity so that the child becomes an active learner; rather than the passive recipient of teacher knowledge. There is a focus on decision-making, problem-solving and group work within classes, with the teacher acting as a "facilitator of learning"

Diarrhoea
The passage of three or more loose bowel movements in a 24 hour period

Improved water source
Water sources that are protected from outside contamination, particularly faecal matter

Retention rate
Proportion of the number of students beginning the school term who remain in school until the end of the school term (not including students transferring in during term).

Survival rate
The proportion of the number of students remaining in school from grade one to grade five (not including students transferring in during this time).

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Appendix 1 Ethical approval certificates

TheAlfred

ETHICS COMMITTEE CERTIFICATE OF APPROVAL

This is to certify that

Project No: 282/13

Project Title: Building the capacity of the Monastic School System in Myanmar – a baseline assessment

Principal Researcher: Dr Karl Dorning

Project Proposal: Module One, 1.14b (Version 2)

Participant Information & Consent Form (School Principals with interview) **Version** 2.2 **dated:** 16-Jul-2013
Participant Information & Consent Form (School Principals no interview) **Version** 2.1 **dated:** 02-Jul-2013

*was considered by the Ethics Committee on **25-Jul-2013**, meets the requirements of the National Statement on Ethical Conduct in Human Research (2007) and was **APPROVED** on **30-Jul-2013***

It is the Principal Researcher's responsibility to ensure that all researchers associated with this project are aware of the conditions of approval and which documents have been approved.

The Principal Researcher is required to notify the Secretary of the Ethics Committee, via amendment or progress report, of

- Any significant change to the project and the reason for that change, including an indication of ethical implications (if any);
- Serious adverse effects on participants and the action taken to address those effects;
- Any other unforeseen events or unexpected developments that merit notification;
- The inability of the Principal Researcher to continue in that role, or any other change in research personnel involved in the project;
- Any expiry of the insurance coverage provided with respect to sponsored clinical trials and proof of re-insurance;
- A delay of more than 12 months in the commencement of the project; and,
- Termination or closure of the project.

Additionally, the Principal Researcher is required to submit

- A Progress Report on the anniversary of approval and on completion of the project *(forms to be provided)*;

The Ethics Committee may conduct an audit at any time.

All research subject to the Alfred Hospital Ethics Committee review must be conducted in accordance with the National Statement on Ethical Conduct in Human Research (2007).

The Alfred Hospital Ethics Committee is a properly constituted Human Research Ethics Committee in accordance with the National Statement on Ethical Conduct in Human Research (2007).

SPECIAL CONDITIONS

None

SIGNED:

K Dunscombe
Acting Secretary, Ethics Committee

Please quote project number and title in all correspondence

The Government of The Republic of The Union of Myanmar
Ministry of Health
Department of Medical Research (Lower Myanmar)
No. 5, Ziwaka Road, Dagon Township, Yangon 11191
Tel : 95-1-375447, 95-1-375457, 95-1-375459 Fax : 95-1-251514

Letter No. 49/ Ethics 2013
Dated:

The Ethical Review Committee on Medical Research Involving Human Subjects, Department of Medical Research (Lower Myanmar), approves to conduct the following proposed research project.

A baseline assessment of water, sanitation and hygiene, and education within monastic schools in Myanmar

Principal Investigator: Dr Than Htet Soe

3.10.13

Dr. Myint Htwe
Chairperson
Ethical Review Committee
Department of Medical Research
(Lower Myanmar)

(*** Approval of the research is for the period of one year from the date mentioned)

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Appendix 2 School environment observation checklist

School environment observation checklist

Burnet Institute
Medical Research. Practical Action.

Instructions:

You have already explained the observation process to the principal, and received permission to proceed. It is better if you have a staff member to accompany you for the observation. They can help with some questions, as indicated.
The observation should take around 1 hour.

Data collector ID:

School ID code:

Date checklist completed:

	Question	
	School infrastructure & environment	
1	School building are mainly constructed with: (check one) 1. Brick 2. Wood 3. Bamboo 4. Mixed (some buildings brick/wood/bamboo etc) 5. Other (please specify).....	☐
2	Is there a meeting space available for teachers? 1. Yes 2. No	☐
3	Is there a library? 1. Yes 2. No	☐
4	If no library, is there a storage space for books, e.g. shelves, cupboard? 1. Yes 2. No *→If no then skip to Question 7*	☐
5	If there are books (in library or on shelves), what kind of books? (check all that apply) 1. Text books 2. Religious books 3. Magazines/ newspapers 4. Novels 5. Journals 6. Picture books 7. Other language text books	☐ ☐ ☐ ☐ ☐ ☐ ☐
6	Are students able to easily access books? (check one) *(Accessible means books are not locked up, not out of reach, or not in a room that children cannot freely access)* 1. Yes (books are accessible at least some of the day) 2. No 3. there are no books (not relevant)	☐
7	Is there enough space in the school grounds for children to play? 1. Yes 2. No	☐

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8	Is there play equipment available for children? E.g. balls, games *(you may need to ask the staff member. Does not include self-made toys)* 1. Yes 2. No	☐
9	Does the school yard have trees that can provide shade for students? 1. Yes 2. No	☐
10	Does the school yard have a fence (check one) 1. Yes 2. No 3. Partial – not all the way around	☐
11	Are there rubbish bins in the school yard? 1. Yes 2. No	☐
12	Are there any areas of large puddles of water collection inside the school compound where mosquitoes could breed? e.g. still water, old car tyres or water tanks uncovered, or ponds/lakes 1. Yes 2. No	☐
13	Is there a water drainage system near the buildings? 1. Yes 2. No	☐

Sanitation		
14	Does the school have urinals 1. Yes 2. No	☐
15	How many toilet compartments does the school have? *A toilet compartment is an individual stall/seat/squat-plate/drop-hole where a single child can defecate in private.* |__| (write number. Put '0' if no toilets) NB. this includes toilets for students, teachers and monks ***→ if no toilets then skip to Question 25***	☐☐
Observe all the school toilets		
16	What type of toilet (check all that apply) 1. Pit Latrine no slab 2. Pit latrine with slab 3. Fly proof latrine 4. Septic tank 5. Pour flush/ flush 6. Other type (specify).....	☐ ☐ ☐ ☐ ☐ ☐
17	In general, how clean are the toilet facilities? (check one) 1. Clean (not smelly, no visible faeces in or around the toilet, no flies and no litter) 2. Somewhat clean (some smell/ some sign of faecal matter/flies/litter) 3. Not clean (strong smell/ presence of faecal matter/ significant fly problem/ large amount of litter	☐

18	How many toilets can the students use? *You may need to ask someone* *(Does NOT include toilets that are for teachers/monks only. Put '0' if answer is none)* |__| (insert number of toilets for students)	|__||__|
19	Are toilets accessible to small children? 1. Yes (can reach door handle, small drop hole, not dark) 2. No	|__|
20	Are toilets accessible to children with physical disabilities? 1. Yes (there are no steps) 2. No	|__|
21	Do girls have separate toilets from boys'? (check one) 1. Yes 2. No ***→skip to Question 24*** 3. N/a there are no girls at the school	|__|
22	Are girls' toilet compartments lockable from the inside? (check one) 1. Yes 2. No 3. Some	|__|
23	Do girls' toilets (or communal toilets) have a tap inside the cubicle? (check one) 1. Yes 2. No 3. Some	|__|

24	Fill out the table for the school toilets. If you don't know the answer put a "?" in the box *You may need to ask the staff member for assistance.* ***Functional*** *= toilets are not broken and can be used by children.* ***Partially functional*** *=toilets can be used, but there are some problems with physical infrastructure (e.g. some deterioration in floors, walls or roof, doors/locks coming loose) and repair is necessary.* ***Not functional*** *= the toilet is broken, full, or damaged in such a way that it cannot be used in a hygienic manner e.g. squatting plate broken, door missing etc).*	

	Total	Functional	Partially Functional	Not Functional
Exclusively for girls				
Exclusively for boys				
For both boys and girls				

Water		
25	Are any hand washing facilities available? *(Hand washing facilities can be a faucet with running water or a special hand washing station such as a container with a tap, a bucket or other water storage with a dipper and basin)* 1. Yes 2. No ***→skip to Question 31***	|__|

26	Is sufficient soap (or ash) available? *(Try to visit all or most of the hand washing facilities in the school)* (check one) 1. Yes, at all facilities visited 2. Yes, in more than 50% of facilities visited 3. Yes, but only in fewer than 50% o facilities visited 4. No, sufficient soap/ash was NOT available	☐
27	Is sufficient water available for hand washing? i.e. water comes out of tap, or enough water in tank/ container. (check one) 1. Yes, at all facilities visited 2. Yes, in more than 50% of facilities visited 3. Yes, but only in fewer than 50% o facilities visited 4. No	☐
28	How many hand washing stations are there in the schools |___| (insert number) *(In some schools, hand washing stations are located close to or within toilet blocks that are exclusively for girls or boys. In such cases, please fill in the numbers as exclusive for girls and for boys. For hand washing stations that can be used by both girls and boys (such as a tap and sink in a classroom) please fill in the numbers as communal.)* Number Exclusively for girls Exclusively for boys For boys or girls (communal hand washing stations anyone can use)	☐

29	Where are the hand washing facilities (check all that apply) 1. Near to toilets 2. Inside toilet compartments 3. In/near main school building 4. Other……	☐ ☐ ☐ ☐
30	Are hand washing facilities accessible to children with disabilities? i.e no steps, no uneven ground, low to ground. (check one) 1. Yes 2. No 3. Some of them	☐
31	Is there a water drainage system at the wash station? (check one) 1. Yes 2. No 3. Some of them	☐
32	How is drinking water stored/ accessed: (Check all that apply) 1. Pot, uncovered 2. Pot, covered 3. Tank with tap 4. Filter pot with tap 5. Piped water with tap 6. Bottled water 7. No drinking water available 8. Other, please specify……	☐ ☐ ☐ ☐ ☐ ☐ ☐ ☐

