Data Collection Survey on Education Sector in Myanmar

Final Report

February 2013

JAPAN INTERNATIONAL COOPERATION AGENCY

PADECO Co., Ltd.
IC Net Limited

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1. Background, Objectives and Schedule of the Study

1.1 Background of the Study

Education in Myanmar is now entering education reform period. This can be viewed after 2011 as the response by the education sector to various rapid reforms being undertaken by the new administration after the shift in power from the military regime over 50 years toward a democratic one. In the education sector, there are various discussions such as the preparation of Education Development Plan for the inclusion of the next phase of the National Development Plan, the restructuring of the current 11-year education system into 12-year one, decentralization of basic education administration, as well as the expansion of the autonomy of universities and promotion of private universities. In parallel, Development Partners (DPs) in Myanmar are rapidly increasing their movement. The Multi-Donor Education Fund has entered its second phase of support, in addition to the existing partners including UNICEF, EU, AusAID, DFID, Denmark and Norway, the Asian Development Bank (ADB) and the World Bank have also planned to participate in the process of CESR which is aimed at providing inputs into the mid-term education development plan. The pace of the reform being initiated by the government has been accelerating so much that proper care needs to be taken to ensure that the process of establishing DPs' support frameworks based on careful sector planning will not be left behind. Moreover, the movement to democratization and marketization in expectation of the 2015 ASEAN integration, coupled with an expected rush of foreign investors, seems to be bringing a structural change in demand for human resources.

1.2 Objectives and Schedule of the Study

The objectives of this survey are:

(1) Collect information and data on the education sector, including basic education, technical vocational education and training (TVET) and higher education (HE)
(2) Analyze and identify priority issues
(3) Design an effective approach to solve the priority issues

The Study Team conducted fieldwork three times in Myanmar from September 2012 to January 2013 and visited various educational stakeholders including government agencies, CESR working group members, development partners, universities and schools, private companies, and so forth. Additionally, as part of JICA's technical contribution to CESR in the fields of curriculum development and teacher education, the Study Team members supported CESR working group members as international consultants as well as providing collected information and analysis in higher education. The collected information has been analyzed and reported according to each subsector; (i) Education policy, administration, finance and legal system; (ii) Basic education including inclusive education and non-formal education; (iii) Teacher education and Curriculum; (iv) TVET, (v) Higher education; (vi) Demand-supply gap in industrial labor force and (vii) CESR analysis and aid-coordination.

It should be noted that the findings of this survey, notwithstanding the above objectives, do not constitute any indication of commitment by the Government of Japan regarding future financial assistance, which is subject to discussion between the two governments.

2. Summary Analysis on each Sub-sector and Thematic Issue

2.1 CESR (Comprehensive Education Sector Review, CESR) and Coordination

2.1.1 Progress of CESR

The MOE has decided to implement CESR in order to realize the development mid/long term Education Policy/Plan which new government is requesting. CESR with the support of DPs has been implementing three phases of activities: (i) Phase I as rapid assessment from July 2012 to January 2013; (ii) Phase II as detailed analysis from January 2013 to December 2013 and (iii) Phase III as sectoral planning from January 2014 to June 2014. In the Phase I, the following six prioritized areas are analyzed: (i) Quantitative Analysis; (ii) Legislation, Policy and Management Issues (Overarching & Basic Education); (iii) Legislation, Policy and Management Issues (TVET & Higher); (iv) Financing to the Education Sector; (v) Stakeholder Analysis/ Mapping of DP Partnership Structures and Mechanisms and (vi) Special Study on Textbook Supply. CESR aims at the final goal of Phase III to develop costed Education Sector Development Plan as well as capacity development of MOE through the CESR process. At present[1] due to the slow start of the Phase I, it is anticipated to adjust duration of each phase. The Study Team members supported CESR working group members as international consultants in the thematic issue of (i) curriculum and assessment and (ii) teacher education as well as providing collected information and analysis in higher education. Interim and final report of the study is also shared with CESR.

