7. SOCIAL DEVELOPMENT: HOUSEHOLD INFRASTRUCTURE, EDUCATION AND HEALTH

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The regional distribution of the availability of essential household infrastructure – first, the main sources of lighting and second, the proportion of households with mobile phones – is informative as it demonstrates the general level of infrastructure available to households and allows basic conclusions to be drawn about the extent of regional inequalities. Furthermore, lighting and mobile phones are both important preconditions for the socio-economic development of the households – e.g. lighting in the evenings allows children to learn or complete their homework; mobile phones allow social contacts to be maintained or negotiations with business partners to be undertaken.

There are large countrywide disparities in the provision of households with electricity for lighting. This basic infrastructure is provided to almost all households in the inner-city districts of Yangon, Mandalay and Nay Pyi Taw, although it is common knowledge that temporary power cuts are also frequent in these areas. Otherwise, high percentages of households with electricity for lighting are found only in Myitkyina, several regional cities and a few townships along the eastern border; in the central lowland of Myanmar 25-50% of all households have access to electricity for lighting. Considerable supply deficits are revealed by the household information for large parts of the rural region, the mountainous regions of Chin, Kachin, Shan and Kayin States, and the Tanintharyi Region. With less than 5% of all households accessing electricity for lighting, the greatest supply deficits are found in large areas of Rakhine State and Nagaland, in the central Shan State and in the townships of Yebyu, Dawai and Thayetchaung.

The situation concerning the availability of mobile phones is similar: almost all households in the inner city areas of Yangon, Mandalay and Nay Pyi Taw are apparently supplied. In reality, however, several people in one household share a phone while other individuals have access to a number of phones. This gives the impression of full coverage, but it is actually a statistical effect. In many regional cities and in several of the border regions of the country more than half the population owns a mobile phone. Large parts of Chin, Kachin, Shan and Kayin States and of the Sagaing and Tanintharyi Regions are characterised by severe undersupply. The greatest deficits exist in Rakhine State, in the south of Chin State, in large parts of the Sagaing Region including Nagaland, in parts of the eastern Shan State and in the east of Kayin State.

These obvious regional disparities represent a series of other inequalities in the supply of important infrastructure. They are important in terms of (1) national justice and the realisation or guarantee of household-related development opportunities, (2) countrywide regional solidarity, countering processes of marginalisation, and (3) preventing or reducing migration, especially in the wider areas of Yangon and Mandalay, as this could impact development there. The question of national justice and solidarity is therefore relevant to decision-making about whether priority is given to continuing to privilege the most populated regions or to reducing disparities by allowing the mountainous and minority regions to catch up on development – or whether a reconciliation of interests will be found.

Frauke Kraas and Aye Aye Myint
EDUCATION IN PRE-COLONIAL AND COLONIAL TIMES

Education has a long tradition in Myanmar, closely linked to its Buddhist heritage. In the area of present-day Myanmar – and its earlier predecessors – education has been established since at least the 11th century (Furnivall 1943, Cheesman 2003: 48). Prior to the establishment of a centrally administered national education system in the mid-19th century by the British colonial government of Burma, a traditional education system run by the Buddhist monks was thus already in existence. In the 19th century the literacy rate seems to have been comparable to that of Europe, and possibly even higher (Hillman 1946: 527); figures indicate that in 1886 the literacy rate was 85% (Ministry of Education 2009, cited by Gärtner 2011b: 7). A considerable proportion of children, far more boys than girls, received instruction in reading, writing and recitation in Buddhist monastic schools, where they were also fed and put to work. The importance of the monastic schools extended far beyond the provision of education: 'This system ensured widespread literacy, mitigated class distinctions by bringing rich and poor together and opened even to the poorest prospects of advancement to the highest posts. Although its primary function was to perpetuate among successive generations the principles of Buddhism, it was one cause for the stability and permanence of Burmese civilization' (Furnivall 1957: (h), cited by Gärtner 2011b: 2).

Under colonial rule, an education system on the British model was established in parallel to the traditional system; from 1890 onwards the Education Department sought to ensure universal schooling (Cheesman 2003: 52/53). In creating a local educational elite the main aim was to provide trained administration officials for British services; the system also resulted in a deliberate indigenisation of the administration by giving children of collaborating village headmen preferential access to the schools (Hillman 1946, Tin Cung 2011: 88/89). The founding of the first missionary schools in Mawlamyine, Yangon and Mandalay – by such denominations as the Lasallian Christian Brothers, the Methodists and the Anglicans – marked the emergence of higher education provision for the new elites, mainly in the cities. Education policy was also applied as an instrument of colonialism in the country's mountainous and peripheral regions with a view to converting people from their former beliefs to Christianity. The establishment of a health system and targeted regional development measures were tied in with this endeavour. The level of educational provision and opportunity improved for girls specifically (Chie Ikeya 2008).

The foundations of the higher education system were also laid during the British period. Rangoon College was founded in 1878; between 1904 and 1920 it was known as Government College and affiliated to the University of Calcutta (Hillman 1946: 530). As a result of the Rangoon University Act of 1920, Rangoon University was formed from the merger of Rangoon College and Judson College; it eventually combined six colleges.