33	Are the drinking water facilities accessible to children with disabilities? (check one) 1. Yes 2. No 3. N/a- there are no drinking water facilities	☐
	Classroom observation- Facilities and teaching and learning	
	Observe all classrooms	
34	How many classrooms does the school have? |__| (write number)	☐☐
35	Do classrooms have walls? (check one) 1. Yes, all classrooms have walls? 2. Some have walls 3. No, there are no walls for classrooms	☐
36	Classrooms are: (check one) 1. Separated or partitioned 2. In the same room/hall 3. Both	☐
37	Do classrooms have windows? (check one) 1. Yes, all classrooms have windows 2. Some have windows 3. No, there are no windows in classrooms	☐
38	Do classrooms have storage space: cupboards/ shelves? (check one) 1. Yes 2. Some do 3. No	☐

39	Are classrooms accessible to children with physical disabilities? (check one) 1. Yes (flat or ramp access, doors wide enough for wheelchairs) 2. Some are accessible 3. No (classrooms have steps and narrow doors)	☐
40	Classroom furniture: (check one) 1. All children were observed sitting on a bench at a table 2. All children had access to tables, but only some to benches 3. There are no tables and no benches	☐
41	Are classrooms clean? (check one) 1. Clean (no rubbish, dirt or dampness) 2. Somewhat clean (a little rubbish, dirt or some dampness) 3. Not clean (rubbish and/or dirt and/or dampness)	☐
42	Are there rubbish bins in the classroom? 1. Yes 2. No	☐
	What teaching and learning materials are available?	
43	Whiteboard/blackboard: (check one) 1. In all classrooms 2. In some classrooms 3. Not seen	☐

44	Pictures/ posters: (check one) 1. All classrooms 2. Some classrooms 3. Not seen	☐
45	Classroom decoration/ student work/ craft: (check one) 1. All classrooms 2. Some classrooms 3. Not seen	☐

DEFINITIONS:

Question 16, Sanitation:

Improved sanitation facilities:
- Flush or pour-flush latrine, with either a latrine pit, septic tank, or piped sewer system
- Ventilated improved pit latrine
- Pit latrine with slab (dry toilet with a raised squatting slab or platform)
- Composing toilet (dry toilet designed and maintained to produce ineffensive compost).

Unimproved sanitation facilities:
- Shared or public sanitation facilities
- Flush or pour flush to street, yard, plot, open sewer, ditch, drain, or other unsafe location
- Pit latrine without slab
- Bucket (open vessel periodically removed for emptying and treatment)
- Hanging toilet or hanging latrine (defecation platform over a pond, lake, river or other water source)
- No facility (open defecation).

Appendix 3 Principal structured questionnaire

Burnet Institute
Medical Research. Practical Action.

Checklist for principal

Data collector ID:

School ID code:

Date questionnaire completed:

Instructions:

Please introduce yourself and share the explanation below with the principal before proceeding. The principal will have already signed the PICF.

Explanation to give to interviewee:

We are from the Monastic Education Development Group and the Burnet Institute. We are completing a baseline survey of Monastic schools to gain an idea of what is working well within schools and what challenges are faced. We would like to ask you some questions about the school facilities and environment, administration and financial management, staffing, student health, and the school committee. We would also like to gather some information from your records about student enrollments and teacher training.

The findings of this baseline study will help determine what actions are needed in the Monastic education system and where the priorities are.

Your participation is voluntary and confidential. We will not be using your name or school's name in any reporting we do. Your participation involves answering short questions. The questionnaire should take around 1 hour to complete.

(Check understanding and answer any questions).

Thank you. We really appreciate your time.

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Question		
1	What is the founding year of the school? |__||__||__||__|	|_||_||_||_|
2	School level (check all that apply) 1. Primary 2. post primary (up to grade 8) 3. Middle (up to grade 9) 4. High 5. Other.....	|__|

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3	What is the highest level of grade in this school? 1. Primary 2. post primary (up to grade 8) 3. Middle (up to grade 9) 4. High 5. Other.....	|__|
4	School type (check one) 1. Day school 2. Boarding school 3. Mix 4. Other.....	|__|
5	Does your school have morning and afternoon shifts? That is, different students come in the morning and different students in the afternoons? 1. Yes 2. No	|__|
6	How many hours of schooling per day does each student get? (check one) 1. 4 – 4.5 2. 5 – 5.5 3. 6 – 6.5 4. Other.....	|__|

7	Fill in the table with the numbers of students with disabilities: *Write '0' if none. Write "DK" if don't know* (See table below)	
8	Main ethnicity of students:.....	|__||__|
9	Main language spoken by students.....	|__||__|
10	Teaching language of the school.....	|__||__|
11	Are some students bi-lingual? 1. Yes 2. No	|__|
12	How many village/village tract/ward come to this school? 1. Less than 1 2. 1 3. 2 – 3 4. 3 – 5 5. 6 – 7 6. More than 8	|__|
13	Is there a State school nearby? (in same village or neighbouring village) 1. Yes 2. No	|__|
14	How many teachers does the school have? |__| (write number)	|__|
15	How many male teachers |__| (write number)	|__|
16	How many female teachers |__| (write number)	|__|

	All types	physical	Sensory (hearing/vision)	mental/ cognitive
Boys				
Girls				
Total				

17	What is the annual salary range for teachers? Minimum:..... Maximum:.....	_____ _____
18	Are there any staff benefits? (check all that apply) 1. Meals/ food 2. Training 3. Other	 __ __ __
19	Is there a **formalised system** for staff leave? Eg. leave forms 1. No 2. Medical Leave 3. Annual Leave 4. Maternal Leave 5. Others	 __ __ __ __ __
20	What extra-curricular subjects are taught? (check all that apply) 1. Computer skills 2. Vocational training 3. Health 4. Music 5. Culture courses 6. No extra subject taught 7. Others.....	 __ __ __ __ __ __ __

21	What other staff members does the school have? (check all that apply) 1. Clerk 2. Admin staff 3. Student affairs 4. Cashier/ accountant 5. Cleaner 6. Other.....	 __ __ __ __ __ __
22	Has anyone been trained in school administration? 1. Yes 2. No	__
23	Are there staff meetings that teachers attend? 1. Yes 2. No *→Skip to Question 25*	__
24	How often are meetings? (Check one) 1. Weekly 2. Monthly, or less than monthly 3. 3 or 4 times a year 4. Twice a year 5. Once a year 6. Other.....	__
25	Is teacher feedback and contribution welcome? (check one) 1. Always 2. Some of the time 3. No	__

	Finances	
26	Are there any enrolment fees? (check one) 1. Yes 2. Some students only 3. No –→***skip to Question 28***	|__|
27	If yes, how much are the enrolment fees? State the range from .....kyat to .....kyat	|__|__|__|__|__|__|
28	Are there any exam fees? 1. Yes, amount..... 2. No	|__| |__|__|__|__|__|__|
29	Is anything provided to students free of charge? (check all that apply) 1. Stationary 2. Text books 3. Uniform 4. Food 5. Other.....	|__| |__| |__| |__| |__|
30	From where does the school receive funding? (check all that apply) 1. Fees 2. Monthly donations from community members 3. Individual donations eg to monks, 4. Parents donations 5. Income generation projects 6. Fundraising 7. Financial support from outside organisation e.g. NGO, CBO 8. Other	|__| |__| |__| |__| |__| |__| |__| |__|

31	Does the school receive any other support (<u>non-financial</u>) from: (check all that apply) 1. CBO (Community based organisation) 2. NGO/ INGO 3. Individuals 4. Other.....	 |__| |__| |__| |__|
32	Do you have any collaboration/ coordination with any Government schools? 1. Yes. 2. No	|__|
	Health	
33	Is there a first aid kit in the school 1. Yes 2. No	|__|
34	Is anyone trained in how to give first aid e.g by Red Cross. First aid is for when somebody injures themselves or is suddenly sick. Eg. burn, cut, choking, drowning other emergency. 1. Yes 2. No	|__|
35	Were health checks done last year by health personnel? (check one) 1. yes 2. No	|__|
36	Do you have a school clinic? 1. Yes 2. No –→ ***skip to Question 39***	|__|

37	If yes, is it available Mon to Friday? 1. Yes 2. No	|__|
38	What kind of health worker(s) is available at the school clinic? (check all that apply) 1. Doctor 2. Nurses 3. LHV (Lady Health Visitor) 4. Midwife 5. Others (Specify)..... ***(After question 38, skip to question 41)***	 |__| |__| |__| |__| |__|
39	If there is no school clinic, do students have access to a health clinic/ hospital nearby (within same village/ward/quarter)? 1. Yes 2. No	|__|
40	If yes, what kind of health worker(s) is available at the nearby clinic? (check all that apply) 1. Doctor 2. Nurses 3. LHV (Lady Health Visitor) 4. Midwife 5. Others (Specify)	 |__| |__| |__| |__| |__|
	Parent teacher association	
41	Is there a School committee or PTA? 1. Yes 2. No →***skip to Question 49***	|__|
42	When was the committee started (year)? |__||__||__||__|	|__||__||__||__|