2.1.2 Coordination among DPs and the Government

Since the formal launch of Myanmar's reform process in March 2011, remarkable changes have been observed in the ways Development Partners (DPs) engage with the country. In recognition of the swift reform initiatives taken by the newly elected Myanmar government, major Western donor countries either eased or suspended various sanctions imposed on Myanmar and decided to resume and expand formal engagement with the new government. This led to successive announcements of resumption or expansion of in-country operations by numerous bilateral/multilateral aid organizations as well as by international non-governmental organizations in Myanmar, followed by the opening of their respective country offices and hiring of new personnel. Accordingly, commitments of support in the education sector by various DPs have significantly increased[2]. As of January 2013, a number of bilateral agencies (including AusAID, British Council, DFID, Danish Embassy, GIZ, Japanese Embassy, JICA, and Norwegian Embassy), multilateral agencies (including ADB, EU, UNESCO, UNICEF, and World Bank) and NGOs (including Nippon Foundation, Open Society Foundations, Save the Children and many others) have shown interest or committed to support education or human resource development in Myanmar.

Multi-donor Education Fund (MDEF) which several DPs[3] are funding starts Quality Basic Education Programme Phase 2 (QBEP 2: 2012-2015)[4] following QBEP 1 (2006-2011) and UNICEF continues to be the lead implementation agency.

[1] As of January 2013
[2] The Partnership Group for Aid Effectiveness (2012) Myanmar Donor Profiles
[3] AusAID、Denmark、DFID、EU、Norway
[4] UNICEF Myanmar and Myanmar Multi-donor Education Fund (2012) Myanmar Quality Basic Education Programme: Programme Design Document

Furthermore, as for coordination among DPs, many DPs who joined/showed interest in CESR formed the "Education Development Partner Coordination Group (DPCG)," a regular coordination meeting as well as established communication/coordination tools among DPs by mailing list. On the other hand, the Joint Education Sector Working Group (JESWG) was officially formed as policy dialogue among government counterparts and DPs.

2.2 Education Policy, Administration, Finance and Legal System

2.2.1 Education Law and Policy

The basic laws concerning education in Myanmar are Constitution of the Republic of the Union of Myanmar, 2008 (the 2008 Constitution), Basic Education Law of 1973, and the University Education Law of 1973. Basic Education Law sets out the structure of basic education which comprises five (5) years of primary level, followed by four (4) years of secondary level, and the specified duration of higher level education.

Major education policies in Myanmar have been implemented according to the 30-Year Long-Term Education Development Plan and the five-year medium-term plans that are formulated according to the Long-Term Plan. In November 2012, however, the MoE newly drafted National Education Promotion 20 Year Long Term Plan for 2011/12-2030/31, which corresponds to the Comprehensive National Development Plan for 2011/12-2030/31 formulated by Ministry of National Planning and Economic Development. Hereafter, this 20-year Long Term Plan will supersede the existing 30-year plan and the four new five-year plans will be prepared nationally and by each sector.

2.2.2 Prioritized Issues in Basic Education and Higher Education towards Development for the Next National Development Plan

Basic Education:

(1) Effective implementation of compulsory primary education
(2) Supervision of activities related to school retention at the lower and upper secondary levels
(3) Effective implementation of scholarship and stipend programs
(4) Effective implementation of CCA in basic primary level education
(5) Strengthening Early Childhood Care Development and education activities nationwide
(6) Awarding prizes to well-rounded students and forming scout and Red Cross Organizations in schools (changed from the pre-discussion item: Supplementary education activities in basic education sector)
(7) Participation of private sector in education services and systematic supervision of establishment of quality private schools
(8) Development of educational management and information system
(9) Upgrading Basic Education Curriculum and Syllabus to international level and developing Educational Assessment System accordingly
(10) Strengthening basic education teachers' competency and maintaining continuous professional teacher education development
(11) Implementation of Non Formal Education and continuous education
(12) Development of quality teaching learning environment in basic education schools