After the end of the Japanese occupation, during which schools and universities were repeatedly closed and re-opened but eventually forced to a standstill (Hillman 1946: 532), the British government re-established the education system in 1945 under the newly founded Ministry of Education. After independence efforts focused on facilitating access to education for all sections of the population – an endeavour that in the face of significant financial
difficulties and political unrest was ultimately unsuccessful, especially in the peripheral regions. The Welfare State New Educational Plan of 1953 attempted to bring the school system under central control, but the private schools – including the mission schools – remained independent. In 1958 Mandalay Intermediate College was promoted to university status.

Following the coup d’etat by General Ne Win in 1962, the education system was nationalised, the missionary schools closed, and English banned as a language of instruction. ‘The Burmese Way to Socialism’, which had ultimately arisen from an anti-colonial stance, resulted in the state taking control of the education system. In 1964 numerous departments – including economics and medicine – were split off from the universities and became separate institutions. In 1970 some private schools, catering mainly for the well-off, were permitted to re-open (Gärtner 2011b: 5).

Nationwide resistance against the government and the mismanagement and under-provision for which it was responsible, its disregard of election results and its crushing of the protest movement (which had been strongly supported by students) led between 1988 and the early years of the 21st century to a temporary closure or in some cases ‘resting’ of the universities and relocation of the institutions to the urban peripheries. During this period teaching was often limited to short courses. The students were subsequently taught on new, predominantly smaller campuses outside the cities until they obtained their degree. The universities of Yangon and Mandalay took only post-graduate students. Between 1993 and 2004 the Universities of Culture in Yangon and Mandalay, the Theravada Buddhist Missionary University in Yangon, the Myanmar Maritime University in Thilawa and the Myanmar Aerospace Engineering University in Meiktila were newly established. From 1994 onwards the universities of Yangon and Mandalay were allowed to train PhD students; this authorization to hold examinations was later extended to a small number of other institutions, including the Yangon Institute of Economics and the Maritime University.

THE CURRENT EDUCATION SYSTEM

Today there is a system of national mandatory education under the 30-Year Long-Term Education Development Plan, which was implemented in 2001/02. The system requires pupils aged between six and sixteen to complete eleven years of schooling, consisting of five years of primary schooling (one year of kindergarten followed by four years of elementary school), four years of middle school and two years of high school leading to a school-leaving examination to qualify for university attendance from age 16 upward. In 2014/15, 187,327 primary, 69,212 middle and 28,817 high school teachers were teaching in 36,410 primary, 4,860 middle and 3,134 high schools. 5,166,317 pupils were being taught in primary, 2,542,830 in middle and 730,866 in high schools (MNPED 2015: 104).

To this day, monastic education plays a major role in providing schooling, mainly for children from underprivileged social groups and in remote and sparsely populated regions (Cheesman 2003, Lorch 2007 and 2008, Pyi Phyo Kyaw 2015, Lall 2016). Officially 12,111 novices and 5,571 nuns together with 115,658 boys and 85,767 girls were being taught at primary school level in the country’s monastic schools; the number of primary schools was put at 972, of which 208 – the majority – were in the Mandalay Region, 134 in the Yangon Region and 121 in the Ayeyarwady Region. Middle schools – a total of 557 nationwide – were attended by 10,458 novices, 5,844 nuns, 29,879 boys and 23,454 girls. Myanmar also has two monastic high schools, both in the Mandalay Region, attended by 3,455 boys and 2,025 girls (all figures: 2014/15; MNPED 2015: 113/114). Monastic education is needed because although attending a public school is free of charge in principle, school uniforms, books and other materials still have to be purchased. This poses a problem for many parents in rural regions specifically. The values of education, knowledge and reason are highly prized in Buddhism, and consequently, the population in general – often not just parents and grandparents but also the extended family and the village community – will concentrate all disci-
NUMBER OF PERSONS WITH EDUCATION

Proportion of persons with primary or higher education in the population aged 25 years and older 2014 by township (in %)

- >90 - 98.8
- 75 - 90
- >75 - 75
- >25 - 75
- 9.5 - 25

- Region/State boundary
- Township boundary

Number of persons >25 years with primary* or higher** education level 2014 by township**

2,845,311 (Yangon, YCDC)
762,117 (Mandalay, MCD)
571,184 (Nay Pyi Taw, NPDC)

Note:
* primary education: Primary School, Middle School, High School
** higher education: Institute, University/College, Postgraduate, Vocational Training, other
*** Persons >25 years in Yangon are the sum of the 31 townships of YCDC area, persons >25 years in Mandalay comprises the municipality townships and Pathein, Nay Pyi Taw persons >25 years are the sum of the eight townships of the larger territory.

Source: MoI 2015/MDA, Ministry 2014 (estimation)

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plinary efforts and economic resources in support of schooling. But despite private donations the monastic schools are ultimately underfunded (Lorch 2008), and as soon as they receive some support from the state, private donations fall (Pyi Phyo Kyaw 2015).