43	How many members in the school committee/ PTA? |__|	|__||__|
44	Who is involved in the committee/ PTA? (check all that apply) 1. Principals 2. Community members 3. Monks 4. Teachers 5. Parents 6. Children 7. Others (Specify)	|__| |__| |__| |__| |__| |__| |__| |__|
45	Are there female members? 1. Yes 2. No	|__|
46	How regularly does the committee meet? (check one) 1. Weekly 2. Monthly, or less than monthly 3. Quarterly 4. Twice a year 5. Yearly 6. Other	|__|
47	Which activities does the committee engage in? (check all that apply) 1. fundraising 2. Facilitate school repairs/ maintenance 3. Organize/ coordinate parents' involvement in school activities 4. Organize to build new schools 5. Encourage out-of-school children to go to school 6. Other:.....	 |__| |__| |__| |__| |__| |__|

48	Is there an annual process of School Self-Assessment (SSA) and/or School Improvement Plans (SIP)? 1. Yes 2. No	|__|
Classroom furnitures and equipments		
49	How many classrooms in the school? |__| (write number)	|__||__|
50	How many classes? |__| (write number)	|__||__|
51	Is there electricity in this school? 1. Yes 2. No	|__|
52	Electricity source: (Check all that apply) 1. Generator 2. Solar 3. EPC (Govt supply), 4. other.....	|__| |__| |__| |__|
53	Does the school own any other farming land outside of monastery compound? 1. Yes 2. No ***→Skip to Question 55***	|__|
54	What is it used for? (check all that apply) 1. Nothing 2. Growing crops 3. Leasing out 4. Other..... 5. Not relevant- there is no other land	|__| |__| |__| |__| |__|

	Waste management	
55	Is solid waste (garbage) disposed weekly (or more frequently)? (check one) 1. Yes 2. No	|__|
56	How is waste disposed of? (check all that apply) 1. burning 2. buried 3. put outside the school compound 4. organised collection 5. taken to garbage tip 6. put in river/streams 7. Other.....	|__| |__| |__| |__| |__| |__| |__|

	Water	
57	What is the main water source for the school: (check ONE) 1. piped water into school yard 2. public tap/ standpipe 3. Tubewell/ borehole with pump that may be hand-powered, electric, diesel etc 4. Unprotected dugwell 5. Protected dug well 6. Protected spring 7. Unprotected spring 8. Rainwater collection 9. Small Cart or car with small tank/drum 10. Tanker truck 11. Surface water (river, dam, lake, pond, stream, canal, irrigation channels 12. Other, please specify.....	|__| |__| |__| |__| |__| |__| |__| |__| |__| |__| |__| |__|
58	Is the main water source located 1. Within school grounds 2. Outside school grounds	|__|
59	Is there a water drainage system at the water source? 1. Yes 2. No	|__|
60	Who is responsible for maintenance of the water supply? (check one) 1. No one 2. school committee 3. Teachers 4. Principal 5. Other.....	|__|

61	How often is the water source functional? (check one) 1. 5-7 days per week 2. 2-4 days per week 3. Fewer than 2 days per week	|__|
62	When the water source is functional, does it provide enough water for the needs of the school, including water for drinking, hand washing and food preparation? (check one) 1. Yes 2. No 3. Water source is not functional	|__|
63	Is water available all seasons? 6. Yes (go to Q 65) 7. No, in the dry season there can be a shortage	|__|
64	If water is not available in the dry season, from where do you get water?	|__|
65	Do you treat water from the source you use at school in any way to make it safer to drink? (check one) *(Treating means the school is treating/purifying water in some way such as boiling, chlorination, ceramic filters, biosand filters, other filter, UV- sun)* 1. Always 2. Sometimes 3. Never 4. Not relevant- drinking water is in bottles	|__|
66	Do children bring their own drinking water from home? (check one) 1. Most children bring water from home 2. Some children bring water from home 3. No children bring water from home	|__|

	Sanitation	
67	Are teachers' toilets separate to student toilets 1. Yes 2. No	|__|
68	How many toilets for teachers |__| (write number)	|__|
69	How many toilets for monks |__| (write number)	|__|
70	How many toilet compartments are there in the school for children? |__| (write number)	|__||__|
71	What is the total number of toilet in the school? |__| (write number)	|__||__|
72	Is the school's toilet connected to a piped sewage system 1. Yes→ ***skip to Question 74*** 2. No	|__|
73	If no, is sludge (sewage) from school toilets or septic tanks always emptied and removed before they fill up? (check one) 1. Yes 2. No 3. Not relevant (e.g. toilets are relocated once filled) 4. Have never been filled	|__|
	Maintenance of School Latrine	
74	Who is responsible for keeping toilets clean? (check one) 1. students 2. cleaner 3. teachers 4. other.....	|__|

75	How regularly are the toilets cleaned? (check one) 1. Once a week 2. Two times a week 3. Daily 4. Other.....	|__|
76	Are toilets repaired when broken or damaged? (check one) 1. Yes 2. Sometimes 3. No	|__|
77	Who is responsible for maintenance and repairs of toilets? (check one) 1. No one 2. School committee 3. Teachers 4. Principal 5. Other.....	|__|

Check all answers for any missing responses

Thank the respondent

Classroom observation

Burnet Institute
Medical Research. Practical Action.

Instructions:
Please observe teaching and learning practices in three classes, for 10 minutes each.
Introduce yourself, the project and what you will be doing.
Ask for consent: "we are from the MEDG and the Burnet Institute and we are completing a baseline survey of monastic schools to gain an idea of what is working well within schools and what challenges are faced. We would like to see how the children learn in your class. We will not be recording or using your name in any reporting we do. And we will not be reporting back to the principal. Your participation is voluntary and confidential. Are you happy for us to sit in for about 10 minutes to observe?" (get consent). "Before we start, are there any children with disabilities in your class?" (Disability means trouble hearing or seeing, trouble with mobility or reduced use or legs or arms learning, or difficultly learning or a mental or intellectual impairment).
When observing, sit behind the students very quietly so that you do not distract them.
At the end of 10 minutes, ask the teacher "do teachers at this school use lessons plans?" "do you use a lesson plan?". If they answer 'yes', ask to see the lesson plan.
At the end, thank the teacher for their time.

Data collector ID:
School ID code:
Date:

1. Classroom observation	Class #1 Grade: Subject:	Class #2 Grade: Subject:	Class #3 Grade: Subject:
1.1 Teaching and learning materials are used by the teacher *e.g. flashcards, pictures, posters, counting blocks or any material to help teach*	1. Yes 2. Not observed	1. Yes 2. Not observed	1. Yes 2. Not observed
1.2 Students have pens, pencils, notebooks, textbooks	1. Yes >80% 2. Some 3. None	1. Yes >80% 2. Some 3. None	1. Yes >80% 2. Some 3. None
1.3 Students are engaged in the class	1. Yes >80% 2. Some 50-80% 3. No <50%	1. Yes >80% 2. Some 50-80% 3. No <50%	1. Yes >80% 2. Some 50-80% 3. No <50%
1.4 Teachers give children the opportunity to share their ideas and experiences	1. Yes 2. Not observed	1. Yes 2. Not observed	1. Yes 2. Not observed
1.5 Teachers allow children to work in groups	1. Yes 2. Not observed	1. Yes 2. Not observed	1. Yes 2. Not observed
1.6 Teachers treat children in a positive and friendly manner	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No
1.7 Was any physical punishment observed *This includes hitting or striking or pinching, as well as asking student to run/jump etc.*	1. Yes 2. Not observed	1. Yes 2. Not observed	1. Yes 2. Not observed
1.8 Children with a disability, chronic illness and other special needs are actively included in class *('n/a' if there are no children with disabilities)*	1. Yes 2. Not included 3. n/a	1. Yes 2. Not observed 3. n/a	1. Yes 2. Not observed 3. n/a
2. Lesson plan			
Yes, if the teacher has a written lesson plan; No, teacher does not have a written lesson plan.	1. Yes 2. No	1. Yes 2. No	1. Yes 2. No

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Teacher Profile

Burnet Institute
Medical Research. Practical Action.

Data collector ID:

School ID code:

Date:

Explanation to give to teachers:

We are from the Monastic Education Development Group and the Burnet Institute. We are completing a baseline survey of Monastic schools to gain an idea of what is working well within schools and what challenges are faced. Part of this assessment is to look at the training and experience of teachers.
Your participation involves filling out this short questionnaire about your experience, qualifications and workload. It should take about 5 minutes of your time. Participation is voluntary and anonymous. We will not be recording or using your name in any reporting we do. Data from all schools will be combined and presented together.
The findings of this baseline study will help determine what actions are needed in the Monastic education system and where the priorities are.

[Check understanding and answer any questions].

Do you agree to complete the questionnaire below?

[Get a verbal response and tick box] ☐ consent given

Thank you. We really appreciate your time.

Number	Question	Coding
1	Your age: |__|__| years	|__||__|
2	Sex: 1. Male 2. Female 3. Monk	|__|
3	Education level 1. High school passed 2. College/ university (studying) 3. Graduate 4. Diploma 5. Other.....	|__|
4	Total years of teaching experience: ---------- (write number) (less than 1 year = 00)	|__||__|
5	Total years teaching in this school: ---------- (write number) (less than 1 year = 00)	|__||__|
6	Number of classes you take: ---------- (write number)	|__|
7	Number of subjects you teach: ---------- (write number)	|__|
8	Do you currently live in the school OR in the same village OR nearby to the school? 1. Yes 0. No	|__|
9	Do you get paid a salary? (does not include 'pocket money') 1. Yes 0. No → ***skip to question 11***	|__|
10	If yes, how satisfied are you with your salary? (Please circle) 1. Very satisfied 2. Somewhat satisfied 3. Neutral 4. Not satisfied 5. Very dissatisfied	|__|
11	Trainings attended:	
12	What kind of training would you like to receive in the future?	|__||__|

Name of training course	Organisation delivering training	What year	Length of training course
			.....Days/weeks/months
			.....Days/weeks/months
			.....Days/weeks/months
			.....Days/weeks/months
			.....Days/weeks/months

Thank you for your time.