Higher Education:

(1) Organization of Faculty at the Universities under the Ministry of Education
(2) Development of Quality Assurance System and extension of cooperation with International Universities and Educational Organization
(3) Revision of University Entrance System

(4) Extension of Technical Vocational Education Trainings (TVET) through Human Resource Development Programme (HRD) in order to be able to produce medium skilled technicians and workers necessary for development of the Economic and Industrial sectors of the country within a short period of time
(5) Strengthening capacity of the University Management officers, teachers and laboratory technicians
(6) Strengthening capacity of the students
(7) Prescribing respective laws for the participation of private sector in education services
(8) Promotion of education to the international level
(9) Development of Good University Education Atmosphere
(10) Strengthening network with International Universities
(11) Upgrading English teaching
(12) Promotion of teaching International Relations, Laws and Economics
(13) Production of outstanding intellectuals in respective subjects through awarding local scholarships

2.2.3 Education Administration (Basic education)

The Basic Education Law specifies the key structure of basic education administration. Under the Ministry of Education, the government constitutes the Basic Education Council. The Council is responsible for planning and providing basic education, training teachers, promoting the qualification of teachers as well as other matters relating to curriculum, syllabus and textbooks among other activities, and to supervise basic education on behalf of the government (Clause 5).

2.2.4 Education Administration (Higher Education)

According to the 1973 Higher Education Law, National Education Committee is the central coordinating and oversight body for higher education. All the universities are publicly administered and supervised by 13 ministers under their respective areas.

2.2.5 Education Finance

The surge in education budget since 2011/12 is observed due to the government's position that prioritizes education development. Under the compulsory primary education policy, free provision of textbooks and exercise books, construction of new schools and renovation of existing school buildings, extensive application of CCA, and other activities are included in the budget for basic education. In higher education, in response to the upgrading of undergraduate programs from 3 to 4 years, expansion of university facilities is budgeted along with establishment of a new education college in Lasho. However, between 2007/8 and 2010/11, the education budget's share of the total budget was in the range of 7% to 10%. The share of the revised 2011/12 budget and the proposed budget for 2012/13 declined to around 5% as a consequence of a significant increase in the overall government budget during the same period. Although the budget for the education sector has nearly doubled between 2011/2012 and 2012/2013 in real terms, it still accounts for merely 1.43% of GDP, putting Myanmar far below the level that other neighboring Asian countries provide for education (between 2.7% and 5.9%).

The ratios of the unit cost among primary, lower secondary, upper secondary and university education is approximately 1.0 : 0.8 : 3.9 : 7.5. The upper secondary unit cost is around four times of that for primary education.

2.3 Basic Education

2.3.1 Overview

In Myanmar, children who reach five (5) years old are obligated to enter school. The school system is taken a 5-year primary program, a 4-year lower secondary education program and a 2-year upper secondary education program. In total, the government provides an 11-year general education program one year less than other ASEAN countries. In addition, the required school starting age of five years old is one year earlier in other ASEAN countries. There are four types of schools according the number of students and monastery schools which accommodate disadvantaged students are under the Ministry of Religious Affairs. TPR(Teacher Pupil Ratio) is 28.9 in primary school, 36.3 in middle school and 25.7 in high school, which shows higher rate in ASEAN countries. Study course in high school is elective (8 courses). Matriculation examination has two meanings: graduation exam of upper secondary school and entrance examination to higher education institutions and pass rate in 2010/11 was 35%.

2.3.2 Internal Efficiency and Educational Gap

It is observed that low repetition rate and high dropout, especially in grade 5. Teachers try to promote students in chapter/year-end examination by providing extra-study, on the other hand, there is a limitation of access to upper grade due to poverty reasons. There is wide difference of access to school between urban and rural, poor household and non-poor household. There are several issues such as difficulty of securing qualified teachers, retaining students in disadvantaged area. The Ministry of Boarder Affairs has a program to increase education opportunities for disadvantaged students.