Similarly, education outside the governmental school system plays a key role in the predominantly Christian communities in the minority and mountainous regions (Lorch 2008: 164-167): many churches and church communities support and finance primary and secondary education. In rural regions, children – mainly in the 9th and 10th years of schooling – are sent to special tuition schools in the nearest large town or more distant cities so that they can be specifically prepared for the matriculation examinations. The high costs of this represent an enormous burden for many families in rural areas, since only a few children obtain scholarships.

The realities of school life in Myanmar have therefore to be understood against the background of the traditional system coexisting with a public system that has been reoriented after each change of political regime: Buddhism attaches great value to recitation, the verbatim repetition and retention of religious texts. Both under colonial rule and during the socialist period and martial law, a prime concern was the deliberate instrumentalisation of education for the purpose of instilling each system’s values. Societal hierarchies, obedience, discipline and knowledge priorities were bolstered through the ministerial administration, teachers, curricula, norms and practices. A complex web of interdependencies became established and hierarchies were reinforced. Education and schooling were already being instrumentalised in pre-colonial times and this intensified during the colonial era (Cheesman 2003). Sometimes this instrumentalisation occurs in the context of religious missionary work, for example via the ‘NaTaLa’ (National Races Youth Development Training Schools) schools in border regions and the Christian mission schools.

Provision of education and healthcare is inadequate in many rural areas; some places are without infrastructure of any sort (Lorch 2008: 155). Where there is no government education, community-based schools step in; the teachers often have no formal education (Lorch 2008: 162-163). Class size varies between up to 40 pupils in the cities and up to 60 in rural areas. Although the official statistics quote 28 (primary school), 37 (middle school) and 25 (high school) pupils per teacher (2014/15; MNPED 2015: 108), the reality is often quite different: in rural areas and in primary education, classes of up to 100 pupils are by no means uncommon. Many pupils leave school after a few years because their parents can no longer finance their education. Although the literacy rate is officially stated to be 94%, functional literacy is therefore estimated in some sources to be 53% (Taylor/Pederson 2005, cited in Gärtner 2011b: 1).

Lessons are teacher-centred, with teachers asking questions to which the textbooks contain the answers (Lall 2016). The relevant correct passages are read aloud by the pupils, copied out again at home, and most importantly, learned by heart (’rote learning’) so that correct answers can be given in the written examinations. In urban (not many rural) areas, the extensive learning material is covered quickly and without much discussion, with the result that pupils often require extra tuition in the afternoons and/or evenings. This is offered by the same teachers – in return for payment (Lall 2008 and 2016, Lorch 2008). Pressure on the pupils intensifies from the tenth grade onwards because the decisive ‘matriculation’ exam takes place at the end of the eleventh grade, and the pass grade in this examination is the basis for decisions about admission to university and the subject options that can be chosen. For revision purposes, from the ninth grade onwards pupils are assigned ‘guides’, i.e. pupils from higher grades, who mainly teach the memorisation techniques and strategies for efficient exam preparation; again, they require payment. The high schools with the best reputations select their pupils according to their scores at the end of the ninth grade; parents are expected to make substantial donations to the school and these are used to improve the equipment.
Compulsory subjects taught in public high school are Myanmar, English (reintroduced from 1981) and mathematics. In addition, pupils choose between a science track (including chemistry, physics and biology) or the humanities (including geography, history and economics). The grade point average achieved in the university entrance examination (the ‘matriculation’) determines which subjects can be studied at university (once the entrance examination has been passed).

In the minority areas, the problems of their peripheral location and hence of financing and ensuring comprehensive educational provision are exacerbated by additional ethnic and linguistic issues. While the importance of the Myanmar language as a national unity language is regarded from a national perspective as crucial for national integration, many minority group leaders see it as paternalistic and an obstacle to the strengthening of cultural and linguistic identity. Alongside the importance of Myanmar as a lingua franca, a good command of it is virtually essential for professional advancement in higher positions. Critics point out that learning Myanmar has disadvantages for the minorities, since it means that they must learn an additional language and leaves insufficient time for thorough learning of their mother tongues and dialects. The minorities’ Culture and Literature Committees usually assume responsibility for basic language teaching, often on the basis of informal volunteer-led weekend or summer school education (Lorch 2008: 168/169, Thein Lwin 2007 and 2011). The teachers – who as a result of the usual transfer and promotion system are regularly transferred to other parts of the country, but who often do not want to be transferred to the minority areas and are therefore undermotivated – are often neither adequately qualified nor pedagogically prepared for the particular requirements of teaching in minority areas.