Appendix 6 Records review

Records review:

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Explanation:

We would like to see some of your enrolment data and how your records are kept.

1	Are these records kept:	
	1. Admission Register	|__|
	2. Enrolment form	|__|
	3. Attendance	|__|
	4. Transfers (TC- transfer certificates)	|__|
	5. PR/ Staff profile	|__|
	6. CPR (comprehensive personal record)	|__|
	7. MRC (monthly report card)	|__|
	8. Other.....	|__|
2	What information is collected at enrolment?	
	1. Name of student	|__|
	2. Age	|__|
	3. Date of birth	|__|
	4. Sex	|__|
	5. Address	|__|
	6. Parent's names	|__|
	7. Parent's occupation	|__|
	8. Ethnicity	|__|
	9. Religion	|__|
	10. Mother tongue	|__|
	11. Disability	|__|
	12. last grade passed	|__|
	13. Previous school name	|__|
	14. Other.....	|__|

3	Is daily attendance recorded 1. Yes 2. No	|__|

4. Fill in this table for the student population (as at beginning of 2013 school year)
   - *Cross out any year levels that are not applicable*
   - *Place a '0' where needed*
   - *Write 'DK' where the number is not known*

Year 2013	Boys	Girls	Novice	Nun	TOTAL
Total					
Grade 1					
Grade 2					
Grade 3					
Grade 4					
Grade 5					
Grade 6					
Grade 7					
Grade 8					
Grade 9					
Grade 10					
Grade 11					

Number of pre-school children in 2013 |__| write number or 'NR' for not recorded

5. Enrolment data from 5 years ago –June 2008 - *if available.* This is required to calculate the survival rate, that is the proportion of children remaining in school until Grade 5.
   - *Cross out any year levels that are not applicable*
   - *Place a '0' where needed*
   - *Write 'DK' where the number is not known*

☐ data not available

Year 2009/2010	Boys	Girls	Novice	Nun	TOTAL
Total					
Grade 1					
Grade 2					
Grade 3					
Grade 4					
Grade 5					
Grade 6					
Grade 7					
Grade 8					
Grade 9					
Grade 10					
Grade 11					

☐ data not available

Year 2010/11	Boys	Girls	Novice	Nun	TOTAL
Total					
Grade 1					
Grade 2					
Grade 3					
Grade 4					
Grade 5					
Grade 6					
Grade 7					
Grade 8					
Grade 9					
Grade 10					
Grade 11					

☐ data not available

Year 2011/12	Boys	Girls	Novice	Nun	TOTAL
Total					
Grade 1					
Grade 2					
Grade 3					
Grade 4					
Grade 5					
Grade 6					
Grade 7					
Grade 8					
Grade 9					
Grade 10					
Grade 11					

6. In order to look at retention rates, please collect the following, for the previous school term (2012) if available:

	Total	G-1	G-2	G-3	G-4	G-5	G-6	G-7	G-8	G-9	Data not available
students enrolled June 2012											☐
Students at school Feb 2013											☐
drop-outs 2012/2013 academic year											☐
transfers in 2012/2013 academic year											☐
transfers out 2012/2013 academic year											☐

(Retention rate = proportion of students regularly attending school at the end of the school year, compared with number enrolled at the beginning of the year)

Please thank the Principal/ interviewee for their time and valuable input.

Appendix 7- Student health questionnaire

Student questionnaire

Burnet Institute
Medical Research. Practical Action.

Interviewer Code:

School ID:

Date:

Please answer all questions.

Your age: |__|__| years **Grade:** |__| **Sex:** ☐ boy ☐ girl

1. What is your favourite food? ..... |__|

2. Do you **always** wash your hands: (circle the correct answers) |__|
   Before Meals 1.NEVER 2. SOMETIMES 3. MOSTLY 4. ALWAYS
   After using the toilet 1.NEVER 2. SOMETIMES 3. MOSTLY 4. ALWAYS

3. Do you use the school toilet? |__|
   1. Always → go to Q.5
   2. Some of the time
   3. Never
   4. There is no toilet

   If you don't use the school toilet every time, where do you go? |__|
   1. In the fields/ bushes
   2. I hold on all day
   3. Other.....

4. Have you ever not used the school toilet because it was (you can choose more than one) |__|
   1. Broken |__|
   2. Dirty / Smelly |__|
   3. Not private |__|
   4. Too dark |__|
   5. Too busy with other students using them |__|
   6. Too far away |__|
   7. Too difficult to get into – couldn't get up the steps or through the door |__|
   8. Other reason..... |__|

5. Where do you get drinking water from? (circle the correct answers) |__|
   1. From school |__|
   2. I bring it from home

6. In the past week, have you had diarrhoea? |__|
   (Diarrhoea means more than three loose bowel movements in one day)
   1. No
   2. Just on 1 day
   3. On more than one day

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Student questionnaire
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7. In the past week, have you had vomiting? |__|
   1. No
   2. Just on 1 day
   3. On more than one day

8. What did you do last time you had diarrhoea? (you can choose more than one)
   1. Nothing |__|
   2. Drank ORS (oral rehydration salt |__|
   3. Took other medicine/syrup/pill |__|
   4. Took green tea mixed with sugar |__|
   5. I don't know |__|

9. The last time you had diarrhoea, did it stop you from going to classes? |__|
   1. Yes
   2. No

10. Do you remember any kind of school lesson that talked about hygiene or cleanliness? |__|
    1. Yes
    2. No

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Student questionnaire
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Appendix 8 Principal interview guide

Key informant interview – Principal

Data collector ID:

School ID code:

Date interview completed:

Instructions:
Please introduce yourself and share the explanation below with the principal before proceeding.

Explanation:
We are from the Monastic Education Development Group and the Burnet Institute. We are completing a baseline survey of Monastic schools to gain an idea of what is working well within schools and what challenges are faced. We would like to ask you some questions about the administration and finances of the school, human resources, the school facilities and environment, student affairs, and student health.
Your participation involves answering interview questions, for around 45 minutes.
This interview is voluntary and confidential. Your name or school's name will not be used in any reporting of findings. Results from the baseline assessment will pooled together with all the schools and presented together.
Your participation in this baseline study will help determine what actions are needed in the Monastic education system and where the priorities are. Your school may not be directly targeted over the next 2 years for intervention, however changes happening more broadly, e.g. teacher trainings, may benefit your school indirectly, as well as improve monastic education overall.

[Check understanding and answer any questions].

Do you agree to complete the interview?

[Get a verbal response].

Thank you. We really appreciate your time.

START: "I'd like to start by asking you a few questions about student affairs…."

	Record keeping for student affairs
1	How do you manage your student records, e.g. admissions, attendance, transfers etc. Prompt: who manages student affairs? are there any systems?
	Teaching staff
2	Pease describe the recruitment process for teachers *(Prompt: advertising, minimum qualifications, other requirements)*
3	Are there enough teachers for the school?
4	Is retention of teachers good or is there a high turn-over? *Prompt: what are the reasons for teachers leaving?* *Prompt: what strategies do you use to improve retention?*
5	What are the criteria for staff promotion?
6	What kinds of staff meetings do you have? Who attends? What topics are covered? How are the meetings conducted? *Prompt: are teachers encouraged to contribute? Does the committee/PTA attend also?*
7	Teacher salaries: Is there enough money to pay teacher salaries? How do you manage this? *Prompt: any other in-kind benefit paid to teachers in place of money? Are salaries paid on time?* Is there a pay-scale or are all teachers paid the same amount?
	Teaching practices /CCA
8	Are you aware of child-centred approaches to teaching and learning? What do you think about it? Do you think there would be any difficulties for you to use CCA? *Prompt: what are the teacher's attitudes to CCA? Are there any barriers to teachers using this practice? Are you willing to incorporate CCA into practice at the school?*
9	What kind of reward and punishment system does the school have? How does this work? What happens if a student breaks the rules or is misbehaving in class (eg not doing homework, d talking in class, distracting others, bullying)? Are children hit/ physically punished?
	Student Health
10	Are there any health checks for students? By whom? How often? What is involved?
11	What happens if a child is sick? Where do they get treatment? What if it is an emergency? Do you have an emergency management plan?
12	Is there any clinic referral system organised for students? Describe….
	Financial management & support
13	What kind of financial support does the school receive? *Prompt: donations, support from other organisations*

14	Does the school do any income generation activities? What kind? *Prompt: if none are engaged in, what ideas does the Principal have for future income generation projects?*
15	Is there a system for managing finances? Describe your system for managing finances. *Prompt: do you have a cashier/ accountant/ other staff member. Use a bank? What kind of bank? Or is money privately kept? And who has responsibility for withdrawing money and managing finances? Who manages the budget?*
16	Do you have any collaboration or support (non-financial) from other organisations? How are they collaborating/ supporting your school? *Prompt: e.g Government schools, training from other NGOs, CBO etc*
17	What fees are there for students? Are you able to provide free education to any students?
	Identified needs
18	What do you feel are the three main priorities for your school this year? 1. . 2. . 3. .

Appendix 9 Focus group discussion guide- teachers

FGD- teachers

Facilitator (Data collector) ID:

Note taker (Data collector) ID:

School ID code:

School name:

Date of focus group:

Instructions:
*Please introduce yourselves and share the explanation below with the participants before proceeding. Remember, the Principal should **not** be present.*

Key objectives:
To find out about:
- Current teaching and learning practices
- Student assessment
- Health and hygiene education
- Teachers' awareness of child-centred approaches (CCA)
- Perceptions of CCA
- Use of CCA in classes

Explanation to give to participants:
We are from the Monastic Education Development Group and the Burnet Institute. We are completing a baseline survey of Monastic schools to gain an idea of what is working well within schools and what challenges are faced. We would like to ask you some questions about your teaching practices and how children learn. This discussion should take about 1 hour.
Your participation is voluntary and confidential. We will not be using your name on any notes we take or in any reporting we do. We will not be feeding back individual responses to the other school staff. We will take a recording to help us remember what is said, but again, this is confidential and we won't be sharing it with anyone.
The findings of this baseline study will help determine what actions are needed in the Monastic education system and where the priorities are. Your school may not be directly targeted over the next 2 years for intervention, however changes happening more broadly, e.g. teacher trainings, may benefit you and your school indirectly, as well as improve monastic education overall.
[Check understanding and answer any questions].