2.3.3 Inclusive Education

Those schools which target to rehabilitate disabled children are under the Ministry of Social Affairs, Relief and Reconstruction. On the other hand, MOE provides inclusive education in regular classes at the middle school and high school levels. Students with social disadvantages usually study at monastery schools under the Ministry of Social Affairs. 37.1% of disabled students have received educational opportunities, implying that around two thirds of disabled individuals did not have an access to education. Among individuals who received an education, 66% graduated from primary school, 22% graduated from middle school and only 2% graduated from university.

2.3.4 Non-formal Education

Non-formal Education in Myanmar provides two programmes :(i) Basic Literacy Education (BLE) under the Department of Myanmar Education Research Bureau (MoE), and (ii) Continuous Education (CE) under Basic Literacy and continuous Education Division (MoE). BLE programme is to provide an opportunity to acquire basic skills: reading, writing and arithmetic (3Rs), for illiterate people and the literacy rate in Myanmar has reached 95.8%. CE targets those who dropped out of the public education programme as well as people who complete BLE. CE aims to help these individuals to acquire the ability to live in society and complete equivalency program to the primary school level. Equivalency program to middle school level is under preparation.

2.3.5 Thematic Issues: Teacher Education

This section provides necessary information of CESR Teacher Education Working Group after their format and analyzed according to management, access and quality. Major

findings are: (i) Teacher education systems in many ASEAN countries have been upgraded to 4 year degree programs for the teachers of all levels, but Myanmar provides a 1 year program for primary teachers, 2 years for Junior secondary teachers and 5 years for High school teachers; (ii) There is an absence of "Teacher Education Policy" in Myanmar; (iii) Lack of "Professional Standards" makes long-term goals of teachers unclear, which makes it difficult to figure out framework of continuing professional development (CPD); (iv) Head teacher's responsibility is limited and TEO/ATEO manage primary/lower secondary schools and no leadership trainings are provided; (v) Teacher support mechanisms are not adequate from the current education system in Myanmar; (vi) Guidance from the educational administration side is limited, because indicators used for regular school inspection by education offices are seldom related to class improvement; (vii) Teachers' evaluation system is not yet well established in terms of effectiveness of classroom teacher (e.g. Child Centered Approach, etc.); (viii) Not all states has EC and find it difficult to attend an EC after matriculation; (ix) INSET is organized on an ad-hoc basis and has not been institutionalized and (x) Myanmar language as medium of instruction might exclude the scope of participation of ethnic minorities in teacher education. It is only in UDNR that these minorities get the chance to become certified teachers.

2.3.6 Thematic Issues: Curriculum and Assessment

This section provides necessary information of CESR Curriculum and Assessment Working Group after their format. Major findings are: (i) Curriculum framework is not clearly defined although Basic Education Law prescribes the definition of curriculum, syllabus and textbook, only textbooks are materialized as official curriculum documents; (ii) The lack of regular curriculum review mechanism also impedes strategic reform. No laws and regulations regulates schedule and method of curriculum revision; (iii) Most textbooks have not been modified in 10 years. In addition, even in the past revision, textbooks were not fully revised, except for English and (iv) Currently questions in matriculation mainly assess lower level thinking skills.

2.4 Technical and Vocational Education and Training (TVET)

2.4.1 Overview

There is no Central Body or major institution which controls the whole TVET sector in Myanmar, and many ministries supervise TVET institutions in their respective fields. This is one of the important characteristics of the TVET sector in Myanmar. While the MoST supervises the largest number of TVET institutions and acts as the most important ministry, producing the required skilled laborers, technicians and specialists needed for the country, other ministries also manage their own TVET institutions in accordance with their management policies, rules and regulations. The types of institutions are varied. Some TVET institutions offer purely training for skill development and other TVET institutions could be regarded as Higher Education institutions and offer academic degrees as well as offering TVET courses. The TVET team of CESR temporary defined the TVET institutions in Myanmar as "TVET institutions which do not provide degrees" and AGTI course at TUs, GTCs and GTIs.