Alongside the predominantly public schools that are governed by the Ministry of Education, there are numerous private schools, especially in the cities; the number is estimated at about 100 (Gärtner 2011b: 13); many concentrate on the primary school sector, while some even rely on volunteer work (Lall 2008: 137/138). A normal teaching day in private schools begins between 8 and 9 a.m. and is a full day, continuing until 3 or 4 p.m. While school fees are charged for teaching and meals, more time is devoted to covering the material to be taught, which avoids additional ‘tuition’ costs. Furthermore, in peripheral regions there
are private boarding schools for the surrounding region. These provide ninth and tenth grade pupils with full-day intensive training over a period of several months so that they attain good matriculation scores. The private schools – some of them now in foreign ownership – charge high fees, are not subject to any accreditation or quality control, devise their own curricula and are not licensed for the matriculation. Some private schools officially registered in the nearest related government high school so their students can sit for the government matriculation exam and their scores are recognized by the government. Other private schools are not registered in government high schools. Their main purpose is often to prepare pupils for study at a foreign university.

REGIONAL DIFFERENTIATION

The results of the 2014 Census reveal a very high rate of school education: nationally the proportion of the population who have received primary or more advanced education is usually more than 75%. In major parts of Shan State, however, the proportion is less than 25%, and in the peripheral parts of Kachin State and Nagaland it is less than 50%. Similar deficiencies in the completion of education (with percentages between 50 and 75%) occur in the remaining areas of Shan State, in southern Chin State and in parts of Rakhine State, Kayah State and Kachin State (MoIP 2015). A similar picture of geographical distribution emerges in relation to the absolute number of school leavers with primary and more advanced education: at township level there is a clear concentration in urban areas – especially in Yangon, Mandalay and Nay Pyi Taw. However, if one considers the regional distribution of the percentages of the population with primary and more advanced education categorised into four qualification levels – i.e. primary, middle and high school and other (including in particular diploma, university/college, postgraduate and vocational qualifications) – a more nuanced picture emerges. In the central lowlands, especially in Yangon and Mandalay and their wider environs, the high percentages of the population with primary school qualifications combined with the low percentages with high school and other higher (including university) qualifications indicate that there is a not insignificant bipolarity of qualification levels: the proportions of the population with on the one hand basic and on the other hand higher educational qualifications are high. By contrast, it is interesting to observe that in the minority and mountainous areas (clearly noticeable in Shan State and Chin State), alongside a comparatively high proportion of the population with primary school qualifications there is also
by comparison with the national average a relatively large proportion of the population with high school and higher educational status. As expected, an ‘urban effect’ is also apparent: within the townships of Yangon, Mandalay and Nay Pyi Taw the percentages of the population with higher educational qualifications are above average.

The literacy rate is very high overall for a developing country, being 89.5% for the population on average (92.6% of men, 86.9% of women; MoIP 2015). Considerable regional differences are found, however; for example, the rate in Yangon is around 96.6% compared to only 64.6% in Shan State. On national average, the rates for men are slightly above those for women; the lowest disparity between the genders amounts to 2.5% (in Yangon) while the highest is 16.6% (in Chin State) (Kraas/Spohner 2015).

HIGHER EDUCATION

After ten years of school education, students entering the colleges and universities are still very young. In consequence, Bachelor degree courses are at a level roughly equivalent to that of international high schools. However, the education system is currently undergoing a process of transition leading to a Kindergarten+12-year course of education prior to university entrance.

In recent years – despite all the shortcomings highlighted in the literature (Lall 2008 and 2016, Lorch 2007 and 2008) – there have been significant changes and improvements in the field of higher education. The number of higher education institutions (i.e. universities, degree colleges and colleges) in the country has risen steadily from 32 (1988) to the most recent figure of 171 (2016; MOE 2017: 35). New colleges and universities have been opened even in peripheral parts of the country (for example most recently in Hakha/Chin State). Both historically and in terms of current leading roles in research and teaching, the University of Yangon – the country’s top university – and the University of Mandalay are the peak educational institutions. In all, 653,475 students are registered at universities, degree colleges and colleges in Myanmar (2015; figures from the Ministry of Education). The University of Distance Education, with 306,987 enrolments, is the largest institution (2014/15; MNPED 2015: 119); it was formed from precursor institutions in 1992 and has two hubs, one for Lower Myanmar in Yangon (160,889 students in...
the other for Upper Myanmar in Mandalay (160,718 students; both figures: Ministry of Education). The country’s next-largest universities are Dagon University with 17,738 students, Yadanabon University with 16,497 and the University of Monywa with 10,390 students (2015; figures: Ministry of Education).

The country’s universities, degree colleges and colleges are widely dispersed across the regions: in each state or region there is at least one public university or college (Chin State was the last, acquiring Hakha Education College in 2017; before that it had only private colleges). Regionally, Yangon and Mandalay dominate the higher education scene: each has a number of universities, degree colleges and colleges. In addition, important trans-regional higher education locations are Monywa, Meiktila, Sagaing, Pakkoku, Taunggyi, Taungoo, Pyay, Pathin and Mawlamyine. The universities at Kalay, Myitkyina, Lashio, Dawei and Mawik provide regional Bachelor courses. There are also military training institutions, for example in Yangon, Nay Pyi Taw and Pyin Oo Lwin.