Do you agree to participate in this discussion?

[Get a verbal response from each participant].

Thank you. We really appreciate your time.

Participants:

Get participants to introduce themselves:

- Name, role/ position, and what their connection to the school is, e.g. if they have any children at the school, how many…
- Note taker can fill in the table below and put the numbers according to their seating plan (do not record names)

No.	Subjects taught	Age	Sex
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Seating chart:

Ground rules:
Before beginning set some quick 'ground rules' to ensure good group dynamics. At a minimum: respectful listening, one person talking at a time, all comments are welcome- both positive and negative. Remind participants that what specific individuals say in the group should not be shared outside of the group.

e.g. "so that the conversation runs smoothly and everyone feels comfortable to contribute, we should establish some guidelines, e.g. "only one person speaking at once, we must have respectful listening, no shouting, and remember: all comments are welcome – both positive and negative."

Remind participants that the note taker will be taking notes, and that there is a recoding. Remind them that participation is confidential.

First of all, we'll talk about taking classes:

Teaching practices
1. How do you prepare before teaching a lesson?
2. What sort of teaching and learning activities do you use? *Prompt: repeating after teachers, copying down from board, group work, group discussion, singing etc*
3. What kind of teaching and learning materials do you use for teaching? *e.g. flashcards, pictures, counting blocks...*
4. How do you encourage classroom participation by the students?
5. Are there any children with disabilities? How do you include them in class activities?
6. What kind of reward and punishment system does the school have? How does this work? What happens if a student breaks the rules or is misbehaving in class (eg not doing homework, d talking in class, distracting others, bullying)? Are children hit/ physically punished?
Student assessment
7. How do you do student assessment? How often is student assessment done? monthly or yearly?
8. Do you let parents know their children's assessment results?
9. Do you keep records of children's achievements in their learning? E.g. good attendance, good homework, good behaviour, good work. Do you report student's achievements to parents?
Child centred approaches
10. Has anyone heard of CCA?
11. What do you think about CCA?
12. Have you ever used any CCA methods? How? Did you have any difficulties using CCA methods in your classroom teaching?
Health
13. Do you teach health awareness to the children? How often? What information do you provide? What specifically do you teach? E.g. **handwashing- when?**, dental care, personal hygiene, What IEC materials do you use? E.g. posters, flashcards, brochures/ pamphlets, TV show *Prompt: is hygiene education provided through special sessions, as part of life skills training modules or as part of the regular curriculum. Hygiene education may include all aspects of personal hygiene, but should include at least some instruction on handwashing with soap or ash*
14. Do you see any behaviour change following these health/hygiene lessons?
15. Have you attended the health awareness trainings? (especially hygiene, nutrition and WASH practices). What ones? When? Who organised?
16. What are the common diseases affecting children each year? *Prompt: Fever? Diarrhoea? Skin infection,*
17. What happens if sick children need medical attention?
Parental involvement with child learning
18. Do parents get involved in their children's learning e.g speaking with teachers? In what ways? *Prompt:* - *do parents meet with teachers ever to talk about children's progress etc?* - *what expectations do parents have of schools and teachers? (prompt: in terms of communication? What children should be able to do?)*

Thank all participants for their time.

Appendix 10 Focus group discussion guide- Parent Teacher Association/ School Committee

Parent teacher association - focus group discussion guide

Burnet Institute
Medical Research. Practical Action.

Facilitator (Data collector) ID:

Note taker (Data collector) ID:

School ID code:

Date of focus group:

Instructions:
Please introduce yourselves and share the explanation below with the participants before proceeding.

Key objectives:
To find out:
- how well organised and involved in the school the PTA/committee is
- what activities the PTA/ committee are involved in
- what barriers and enablers there are to forming a good PTA/ committee
- what the PTA/ committee think of CCA

Explanation to give to participants:
We are from the Monastic Education Development Group and the Burnet Institute. We are completing a baseline survey of Monastic schools to gain an idea of what is working well within schools and what challenges are faced. We would like to ask you some questions about your committee, your activities and the role you play in the school. We would also like to ask about parents' involvement in education. This discussion should take about 1 hour.
Your participation is voluntary and confidential. We will not be using your name on any notes we take or in any reporting we do. We will not be feeding back individual responses to the other school staff. We will take a recording to help us remember what is said, but again, this is confidential and we won't be sharing it with anyone.
The findings of this baseline study will help determine what actions are needed in the Monastic education system and where the priorities are. Your school may not be directly targeted over the next 2 years for intervention, however changes happening more broadly, e.g. teacher trainings, may benefit your school indirectly, as well as improve monastic education overall.
[Check understanding and answer any questions].

Do you agree to participate in this discussion?

[Get a verbal response from each participant].

Thank you. We really appreciate your time.

Participants:

Get participants to introduce themselves:

- Name, role/ position, and what their connection to the school is, e.g. if they have any children at the school, how many…
- Note taker can fill in the table below and put the numbers according to their seating plan (do not record names)

Seating position	Position/ Role *e.g. parent, teacher, community member*	Age	Sex
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Seating Chart:

Ground rules:
Before beginning set some quick 'ground rules' to ensure good group dynamics. At a minimum: respectful listening, one person talking at a time, all comments are welcome- both positive and negative. Remind participants that what specific individuals say in the group should not be shared outside of the group.

e.g. "so that the conversation runs smoothly and everyone feels comfortable to contribute, we should establish some guidelines, e.g. "only one person speaking at once, we must have respectful listening, no shouting, and remember: all comments are welcome – both positive and negative."

Remind participants that the note taker will be taking notes, and that there is a recoding. Remind them that participation is confidential.

1	Are you a PTA or school committee or both?
2	**Membership:**
2.1	Who is involved in the committee/ PTA? *Prompt: Principal, Community members, Monks, Teachers, Parents, village authority*
2.2	Are there female members? If not, why not?
2.3	How do new members join? *Prompt: principal asks them, they volunteer, they ask principal*
3	**Formation and maintenance:** How did the committee/PTA come about/ start? What factors keep it running? What do you think is required for a good PTA/committee?
4.1	What do you think might make it difficult to establish a school committee/ PTA?
4.2	What is important to sustain a school committee/ PTA?
5	**Meetings:** How regularly does the committee/ PTA meet? What topics are covered in meetings? Are you able to attend all the meetings? If not, why?
6	**Function:**
6.1	What activities are you involved in? *Prompts:* - *Donations/ fundraising for school* - *management of school finances,* - *teacher recruitment* - *Encourage out-of-school children to go to school* - *Facilitate school repairs/ maintenance* - *Organize/ coordinate parents' involvement in school activities* - *Organize labour and locally available materials to build new schools* - *Organise religious ceremonies* - *Organise community celebrations/events/campaigns*
6.2	Do you have any ideas for income generation suitable for the school?
7	**CCA:** Have you heard of child-centred teaching approaches? (you may need to explain CCA) What do you think of CCA?

Thank all participants for their time.

Appendix 11- Principal information and consent form (PICF)

PARTICIPANT INFORMATION AND CONSENT FORM-

School principals (incl. interview & focus groups)

Burnet Institute
Medical Research. Practical Action.

Building the capacity of the Monastic School System in Myanmar – a baseline assessment

Participant Information & Consent Form

Principal Investigator	Than Htet Soe, Monastic Education Development Group Myanmar
Associate Investigator(s)	Dr Karl Dorning, Burnet Institute Myanmar Dr Kyu Kyu Than Burnet Institute Myanmar Aung Ko Ko, Burnet Institute Myanmar Prof Margaret Hellard, Burnet Institute Naw Tin Tin Mar, Burnet Institute Myanmar Dr Poe Poe Aung, Burnet Institute Myanmar Ko Than Htet Soe, Monastic Education Development Group Myanmar Hilary Veale, Burnet Institute Damien McCarthy, Burnet Institute

Part 1 What does my participation involve?

1 Introduction

You are invited to take part in this baseline study, which is called **'Building the capacity of the Monastic School System in Myanmar – a baseline assessment'.** You have been invited because we would like to learn about the situation in monastic schools in Myanmar in terms of facilities and infrastructure, teaching staff and teaching practices, administration and management, student health and the level of community engagement with the school.

This Participant Information Sheet and Consent Form tells you about the baseline study. It explains the processes involved with taking part. Knowing what is involved will help you decide if you want your school to take part in this study.

Please read this information carefully. Researchers will also explain this project and will outline what is involved in participation. We encourage you to ask questions about anything that you don't understand or want to know more about.

Participation in this study is voluntary. If you do not wish to take part, you don't have to.

If you decide you want to take part, you will be asked to sign the consent form. By signing you are telling us that you:
- Understand what you have read
- Consent for your school to take part in the baseline study
- Consent to the use of your school information as described.

You will be given a copy of this Participant Information and Consent Form to keep.

2 What is the purpose of this baseline study?

The baseline study is being conducted by the Burnet Institute in collaboration with the Monastic Education Development Group (MEDG). The findings will inform project activities to be conducted over the next four years to build the capacity of the Monastic School System to provide quality education and school facilities. This education project has been initiated by the Myanmar Education Consortium (MEC).