2.4.2 Education System and Finance

Graduates of middle schools are able to enter Government Technical High Schools (GTHS) and also students that pass the matriculation exam could have diverse options to study at both professional universities and non-professional universities in order to obtain AGTI diploma (AGTI courses will be increased to three years in AY2012/13). TVET institutions located in Yangon, Mandalay and the Central Dry Zone (CDZ) area tend to have few branches. On the other hand, TVET institutions under DTVE have many branches all over Myanmar following

the policy to provide TVET to both rural and urban areas. TUs were established in all regions and states except Chin state. Areas which do not have TUs do have GTCs or GTIs, and TVET institutions are located in all region and states. Furthermore, there is a large scale gap of institutions between the border and central areas. TVET institutions receive almost their entire budget from their respective ministries and are not left with much discretion. The expenditure has gradually increased but it does not reach to replace out of dated equipment.

2.4.3 Students and Teachers

There are many students in Civil Engineering, Electronic Engineering, Electrical Power Engineering, and Mechanical Engineering. TUs have the largest number of students (around 90%). 40% of students that entered 1st year of AGTI could not proceed to the 2nd year as a result of dropping out or failing the examination. Each Ministry recruit teaching staffs and only 7% of teachers hold a PhD but about 40% hold a Master degree.

2.4.4 Formulation of National Skill Standard

The TVET institutions under MoST mainly target individuals who have not yet been employed. Regarding the TVET for post-employment personnel, the various TVET institutions under other Ministries such as Ministries of Labour(MoL), Industry and Commerce provide TVET in their respective fields. Currently MoL initiate to establish the program of National Skill Standard Authority (NSSA) based on the outcomes of "The project of Enhancing Skills Recognition System in ASEAN."

2.4.5 TVET Institutions in Private Sector

There are many private institutions providing TVET in Myanmar, but these institutions are not registered as TVET institutions under one responsible ministry. Some institutions are registered as divisions of a mother agency, service provider companies, Non Profit Organizations (NPO) and so on. Some institutions do not provide academic degrees but some of these institutions are qualified under international authority such as the Building & Construction Authority.

2.5 Higher Education

2.5.1 Overview

HEIs are governed by various Ministries and coordination among various Ministries in this sector seems to be carried out chaired by the Minister of Education. However, collaboration and coordination among Ministries are not extensive. There is no documented policy or development plan illustrating an overall strategy on higher education sector development except 1973 "The Union of Burma University Education Law". The format of statistical data varies among the Ministries, making it difficult to collect data across Ministries and to analyze the higher education sector as a whole.

2.5.2 Higher Education Institutions

In 2012, there are 163 HEIs under 13 Ministries, about 40% of which, 66 HEIs, are administered by the MoE and 40% of which, 61 HEIs, are administered by the MoST. Aiming to improve access to HEIs, the government has increased the number of HEIs. As a result, currently at least one Arts and Sciences University, one Technological University and one Computer University exist in each State or Region.

2.5.3 Management and Finance in Higher Education Institutions

As different Ministry administrate their HEIs, financing to HEIs depend on each Ministry. In MoE, The Department of Higher Education (Lower Myanmar) (DHEL) located in Yangon and the Department of Higher Education (Upper Myanmar) (DHEU) located in Mandalay are two major departments that administer HEIs under the MoE. The former administers HEIs located in Lower Myanmar and the latter administers HEIs located in Upper Myanmar. The Department of Advanced Science and Technology (DAST) and the Department of Technical and Vocational Education (DTVE) located in Naypyidaw administer HEIs under the MoST. The former administers Technological Universities that can issue degrees and the latter administers GTCs and TUs that cannot issue degrees.