With regard to the range of subjects offered, the majority of universities offer subjects from the arts and sciences; at the same locations there are often also technological universities, which were under the control of the Ministry of Science and Technology before it merged with the Ministry of Education. Full universities have up to 20 departments; the majority offer a range of subjects that focuses on 12-14 disciplines. Institution-specific analysis reveals that there are also specialised universities, especially in the fields of medicine, economics and languages. These were or are often under the control of particular ministries such as the Ministry of Health, the Ministry of Forestry, the Ministry of Agriculture or the Ministry of Defence. Teacher training is provided via a number of education colleges that are dispersed throughout the country. Currently there are only a few universities that have close international links or stand out for their research achievements on any large scale.

**EDUCATION – BEYOND THE LEARNING CONTENT**

Myanmar has a developed and functioning multi-stage education system that is regionally widely dispersed and diversified and that over the decades has undoubtedly expanded and developed further. Efforts have been made to establish an education system that is accessible for all sections of the population and that is not polarised by a split between the government and private sectors and divided into ‘class societies’; during the last two decades there has also been no lack of attempts to adapt the education system to international standards (Gärtner 2011b: 16). However, since the early 1960s the education system has been increasingly eroded by political diktat, repeated restructuring and financial difficulties. It suffers as a result of little or no infrastructure replacement, the low pay of teachers and managers, limited international relationships and poor management and monitoring of quality standards. The situation is exacerbated further by the ‘no failure’ policy introduced in the mid-2000s and the preferential treatment of some groups that is inherent in the system.

However, Myanmar’s education system also has a series of structural peculiarities – which can be found in similar forms in other Asian countries. These must be taken into account in any comprehensive further development of the education sector (MOE 2017). The following are the main structural challenges that reflect the shortcomings of the system and are in need of reform (as comprehensively addressed in the new National Education Strategy Plan (MOE 2017; see also Kraas 2016a):

1. **Teacher training and teachers’ pay:** because of tight education budgets, the training of teachers usually takes the form of two-year intensive training programmes, for which the courses are heavily subscribed. Practical teaching experience is often gained by ‘learning by doing’. Since monthly salaries are very low in comparison to the private sector, in the vast majority of cases only women choose the teaching profession. Tuition classes that are provided outside the normal teaching
system and are paid for separately are a widespread source of additional income for school and university teachers (though one has to distinguish: not all teachers are offering tuition).

2 School accessibility and equipment: most schools are in one- or two-storey buildings with simple school benches and blackboards; in peripheral regions the pupils often sit on raffia mats. If not within walking distance, transportation to school must be organised by parents. This can mean long and difficult journeys, particularly in the rainy season. Even many universities that in the last ten years have been the subject of enormous infrastructure improvements (large, modern teaching and institute buildings, new accommodation for teaching staff and in some cases students) do not necessarily have technical equipment or an adequate electricity supply.

3 Teaching, learning and instructional methods: teacher-centred instruction involving rote learning and recitation of material are the standard practices; little time is scheduled for discussions or pupil presentations, although in recent years the Ministry has recommended and encouraged their introduction (student-centred teaching methods).

4 Costs of education: being the key to later professional success, education is valued highly – and significant amounts are spent on it. However, it is only possible to quantify the actual costs of educational success in any given instance by scrutinising them more closely: even though school attendance is free of charge, substantial costs are incurred – not just for school uniforms, books and materials (since 2016 books, material and school uniforms are free of charge in primary schools; MOE 2017: 36) but for other factors such as transport, tuition and social obligations – which many families find unaffordable. The problem of the additional costs that parents have to pay for tuition is often explained as an answer to the problem of the low salaries of teaching staff, but it is more complex than this: ‘Tuition as way of life apparently resulted from the coincidence of freedom for business in the framework of market economy and insufficient salaries, and it can be overcome only in the course of overall socio-economic development’ (Gärtner 2011b: 14). Tuition is a problem that is largely inherent in the system: many good students pay for their studies through tuition; when over the years they have acquired a good reputation as an effective tutor, many of them – attracted by the prestige, the good source of income and the freedoms of self-de-
terminated teaching – set up schools of their own that become a sort of parallel learning institution in their own right. They thus become employers and legitimise themselves on the basis of their own success. As far as university education is concerned, many families are unable to afford it for their children – partly on account of the relatively high costs of enrolment but largely because of the additional amounts that must be found for accommodation, food, study materials and direct and indirect payments for supervision and examination services. The potential loss of income during the course must also be taken into account.

5 Education as a complex system of intertwined practices: families have to invest a great deal of money in (notably: good quality) education. Children are under an obligation, once they are established in successful careers, to repay these investments to their parents, either financially or in the form of care-giving (not as obligation but as practise).

6 Education merits recognition: but a different kind of currency is also in use in the education system; namely, esteem and prestige. Teachers from all levels of education are highly esteemed personalities. They are shown deep respect, not just on special occasions like the annual ‘saya gadaw pwe’ gatherings, where pupils honour their teachers and present them with gifts. For the teacher-pupil relationship is a bond that is more than merely functional: teachers give guidance over a lifetime; their advice is sought after. To the same extent that teachers demonstrate accountability for their pupils’ education, pupils are deemed to owe lifelong recognition to good teachers, who are often cared for by a fraternity of former pupils in their old age.