The aim of the baseline study is to establish the current situation in monastic schools in the following areas:

1. School management and leadership, administration and financial management;
2. Teaching practices, teacher qualifications and experience;
3. School environment, facilities and infrastructure (including water supply, sanitation, drainage and waste management);
4. Student hygiene practices and knowledge, school toilet use, source of drinking water and diarrhoeal rates; and
5. Level of community support and engagement (including parent teacher associations and their activities).

3 What does participation in this research involve?

If you agree to participate in this research you will be invited, along with teachers, students and members of the parent teacher association, to complete questionnaires, interviews or to participate in a focus group discussion.

Four researchers will visit your school and the assessment will take approximately half to one day. There are no costs associated with participating in this baseline study. The school will be reimbursed $15 and will be gifted with a first aid kit. Parent teacher association members who participate in the focus group discussions will be given a small gift (face towel) for their time.

If you agree to participate, the following activities will take place:

With the school principal:

1. Checklist covering school administration, management, human resources, health education and services, school committee, school facilities and water, sanitation and waste management.
2. Review of enrolment and student record keeping system (some photos may be taken, however any student names will be concealed)
3. Interview covering organisational management, staff recruitment and management, perceptions of child-centred approaches to teaching, external school support, and student health

With another staff member:

4. Observation checklist of the school environment, infrastructure and facilities infrastructure, including water supply, sanitation, drainage and waste management (some photos will be taken of school facilities such as drinking and handwashing stations and toilets).

With teachers in three classes:

5. Brief (10 minute) classroom observations of teaching and learning methods, using checklist in three classrooms
6. Anonymous teachers' profile for all teachers- brief checklist covering qualifications, experience, training and teaching responsibilities
7. Teachers' focus group discussion covering teaching practices, assessment, hygiene education and perceptions of child-centred approaches to teaching (discussion will be audio-recorded with permission from participants). Maximum of 10 participants.

With grade four and five students:

8. Anonymous student questionnaire- covering handwashing habits, use of and perception of schools toilets, source of drinking water, diarrhoea occurrence in last week, and hygiene education

With parent teacher association members:

9. Parent teacher association focus group discussion covering school-related activities such as fundraising, and engagement with community and schools (discussion will be audio-recorded with permission from participants) Maximum of 10 participants.

10.

All activities will be anonymous and voluntary. All procedures will be clearly explained to participants, and consent will be gained before proceeding. No names will be collected or used. Your school name will not be used in any reporting.

Time required for baseline study activities:

Activity	Estimated time required
1. Principal checklist	60 minutes
2. Record review	30 minutes
3. Principal interview	45 minutes
4. School observation checklist	60 minutes
5. Classroom observations	3 x 10 minutes each
6. Teacher profile	5 minutes for each teacher
7. Teacher focus group	60 minutes
8. Student questionnaire	10 minutes for each student
9. PTA focus group	60 minutes

4 Do I have to take part in this baseline study?

Participation in any research project is voluntary. If you do not wish to take part, you do not have to. If you decide to take part you are free to withdraw from the project at any stage.

If you do decide to take part, you will be given this Participant Information and Consent Form to sign and you will be given a copy to keep.

Your decision whether to take part or not to take part, or to take part and then withdraw, will not affect your relationship with Burnet Institute or the Monastic Education Development Group.

5 What are the possible benefits of taking part?

We cannot guarantee or promise that you or your school will receive any direct benefits from this baseline study. However, your participation will help determine what actions are needed in the monastic education system and where the priorities are. Your participation will help us to develop activities (such as teacher trainings) that may benefit your school indirectly, as well as improve monastic education overall.

Participation may also increase your awareness of any issues within your school, and help with setting priorities. You will also have the opportunity to communicate your priority needs and thus ensure that planned activities and interventions for the monastic school system are appropriate.

6 What are the possible risks and disadvantages of taking part?

We do not anticipate any serious risks or disadvantages of participation in this baseline study.

Participation is anonymous, and strict confidentiality will be reinforced. All participants will be treated with respect. We will not use your name or your school name in any reporting. Although we will not ask any personal questions, we will ask about opinions on teaching and learning methods and we will ask students about their hygiene practices (e.g. handwashing) and their health. Students or teachers may be worried that information they give will be linked to their names, however names will not be recorded, and care will be taken to maintain privacy and confidentiality

within focus groups. Some students may feel anxious or worried about their 'performance' on the questionnaire. To prevent this, data collectors will carefully explain that the questionnaire is anonymous and voluntary, that there are 'no right or wrong answers', and that individual results will not be shared with teachers/principal.

Although, your school may not directly benefit from participation, we will reimburse you for your time as stated above. Parent teacher association members who participate in focus groups will also be reimbursed for their time.

7 What if I withdraw from this research project?

If you do consent to participate, you may withdraw at any time. If you decide to withdraw from the project, please notify a member of the research team. There are no special requirements linked to withdrawing.

If you decide to leave the research project, the researchers will not collect additional information. Information that has already been collected will still be used, however you will not be able to be identified from this information.

8 What happens when the research project ends?

We will forward you a summary report of the baseline findings by the end of 2013. Project activities such as teacher trainings, management trainings and improvement of school facilities will occur in some, but not all schools.

Part 2 How is the research project being conducted?

9 What will happen to information about the school?

By signing the consent form you consent to the data collection team collecting and using information about your school for the MEC education project. All information provided will be treated with the strictest confidentiality. Your name and contact details and school name, along with this consent form will be kept in a locked filing cabinet at the Burnet Institute, separate from the school information collected. No data collected will be personally identifiable. Data will be kept in locked filing cabinets, and on password-protected computers, only accessible to the researchers involved in the project. Records will be stored for a minimum period of seven years.

It is anticipated that the results of this baseline study will be published (on the Burnet Institute website, in Myanmar Education Consortium (MEC) reports and in research journals), and presented in a variety of forums such as MEC meetings and in national and international conferences. Your school name and your name will not be used in any publications or presentations, however your participation will be acknowledged. You can also access your information at any time.
Information/ data gathered may be used in future studies by the Burnet Institute, e.g. to identify needs within the monastic education school system, for the development of education programs and for evaluation of programs.

10 Who is organising and funding the baseline study?

Burnet Institute in collaboration with the Monastic Education development Group is conducting the baseline study. Funding is through AusAID Australia and the UK aid program, DFID.

No member of the research team will receive a personal financial benefit from your involvement in this research project (other than their ordinary wages). There are no conflicts of interest to declare.

11 Who has reviewed the research project?

The ethical aspects of this research project have been approved by the Human Research Ethics Committee of The Alfred Hospital in Australia to ensure that this project will be carried out in a way that protects the interests of the participants.

12 Who can I contact?

Further information:

For further information or if you have any problems or questions, please contact:
Than Htet Soe, Monastic Education Development Group Myanmar
Mobile: +95 (09) 4025 98715 email: thanthetsoe@gmail.com

Complaints:

If you have any complaints about any aspect of the project or any questions about being a research participant in general, then you may contact:

Myanmar
Dr. Yin Thet Nu Oo
General Secretary
Ethics Review Committee
Department of Medical Research (Lower Myanmar)
5 Ziwaka Road
Dagon township
Yangon, Myanmar
Email: yinthet@gmail.com
Phone: +959-492-55-183

Australia:
Ms Emily Bingle, Research Governance Officer, Office of Ethics and Research Governance,
The Alfred, Melbourne, Australia
Ph: +61 3 9076 3619 Email: e.bingle@alfred.org.au

Burnet Institute
Medical Research. Practical Action.

Building the capacity of the Monastic School System in Myanmar – a baseline assessment

Participant Information & Consent Form

Principal Investigator	Than Htet Soe, Monastic Education Development Group Myanmar
Associate Investigator(s)	Dr Karl Dorning, Burnet Institute Myanmar Dr Kyu Kyu Than, Burnet Institute Myanmar Aung Ko Ko, Burnet Institute Myanmar Prof Margaret Hellard, Burnet Institute Dr Poe Poe Aung, Burnet Institute Myanmar Ko Than Htet Soe, Monastic Education Development Group Myanmar Hilary Veale, Burnet Institute Damien McCarthy, Burnet Institute

Declaration by Participant

I have read the Participant Information Sheet or someone has read it to me.

I understand the purposes, procedures and risks of the research described in the project.

I have had an opportunity to ask questions and I am satisfied with the answers I have received.

I freely agree to participate in this baseline study as described, and understand that I am free to withdraw at any time without affecting my relationship with the Burnet Institute or the Monastic Education Development Group.

I understand that I will be given a signed copy of this document to keep.

Consent for future use of information

☐ I consent for data collected now to be used in future research related to this project.

Name of Principal (please print) _____

Signature _____ Date _____

Declaration by Researcher†

I have given a verbal explanation of the research project, its procedures and risks and I believe that the participant has understood that explanation.

Name of Researcher† (please print) _____

Signature _____ Date _____

† An appropriately qualified member of the research team must provide the explanation of, and information concerning, the research project.