2.5.4 Entrance to HEIs and Degree System

A complicated mix of degrees, entry requirements, and years of schooling exists among the different categories of HEIs and their respective Ministries. Students who passed the matriculation exam (ME) are eligible to apply for a regular track or distance education track. The former track is offered according to higher score of ME but the latter track accept all applicants due to the non-quota. On the other hand there is no distance education track at the HEIs under the MoST. In order to obtain Master degree and Ph.D, each course set different pass. 77% of students at HEIs major in Arts and Sciences, among them more than 60% of students major in Arts and Sciences participate in the distance education track. Students enrolling in distance education occupy about half of total HEI enrollment. The proportion of students who major in economics, agriculture, marine, or forestry is very low.

2.5.5 Education and Research

Only assistant lecturers and above are allowed to give lectures to students. At least a Master degree is required to become an assistant lecturer and a Ph.D. is required to become an associate professor or above. Age limitation also affects the recruitment process of teaching staff for the MOE and MoST. To become a permanent teaching staff, a candidate must be below 35 years old to work for the MOE and below 28 years old for the MoST. Therefore, there is almost no career path to become a permanent teacher at HEIs for those who have obtained the required degrees and worked in the private sector for a long time. There is high percentage of teaching staffs who are young and have shortage of experience.

The allocation or rotation of teaching staff amongst HEIs is determined by the Ministry that administers the HEIs. Teaching staff are periodically rotated nationwide among the same kinds of HEIs under the Ministry. For example, teaching staff of TUs rotate among TUs and teaching staff of Arts and Sciences Universities rotate among Arts and Sciences Universities.

Evaluation of teaching staff is mainly determined by two factors, length of service and academic degrees held. Research achievements are basically not included as an evaluation criterion. Compared to the private sector, salary and additional allowance of teaching staff is not very high, especially in the science and technology related fields. Hence, it has been difficult to keep a sufficient number of well-qualified and experienced teaching staff in Technological Universities, since they can obtain relevant jobs in the private sector with better salary more easily than teaching staff in the Arts and Sciences Universities.

Research under HEIs has not been actively conducted. According to interviews as well as site observations at several HEIs, the Study Team presumes some of the reasons: 1) the lack of research experience because most Ph.D. holders have graduated from HEIs in Myanmar that

have not provided enough research opportunities and experience; 2) the lack of a research environment, such as sufficient research funding, equipment, research societies and journals; 3) the lack of motivation of teaching staff for research because research achievements are not considered as an evaluation criterion.

2.6 An Analysis of the Demand-Supply Gap in Industrial Labor Force

2.6.1 The Trend of Labor Market and Needs of Human Resource

Myanmar is at a stage of changeover of industrial structure from agricultural farming to industrialization. Foreign Direct Investment (FDI) to resource and energy is the largest in the industrial sector and the demand for human resources specializing in electrical engineering and mechanical engineering need to be increased. On the other hand, the impediments in Myanmar are the lagging physical and social infrastructure, especially low connectivity both within and beyond the national border. With this background, the development of infrastructure and connectivity must be accelerated. For these reasons, the demand for the human resources specialized in civil engineering will increase.

2.6.2 The Demand-Supply Gap in Industrial Labor Force

Regarding the demand-supply gap in industrial labor force, it can be said that there is excess supply in Myanmar's industrial labor force due to the fact that the growth of the number of new college graduates is larger than the growth of employment. However, if we consider quality of human resources in the analyses, the supply is insufficient to meet the demand in many types of industries or jobs at present. In manufacturing industry, the short supply of human resources which are of sufficient quality to meet the demand is caused by the fact that little importance is attached to the curriculum of institutions for vocational education and training or higher education to practical abilities which are required by companies. Hence, Myanmar's local companies in manufacturing industries tend to consider that in-company training for new employees is essential. Meanwhile, in nonmanufacturing industry, we can also find a short supply of human resources in information and technology areas. The drain of excellent human resources who have a lot of work experience to foreign countries makes this shortage of supply more serious; it appears to be the reality that many talented people leave for countries like Singapore. Even in the car repair industry, where companies are actively trying to hire new graduates, it is noted that there is the issue of short supply of people of sufficient quality to meet the needs from the demand side, caused by the low quality of existing vocational education and training institutions.