In future there will, in addition to the above-mentioned challenges, be a number of issues to be addressed in connection with specific training – such as vocational training and capacity development in the field of social work (Buzzi/Hayes/Mullen ca. 2012, Costello/Taik Aung 2015). Another issue requiring attention is the provision of life-long training, especially in view of the fact that training requirements and levels will change as the country develops and the system must be able to adapt promptly. International trends indicate that this calls for cooperation between the different stakeholders in the education system, namely the government, teachers, parents and pupils (Lall 2016, Metro 2016). However, platforms for such exchange are as yet few and far between. So far the focus has been on changing the mindset of teachers and students. The role of teachers is vital: they ‘have great potential to act as agents of change. Teachers are, however, as a group, highly conservative and traditionalist, and tend to resist change’ (Han Tin 2008: 115; see also Metro 2016).

One of the crucial issues concerns the basic orientation of the future education system – whether it will involve significantly improving and strengthening the public education system or place a greater emphasis on the promotion of private education. While the former can in the medium to long term promote equal access to education and fair distribution of educational opportunities, supporting ‘edu-business’ with the involvement of the private sector can lead to more rapid development and faster opening up of the international education market (Lall 2008), but does so in a manner that favours a small educational and economic middle and upper class and disadvantages or even excludes the broad majority of the population.

Educational migration is becoming increasingly important. Many parents decide to move from the countryside to the city in order to take advantage of the better facilities for education and healthcare and an anticipated wider range of employment opportunities: ‘some rural families have shifted towards urban areas because of the belief – real or imagined – that more job opportunities exist in the cities’ (Han Tin 2008: 116). International educational migration, too, is becoming more important and is no longer only for the upper classes and the growing economic middle classes.

_Frauke Kraas, Aung Kyaw and Nay Win Oo_
| Ayeyawady   | \begin{tabular}{l} Bogalay University \\ Hinthada University \\ Maubin University \\ Nyaungmyan University \\ Pathin University \\ Bago University \\ Pyay University \\ Taungoo University \\ Kachin   | \begin{tabular}{l} Bhamo University \\ Palet \\ Myitkyina \\ Kayah   | \begin{tabular}{l} Letha University \\ Kake \\ Hpakan University \\ Magway University \\ Palauk University \\ Yenangyaung University \\ Mandalay University of Mandalay \\ Mandalay University of Foreign Languages \\ Mandalay University of Distance Education \\ Yaadatan University \\
\end{tabular} | \begin{tabular}{l} Mandalay Education College \\ University of Medicine \\ University of Dental Medicine \\ University of Nursing \\ University of Medical Technology \\ University of Pharmacy \\ University of Traditional Medicine \\ Mandalay Technical University \\ University of Computer Studies \\ Technological University \\ University of Arts and Culture \\ Co-operative College \\ Mandalay College \\ State Rangun Science University \\ Meiktila University \\ Meiktila University of Economics \\ Meiktila Education College \\ Myanmar Air Force Engineering University \\ Myanmar University \\ Myanmar University of Technology \\ Myanma University of Government \\ Pyin Oo Lwin University \\ Yamanthi University \\ Mon   | \begin{tabular}{l} Mawlamyine University \\ Mawlamyine Education College \\ Technological University \\ Computer University \\ Computer University \\ Yetang University \\ Aung Myat University \\ Pyay University \\ Taungoo University \\ Technological University \\ Myanmar University of Technology \\ University of Veterinary Science \\ University of Medical Technology \\ University of Veterinary Science \\ University of Medical Technology \\ University of Technology \\ University of Technology \\ University of Technology \\ University of Technology \\
\end{tabular} | \begin{tabular}{l} Shan University \\ Kengtung University \\ Lashio University \\ Prome University \\ Taunggyi University \\ Tanintharyi University \\ Yangon University \\
\end{tabular} |
SUBJECTS, NUMBERS OF STUDENTS AND STUDENT-TEACHER RATIO

HIGHER EDUCATION: SUBJECTS, NUMBERS
OF STUDENTS AND STUDENT-TEACHER RATIO

SOCIAL DEVELOPMENT

Subject of University, Degree College,
College 2015

Number of students 2015 and
Student-teacher ratio (students/teacher)

Source: UNESCO Institute for Statistics
2016

German-Myanmar Research Project
"The Bhubaneswar System of Myanma":
"Social Economic Atlas of Myanmar".