Note: All parties signing the consent section must date their own signature

Appendix 12 Water source status

Improved Sources of Drinking Water

- Piped water into dwelling/ building, also called a household connection, is defined as a water service pipe connected with in-house plumbing to one or more taps (e.g. in the kitchen and bathroom).
- Piped water to yard/plot, also called a yard connection, is defined as a piped water connection to a tap placed in the yard or plot outside the house.
- Public tap or standpipe is a public water point from which people can collect water.
- A standpipe is also known as a public fountain or public tap. Public standpipes can have one or more taps and are typically made of brickwork, masonry or concrete.
- Tubewell or borehole is a deep hole that has been driven, bored or drilled, with the purpose of reaching groundwater supplies. Boreholes/tubewells are constructed with casing, or pipes, which prevent the small diameter hole from caving in and protects the water source from infiltration by run-off water. Water is delivered from a tubewell or borehole through a pump, which may be powered by human, animal, wind, electric, diesel or solar means.
- Boreholes/ tubewells are usually protected by a platform around the well, which leads spilled water away from the borehole and prevents infiltration of run-off water at the well head.
- Protected dug well is a dug well that is protected from runoff water by a well lining or casing that is raised above ground level and a platform that diverts spilled waterway from the well.
- A protected dug wells also covered, so that bird droppings and animals cannot fall into the well.
- Protected spring. The spring is typically protected from runoff, bird droppings and animals by a “spring box”, which is constructed of brick, masonry, or concrete and is built around the spring so that water flows directly out of the box into a pipe or cistern, without being exposed to outside pollution.
- Bottled water is produced by reliable companies acting under the quality control of national authority. Bottled water is considered an improved source of drinking water only when there is a secondary source of improved water for other uses such as personal hygiene and cooking.
- Rainwater refers to rain that is collected or harvested from surfaces (by roof or ground catchment) and stored in a container, tank or cistern until used.

Unimproved sources of drinking water

- Unprotected spring. This is a spring that is subject to runoff, bird droppings, or the entry of animals. Unprotected springs typically do not have a “spring box”.
- Unprotected dug well. This is a dug well for which one of the following conditions is true: the well is not protected from runoff water; or 2) the well is not protected from bird droppings and animals. If at least one of these conditions is true, the well is unprotected.
- Cart with small tank/drum. This refers to water sold by a provider who transports water into a community. The types of transportation used include donkey carts, motorized vehicles and other means.
- Tanker-truck. The water is trucked into a community and sold from the water truck.
- Surface water is water located above ground and includes rivers, dams, lakes, ponds, streams, canals, and irrigation channels.

Water source types are adapted from the Core Questions on Drinking Water and Sanitation for Household Surveys from the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP), and sourced from UNICEF Wash in School Monitoring Package, 2011.

Appendix 13 Sanitation facilities

Improved sanitation facilities:

- Flush or pour-flush latrine, with either a latrine pit, septic tank, or piped sewer system
- Ventilated improved pit latrine
- Pit latrine with slab (dry toilet with a raised squatting slab or platform)
- Composing toilet (dry toilet designed and maintained to produce inoffensive compost).

Unimproved sanitation facilities:

- Shared or public sanitation facilities
- Flush or pour flush to street, yard, plot, open sewer, ditch, drain, or other unsafe location
- Pit latrine without slab
- Bucket (open vessel periodically removed for emptying and treatment)
- Hanging toilet or hanging latrine (defecation platform over a pond, lake, river or other water source)
- No facility (open defecation).

Sourced from UNICEF Wash in School Monitoring Package, 2011 and adapted from the Core Questions on Drinking Water and Sanitation for Household Surveys from the WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation (JMP).

Appendix 14- Quality criteria

Output 2.2: Teachers and schools deliver effective child-centred education meeting minimum standards

(1) Students are taught with methods appropriate to age and capability;
(2) Teachers give children opportunity to share their ideas and experiences;
(3) Teachers allow children to work in groups;
(4) Teachers treat children in a positive and friendly manner and manage the classroom with non-violent strategies;
(5) Children and students are familiar to use teaching and learning aids;
(6) Active inclusion of children with a disability, chronic illness and other special needs.

Output 2.3: Schools are safe, healthy and child-friendly environments conducive to learning

(1) permanent and clean classroom;
(2) sufficient number of desks and chairs or benches;
(3) learning materials available;
(4) tidy school yard with trees and fencing;
(5) access to clean water;
(6) garbage management system and latrines,
(7) classrooms, WASH facilities and other physical infrastructure in schools are accessible to people using wheelchairs or mobility aids (e.g. new or renovated schools buildings should include ramps and doors wide enough for wheelchairs, and handrails where required, there should be no steps, and no abrupt change of level).

Output 2.4: Parents and communities actively engaged in education

Characteristics of an active parent teacher association:
(1) Encourages out-of-school students to go to school;
(2) Facilitates school repairs/ maintenance;
(3) Organizes and coordinate parent's involvement in school activities;
(4) Organizes labour and locally available materials to build new schools.

Appendix 15 – Disability information sheet

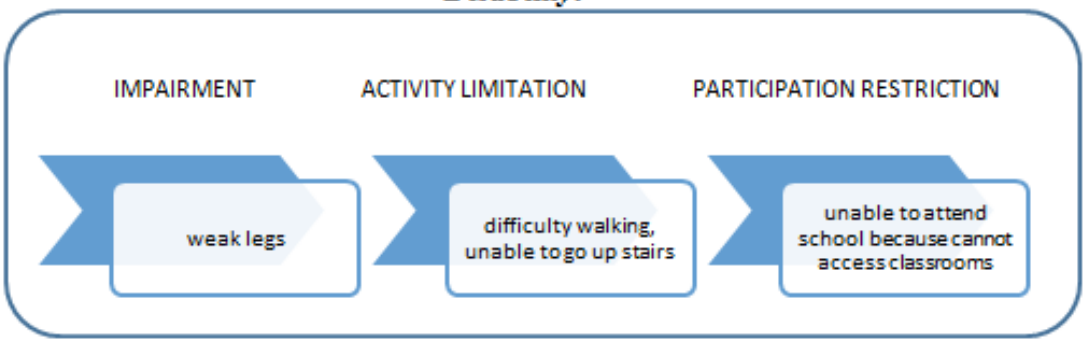
What is disability?

Disabilities may involve:

- **Physical impairment** e.g. difficulty walking, or difficulty moving and using arms and legs
- **Sensory impairment** e.g. difficulty hearing or seeing
- **Mental/ cognitive impairment** e.g. difficulty learning, communicating, concentrating, remembering, behaving

Disability includes both the 'impairments' associated with the individual's body structure or function (e.g poor eyesight or weak legs), 'activity limitations' (e.g. difficulty walking), and 'restricted participation' in society (e.g. unable to go to school because cannot go up steps).

Disability:



Therefore disability results from both **individual** and **environmental** factors.

Somebody in a wheelchair may not experience a lot of disability if they can access the classroom and toilets at school. However, another person in a wheelchair may experience a lot of disability if they get into the classroom or use the toilets at school. So similar physical impairments can result in different levels of disability experienced depending on the environment. Disability is experienced differently for everyone.

Often, we can alter the environment to make it more accessible to people with disabilities. We can also address societal issues to ensure greater participation of people with disabilities.

That is, we can remove environmental and societal **barriers to participation.**

Can you think of any examples of this?

- Accessible toilets
- Ramps instead of steps
- Glasses, hearing aids, crutches or other assistive devices
- Reducing stigma and discrimination
- Modified seating, eating utensils
- Teaching assistants to help students in class

Full participation and inclusion in society is a basic human right.

More info:

World Health Organization http://www.who.int/topics/disabilities/en/

UN Convention on the Rights of Persons with Disabilities http://www.un.org/disabilities/default.asp?id=150

Appendix 16- Selection of intervention schools for year 1 of project

For year one WASH program activities, the three states of Mandalay, Sagaing and Ayeyarwaddy will be targeted, with the intervention schools being taken directly from the randomly-selected list used for baseline. The extensive baseline data already collected from these 80 baseline schools, and a lack of time and resources to complete baseline assessments on more schools necessitated this decision. Within the 80 schools, 40 of the 'most in need' schools (determined by their limited WASH facilities) were selected for the implementation of water source improvement activities, and latrine construction (WASH 'hardware'). All 80 schools will receive hygiene promotion (WASH 'software'). Outcomes will be monitored and evaluated, including the health impact of the WASH activities; the primary outcome will be the proportion of children experiencing diarrhoea on one or more days in last seven days. Outcomes for schools receiving both WASH hardware and software will be compared with those receiving software only. We aim to determine 'what works best where' and to develop a successful and sustainable model for scale-up in the second year of the project.

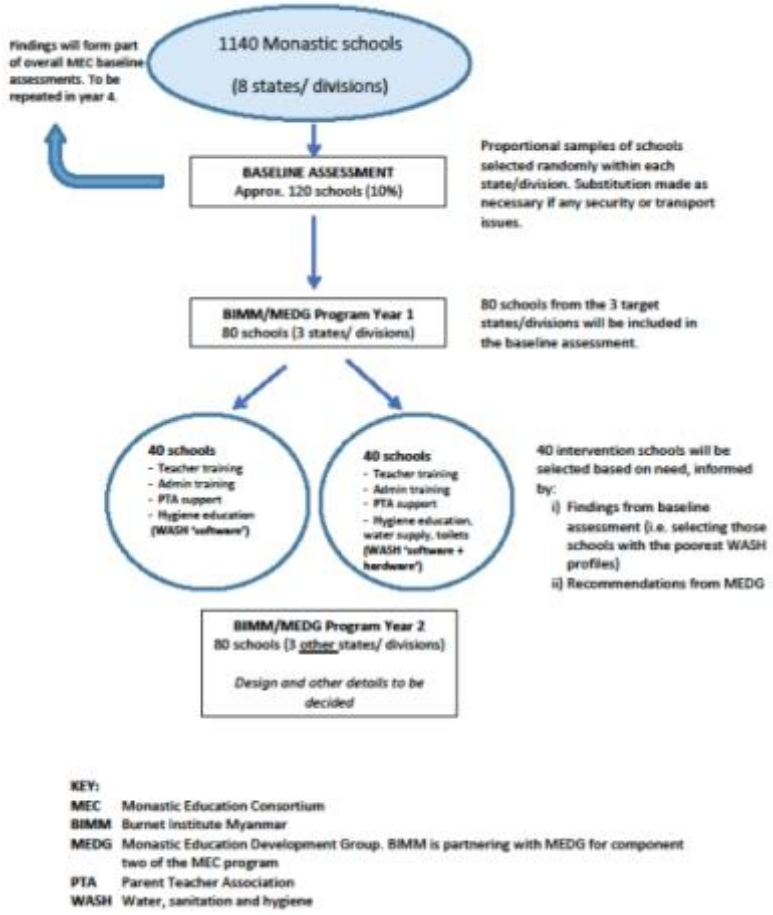


Figure 49 Baseline and intervention design flowchart

In order to select the 'most in need' schools from the sample of 80 schools, key selection criteria were developed (see Table 19 below), based on what are considered important factors indicating need for WASH and school health interventions, taking into account equity concerns of gender and disability. All schools were ranked within each category (for binary outcomes yes=1 and no=2), and these rankings were summed for each school to give an overall ranking. The 40 schools with the

lowest ranks were then selected for the WASH 'hardware' plus 'software' intervention group. Five schools however had tied ranks at number 40, and so all these schools were included in the intervention group. Further substitutions were made for schools that had closed down, and for schools that were considered by the senior monks to be most 'in need' of WASH interventions. Detailed baseline data was collected on 'new' schools.