Finally, the growing demand for workers who have management skills both in manufacturing and nonmanufacturing industries has brought labor supply shortage issues to the fore. There are few human resources who can meet the needs for this area, which include a high level of English communication skills, sufficient knowledge of marketing, as well as wide experience in foreign markets. Because of this, it is urgent to increase the training opportunities for obtaining these skills in Myanmar. Furthermore, there is an increasing call for the expansion of the opportunity to receive foreign language education because the demand for people who have the ability to speak English as a business language is also high, particularly in the tourist industry.

3. Critical Issues and Recommendations for the Education Sector in Myanmar

3.1 Issues and Recommendations in education sector

Based on the information gathering and analyses by subsector in the preceding chapters, this chapter summarizes the critical issues and recommendations, classified in relation to access, quality and management of the education sector in Myanmar.

Critical Issues and Recommendation in each sub-sector is summarized in Table 3.1. The following set of constraints is also found as common to all subsectors.

Issues concerning access : There is a lack of access to educational opportunities for disadvantaged groups (such as children and youth from poor or minority families), and thus, limiting their chances for continuing education.

Issues concerning quality : School curricula and teachers competencies have not been adequately upgraded to respond to the changing needs of the labor market.

Issues concerning management : 1) The relevant ministries, administrative bodies and schools are not fully serving their intended functions without appropriate coordination and demarcation of roles to serve for a unified and coordinated purpose; and 2) The existing laws and policies have become outdated and do not reflect the realities of the education sector today.

The main causes which are identified from common issues can be narrowed down to the following five points:

1. The existing education laws (e.g. Basic Education Law of 1973, Agriculture, Technical and Vocational Education Law of 1983, and the University Education Law of 1973) have become outdated and do not reflect the realities of education today and do not adequately serve as a basis for policy decisions.

2. The past directives and measures implemented in the education sector are fragmented and uncoordinated (not based on a unified principle with linkages to different subsector issues).

3. The past educational policy decisions have not been based on evidence or analysis due to the lack of reliable and comprehensive statistics.

4. The current education system does not have a mechanism to continuously upgrade itself to respond to the needs of the world of work.

5. The relevant ministries, administrative bodies and schools are not fully serving their intended functions without appropriate coordination and demarcation of roles to contribute to a unified purpose.

Table 3.1: An Overview of Critical Issues for the Education Sector in Myanmar

Main Issues by subsector

Education Administration and Finance

- ✓ The current MoE's organizational structure is not conducive to accelerating the education reform and improvement.
- ✓ Unclear demarcation of roles among different government bodies and schools is leading to inefficiency and ineffectiveness in education administration.
- ✓ The existing education administration structure does not allow each locality to respond to their local needs.
- ✓ The existing education budget structure makes it difficult to clearly identify how much is actually spent and how much is needed for improvement at each level of education.
- ✓ Budget and financial resources to achieve long/mid-term educational policies are not clear.