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Research, Mapping, Revival

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DEVELOPMENT OF THE HEALTH SYSTEM

Myanmar’s traditional health system underwent profound change during the British colonial period: ‘indigenous practitioners trained in the Ayurvedic tradition were deprived of status and credibility and replaced by medicine from the colonial authorities’ (Than Tun Sein et al. 2014: 32). But under the British, the first medical facilities and hospitals were built, hygiene and sanitation standards were introduced and vaccination programmes were established to protect the population from epidemics. The measures focused mainly on the towns and cities: coverage rarely extended to rural areas. After independence in 1948, the Pyidawtha Plan therefore specifically targeted health care for all population groups; the emphasis was on tackling endemic and epidemic diseases and reducing maternal and child mortality. After 1962 wide-ranging reform of the health sector and nationalisation of the health care system – including the previously private hospitals – significantly reduced the regional disparities in provision. However, investment and service provision declined after 1988, resulting in increasing erosion of services. Fundamental improvement in health care services was not achieved until after 2011 (on the five phases of development of the health system: Than Tun Sein et al. 2014: 32-36). Myanmar currently spends between just 2.0% (2001) and 2.4% (2011) of GDP on health, which places it among the Southeast Asian countries with the lowest expenditure on health care; only 1% of the population is insured under the social security scheme (Than Tun Sein et al. 2014: 61).

LIFE EXPECTANCY, BIRTH AND FERTILITY RATES, MORBIDITY AND MORTALITY

Life expectancy has risen from 55.0 years (1980; 56.5 for women and 53.7 for men) to 61.9
years (2000; 63.3 for women, 60.5 for men; Than Tun Sein et al. 2014: 15). According to the 2014 census, the crude birth rate was 18.9 per 1,000 population, with annual population growth of 0.89% in the period between 2003 and 2014. The total fertility rate has fallen from 6.1 (1965) to 2.3 (2015); in 2015 regional differences ranged from 1.7 in Yangon Region and 1.9 in Mandalay Region, 2.1 in Magway Region and 2.3 in Sagaing Region to 3.4 in Kayin State and 4.4 in Chin State (2015; MoHS 2016: 9, Nyi Nyi Latt et al. 2016: 124).

Mortality rates – especially infant and child mortality – are declining (infant mortality rate: 1990 – 47.0 per 1,000 live births, 2005 – 45.1). Of all under-five deaths, 87% occur in rural areas; infant mortality constitutes 73% of child mortality, and 70% of the infants who die do so in the first three months of life (all figures from Than Tun Sein et al. 2014: 24). Undernutrition and malnutrition in children is widespread, especially in rural areas, as in anaemia in women and children (MoHS 2016: 21-27).

Smallpox, leprosy, trachoma, poliomyelitis and iodine deficiency disorders have been eradicated in recent decades (Than Tun Sein et al. 2014: 110). Non-communicable diseases (NCDs) – principally cardiovascular diseases, malignant neoplasms and respiratory diseases – are the cause of around 40% of deaths; this percentage has been rising for some years. Among infectious and parasitic diseases, tuberculosis, diarrheal diseases and HIV/AIDS are the main causes of death (Than Tun Sein et al. 2014: 16). Despite considerable success in tackling malaria in recent years, the disease is still a major problem as a cause of sickness and death (8.1% of total mortality): 71% of the population live in malaria risk areas, 29% of them in high-risk areas. Changes in land use, environmental change, migration (in connection with land development, mining and road construction in peripheral areas), artemisinin resistance and vector adaptation encourage the spread of the disease (2008; Than Tun Sein et al. 2016: 21). Plasmodium falciparum is responsible for 68% of malaria cases and Plasmodium vivax for 23% (WHO 2012). Arsenic contamination of groundwater occurs in some parts of the country, including a number of townships in the Ayeyarwady Region (Mukherjee et al. 2006: 152).

The top five causes of disability-adjusted life years (DALY) are lower respiratory tract infections, tuberculosis, diarrheal diseases, HIV/AIDS and stroke; the significance of ischaemic heart disease, road injury and cirrhosis of the liver is also increasing (Than Tun Sein et al. 2014: 16). The top five risk factors are dietary risks, tobacco smoking, household air pollution from solid fuels, high blood pressure and high blood sugar (IHME 2010, quoted after
Number of subregional health centres 2014 (township level)

- >0 - 2,500
- >2,500 - 5,000
- >5,000 - 10,000
- >10,000 - 25,000
- >25,000 - 50,000
- >50,000 (max. 68,047)

Total population per subregional health centres 2014 (pessoa)

*number of subregional health centres in township cong. for region (5SIC: F) and township (MCIC: H)

NAY PYI TAW
Capital city
Region/sister capital
Region/state boundary
Township boundary

Sources: MoH 2015, MBAP 2015, MNU release April 2014 (healthnet)

German-Myanmar Research Project
"The Bi Urban Network System of Myanmar"
Social-Economic Atlas of Myanmar
Conception and Layout of the Atlas: Research Roads, Regime Spine

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Than Tun Sein et al. 2014: 18). The use of alcohol and drugs – including to an increasing extent amphetamine-type stimulants (ATS) – gives rise to significant problems, especially for the male population and in rural, peripheral and mining areas where the range of employment opportunities is limited; in addition, new, frequently young consumers in urban areas are turning to methamphetamines (Blickman 2011).