Table 22 Key criteria for school selection for WASH interventions

Criteria
1. Student toilet ratio
2. Unimproved water source
3. Availability of water source
4. Number of girls' toilet
5. Number of hand washing facilities
6. Number of non-functional toilets
7. Presence of a school health clinic
8. School health clinic nearby
9. Good waste management system
10. Water drainage system
11. Presence of school PTA/SC
12. Number of children with a disability
13. Number of villages coming to school

Table 23 Selected intervention schools within each region

Region	No. of schools included in baseline data collection	No. of schools selected for intervention
Mandalay	39	21
Sagaing	23	16
Ayeyarwaddy	18	6
Total	**80**	**43**

In the second year of the project (2014/15), the MEDG will select another group of vulnerable schools to receive WASH interventions. Interventions will be based on our findings of 'successful WASH' from Year 1 – the most effective interventions and strategies being used to achieve significant health improvement and non-health improvements for intervention schools. Again, detailed baseline data will be collected on this second sample of schools to enable high quality monitoring and evaluation.

Appendix 17- Schools included in baseline study

Mandalay Region

ID	School name	Township
101	Wai Thar Li Phaya Kyaung	Pyi Gyi Tagon
102	Hti Ta Saung	Aung Maye Thar San
03	Oue Bo	Aung Maye Thar San
104	Kan Tat Ma Soe Yain	Mahar Aung Maye
105	Pay Pin	Mahar Aung Maye
106	Tharthana won saung	Pyi Gyi Tagon
107	Aye Mya Thar Yar	Puthein Gyi
108	Kan Gyi Kone	Puthein Gyi
109	Tharthana Zawti karyone	Chan Mya Thar Si
110	Yar Lae	Chan Mya Thar Si
111	Mahar Aung Maye	Chan Aye Thar San
112	Myauk Latt Tha Mar	Puthein Gyi
113	Sin Min	Ngan Zon
114	Mran Kyaung	Ngan Zon
115	Minn Kyaung	Nar Htoe Gyi
116	Yar Yin	Sin Kuu
117	Patamyar	Moe Koke
118	Yae Oo	Kyauk Sal
119	Sin Phyu Chat	Kyauk Sal
120	Mine Pan	Kyauk Sal
121	Shwe Gu Gyi Kyaung	Kyauk Sal
122	Mone Tie Kyaung	Kyauk Sal
123	Nat Nan Tawya	One Twin
124	Shwe Lat Hla	Mate Hti Lar
125	Hlaing Tat Phaya Gyi	Thar Si
126	Sal Paw	Pyaw Phwe
127	Thae Taw	Pyaw Phwe
128	Dakenaryone	Pyaw Phwe
129	Aung Chan Thar	Pyaw Phwe
130	Kyauk Sayit Kone	Tat Kone
131	Zaya Myae	Ya Mae Thin
132	Aung Tha Pyae	Lae Way
133	Ze Phyu Te	Lae Way
134	Sone Kone	Kyauk Pa Taung
135	Shwe Nadi	Kyauk Pa Taung
136	San Tawmi	Nyaung Oo
137	Buddha Wiharya	Myinn Chan
138	Moe Kaung	Myinn Chan
139	Kyaung Thit	Taung Thar

Sagaing Region

ID	School name	Township
201	Thukha Par La	Khin Oo
202	Lae Ti Won Tha	Di Pae Yin
203	Kan Lae	Di Pae Yin
204	Shwe Kyaung	Di Pae Yin
205	Min Ga Lar Kan Sawe	Kant Ba Luu
206	Zawthikaryone	Kant Ba Luu
207	Thu Nandar Yarma	Kaw Linn
208	Taung Paw Kyaung	Kathar
209	Aung Myae Yadanar Shwe	Sagain
210	Thuwanaparthardaryarmathite	Shwe Bo
211	Bo Tae	Watt Latt
212	Abayathukha	Ayartaw
213	Kantharyar	Ayartaw
214	Pyannyaryarma Yadanathiri	Yinmarpin
215	Damayakhitathukhawati	Kalay
216	Inndinekone	Kalay
217	Lattpanchaung	Kalay
218	Tharsi	Kalay
219	Ohnmontawywaroo	Palae
220	Tharthanarhitakaryi	Butalin
221	Thirimingalar	Myaung
222	Shwe Theintaw	Myinn Mu
223	Zinnyakanbawza	Sagain

Ayeyarwaddy Region

ID	School name	Township
301	Ywarlae	Nyaung Tone
302	Hlae Lann	Danuphyu
303	Maygawatipariyattisarthintite	Hinntharta
304	Thingazar	Myan Aung
305	Shwe Kyar yan	Kyankhin
306	Thirilinkarya	Kangyitaunt
307	Shwemaungtikyaung	Kangyitaunt
308	Bone Kyaw	Ngapuyin
309	Shwepyiaye	Mawlamyaing Kyune
310	AungThaetpanKyaung	Mawlamyaing Kyune
311	Damapazawtaryone Kyaung	Mawlamyaing Kyune
312	Kuyte Pi Kwine	Mawlamyaing Kyune
313	Thaview Chaung Kyaung	Daydayae
314	TharTanahita Kyaung	Daydayae
315	Yadanar Thiri	Bokalay
316	Maegin Yate Thar Kyaung	Bokalay
317	Dama Sakue Kyaung	Bokalay
318	Dama Thiri	Bokalay

Yangon Region

ID	School name	Township
401	Taw Tite	Minglar Done
402	Than Di Thu Kha	Shwe Hinn Si Yat Kwat
403	Myot Oo Kyaung	Dakone Myot Thit Myout Pine
404	Thiri Minglar Shwe Bone Oo	Dakone Myot Thit Taung Pine
405	Dama Ryakhita	Dakone Myot Thit Taung Pine
406	Aung Zamu Kyaung	Kat Muu
407	Mar Gu Kaung	Myot Ohot Kalar Pa
408	Nyein Chan Yate Myone Yar	Kyan Chen Kone
409	Ze Pin Wae Anount	Hlae Kuu
410	Kay Thara Yoaty	Than Hlaine
411	Kyaung Thit Kyaung	Thone Khwa
412	Pyin Ma Kone	Kha yan
413	Mya Theingi (Thi La Shain)	Minglar Done
414	Nateban Sate Oo Kyaung	Lae Kuu
415	Wi Yati San Thitar (Thi La Shain)	Than Hlain
416	Nan Oo Kyaung	Lae Kuu
417	Tat Oo Min Kone	Lae Kuu
418	Sei Yandar Kyaung	Yangon
419	Pan Ta Pwint Taung	Yangon
420	Thaung Gyi	Hlain Thar Yar

Bago Region

ID	School name	Township
501	Daki Na Yarma	Phayar Gyi
502	Min Ga Lar Yarma	Bago
503	Mahar Pruma shew Gu lay	Bago
504	Zayar Thiri ArthawKa	Bago
505	Tharsi Ywarthit Kyaung	Bago
506	Mahar Pyinar Batemam	Kawa
507	Mahar Nandar Yone	Yartar Shae
508	Thitsar Mam Aung Kyaung	Yartar Shae
509	Pa Tae Taung Kyaung	Taung Ngue
510	Waryone Lae Kyaung	Yartar Shae
511	Sopeka Yar San Pya	Pyi
512	Sate Ta ThuKa	Min Hla
513	Thar Tha Nar Aung Myae	Min Hla

Shan State

ID	School name	Township
601	Yae Haw Kyaung	Thee Paw
602	Kone Yone Kyaung	TheePaw
603	Sate Ta ThuKa Kyaung	Lar Shioe
604	Zay Yar Thue Kha Kyaung	Nan Khan
605	Shwe Taung Tan Kyaung	Taung Gyi
606	Dama Wei Du Kyaung	Taung Gyi
607	Kaung Saung Thar /Pyu Kaung	Phwe Khone

Chin State

ID	School name	Township
701	Kyaw Boat Kyaung	HarKar
702	Baho Kyaung	Ma Tu Pe

Thanintharyi Region

ID	School name	Township
801	Sandar Thein Gi Nunnar Kyaung	Htar Wai
802	Dak Khi Nar Yone Kyaung	Laung Lone
803	Dhammi Kar Yar Ma	Tanin Thar Yi
804	Yan Gyi Aung Kyaung	Kok Thaung
805	Khay Mar Thi Wun Kyaung	Kok Thaung
801	Sandar Thein Gi Nunnar Kyaung	Htar Wai
802	Dak Khi Nar Yone Kyaung	Laung Lone