HEALTH-RELATED INFRASTRUCTURE

Health care is delivered via dual channels: there is a public and a private health system. Of the country’s 32,861 doctors, 14,050 work in the state service and 18,811 in the private service. In addition there are 3,413 dental surgeons, 32,609 nurses, 22,258 midwives, 1,033 indigenous medical practitioners and 4,980 veterinary doctors (2014/15; MoPF 2016: 38). Primary health care coverage is relatively comprehensive and is provided through regional and sub-regional health centres (RHCs/sub-RHCs), the majority of which were built between 1970 and 1990. Their availability, number and distribution in the parts of the country is based largely on the focal points of population. In the mountainous areas there is therefore a large number of facilities for a relatively small population, in order to ensure that the centres and sub-centres can be accessed even in areas with little transport infrastructure.

For the country as a whole, there are 61 doctors, 100 nurses and 7 midwives within the public health care system per 100,000 population, which places Myanmar below the ASEAN average (Nyi Nyi Latt et al. 2016: 128). The country has 1,056 public hospitals with a total of 56,748 beds, including two general hospitals with more than 2,000 beds, 55 regional/state/district hospitals with 200-500 beds and 330 township hospitals with 25-100 beds for curative and rehabilitative services. Facilities are distributed virtually countrywide, but the majority – including specialist clinics and by far the highest doctor-hospital ratios – are to be found in Yangon, Nay Pyi Taw, Mandalay and a few regional cities. The 2,199 facilities for preventive and public health services include 348 maternal and child health centres and 1,684 rural health centres. There are also 16 traditional medicine hospitals and 243 traditional medicine clinics (all figures: MoH 2014: 142-151). In the urban centres there is one midwife for more than 10,000 people; in the rural areas – especially in the more inaccessible parts of the country – the ratio is significantly higher. All the statistics quoted exclude the medical facilities operated by various ministries (such as the Ministry of Defence, the Ministry of Mines and the Ministry of Energy) for the use of employees and their families (Nyi Nyi Latt et al. 2016).

Medical Store at a Hospital
The availability of statistics relating to private medical facilities is limited; statistical analysis of the health infrastructure must therefore be treated with caution. Ni Nyi Latt et al. (2016: 126) quote figures for the country as a whole of 193 private hospitals, 201 specialist clinics, 3,911 private general clinics and 776 private dental clinics. The number of private medical institutions has been rising rapidly in the last few years, especially in the cities; frequently owned by foreign providers, they are often outposts of major hospitals in neighbouring Asian countries. In places where public health care provision is not comprehensive and there are no commercial private providers, community-based organisations and religious communities step in, usually in support of charity-oriented initiatives. Traditional medicine is important, especially in rural areas: nationwide 6,963 private traditional practitioners are registered (2014; Nyi Nyi Latt et al. 2016: 125) and there are also many healers who practice informally.

The public and private health care systems overlap in that many doctors working in public health care institutions also provide services in private institutions outside their official working hours, in order to boost their salaries and have access to better equipment (dual practice in off-hours). In cases of serious illness and when transport and treatment can be funded, patients are transferred to hospitals in other countries – usually hospitals in Thailand or Singapore that meet international standards and have specific specialist expertise.

A particular problem is the care of the sick and elderly when the family has no social security system in place (Knodel/Bussarawan 2016). With 2,898,000 members of the population aged over 65, the national dependency ratio is 8.8, but in some regions it is significantly higher – e.g. in Magway Region it is 10.9, in Rakhine State 10.7 and in Mon State 10.4 (MoPF 2016: 19).

**FINANCE AND TRAINING**

The funding of health care services presents a major problem. Household out-of-pocket payments (OOP) are extremely high at 75% (Than Tun Sein et al. 2014: 70). This means that patients must pay most, if not all, of the costs of diagnosis and treatment themselves, including the costs of drugs and hospital stays. Around a third of households cannot afford these costs or must borrow money and sell property to do so, thereby often driving the family into poverty and debt. Charities and donations from relatives, friends, neighbours and religious communities play an important part in meeting the costs of treatment.

Training is provided in 15 medical universities and 46 nursing and midwifery training schools; in addition, the military has its own training centres (Nyi Nyi Latt 2016: 128). Many doctors complete at least part of their training abroad; since they can often earn more money in the countries in which they train, this not infrequently results in the emigration of medical workers.

**CHALLENGES IN THE HEALTH SYSTEM**

The greatest challenge in improving the health system is that of reducing health inequities in relation to the availability of and access to health services across the country. In the light of the Constitution of the Republic of the Union of Myanmar of 2008 (Article 367: ‘Every citizen shall … have the right to health care’), this means that there is a particular need to improve provision for poor and disadvantaged population groups, minorities and the inhabitants of conflict-affected and hard-to-reach-areas in the peripheral and mountainous regions. In addition, adequate funding of health care provision must be ensured and the expansion of a basic social security system encouraged (Than Tun Sein et al. 2014: 155-170). An approach based solely on the support of foreign donors is beset with difficulties: ‘Challenges emerge when donor funding is managed by nonstate actors through numerous parallel programmes often not in line with government policy priorities and not sustainable in the long term’ (Than Tun Sein et al. 2016: 61; see also Morrison et al. 2013: 9).

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