	Access	Quality	Management
Basic Education	✓ There is a pattern in which enrolment rates decrease and dropout rates increase towards the upper grades. ✓ Access to educational opportunities for disadvantaged children (such as children from poor families and minority groups, and children with disabilities) is limited. ✓ Shortage of opportunities for dropped out children to continue education. ✓ Some regions do not have TTIs in their localities. ✓ Only limited training opportunities exist for minority students to become teachers . ✓ Shortage of teachers deployed to remote areas.	✓ School quality varies significantly across different types of schools. ✓ Contents of textbooks have not been revised for a long time. ✓ Classroom teaching practice is dominated by rote-learning. ✓ Lack of quality assurance mechanism for classroom environments. ✓ Professional competencies among teachers need to be strengthened. ✓ Teachers have difficulty upgrading their professional competencies. ✓ Teachers are not equipped with skills needed to deal with the realities in the classroom/school.	✓ The existing laws and policies have become outdated and do not reflect the realities of basic education today, and no unified policy and guideline. ✓ The existing school inspection system has become a formality without meaningful feedbacks for quality improvement. ✓ The head teachers do not have a clearly defined role and any support system on school management.
TVET	✓ There is a significant TVET enrolment gap across regions. ✓ There is a gap between supplies of TVET programs and demands for middle-level technical workers. ✓ There is a lack of financial support for economically disadvantaged students.	✓ Lack of opportunities for students to gain practical skills and experiences. ✓ Teaching and learning is centered on rote-learning of the fixed national curriculum. ✓ Capacity of teaching staff needs to be strengthened. ✓ Private companies have low confidence and trust in TVET institutions.	✓ The levels and contents of TVET programs vary significantly due to the lack of coordination across relevant ministries and institutions. ✓ The existing laws and policies have become outdated and do not reflect the realities of TVET today.
Higher Education	✓ There are very few HEIs that offer highly demanded courses and thus limiting access to these courses.	✓ Graduates from HEIs do not attain enough knowledge or skills directly applicable to the workplace. ✓ The capacity of teaching staff needs to be strengthened. ✓ Research functions at HEIs need to be strengthened. ✓ A Quality Assurance system needs to be developed.	✓ Lack of coordination across ministries administering HEIs. ✓ The existing laws and policies have become outdated and do not reflect the realities of higher education today. ✓ The policies need to be established based on evidences. ✓ The management capacity of HEIs needs to be strengthened. ✓ Degree system and structure vary among HEIs under different ministries and are complicated
Common Issuesz	✓ There is a lack of access to educational opportunities for disadvantaged groups (such as children and youth from poor or minority families), thus, limiting their chances for continuing education.	***Common Issues*** ✓ School curricula and teacher competencies have not been adequately upgraded to respond to the changing needs of the labor market.	***Common Issues*** ✓ Relevant ministries, administrative bodies and schools are not fully serving their intended functions without appropriate coordination and demarcation of roles to serve for a unified and coordinated purpose. ✓ Existing laws and policies have become outdated and do not reflect the realities of the education sector today.

Core Issues

1. The existing education laws have become outdated.
2. The past directives/measures implemented in the education sector have been fragmented and uncoordinated.
3. Educational policy decisions have not been based on evidence or analysis due to the lack of reliable and comprehensive statistics.
4. Current education system does not have a mechanism to continuously upgrade itself to respond to the needs of the world of work.
5. Relevant ministries, administrative bodies and schools are not fully serving their intended functions without appropriate coordination and demarcation of roles to contribute to a unified purpose.

Overall Recommendation for Education Reform in Myanmar

To formulate evidence-based policy decisions while ensuring coherence in major reform agenda (including a school system reform, a curriculum reform as well as decentralization).

3.2 Recommendations for the Education Reform in Myanmar

Finally, this section presents the set of recommendations for the education reform in Myanmar, specifically to address the core issues identified in the previous section.

Core Issues	Recommendations
1. The existing education laws have become outdated and do not reflect the realities of education today and do not adequately serve as a basis for policy decisions.	✓ To revise Basic Education Law, Agriculture, Technical and and Vocational Education Law and University Education Law at the earliest opportunity ✓ To review systemic, policy issues in a comprehensive manner in the process of CESR, especially urgent attention should be paid to the school system reform (e.g. a comparative analysis of 6-3-3 and others systems) ✓ To establish reliable and comprehensive education statistics to analyse and capture actual needs. ✓ To review existing plans and policy documents to ensure no policy gaps exist ✓ Based on the above, to prepare a comprehensive government policy framework as the basis for the costed education sector plan, which is to be developed through CESR ✓ To ensure that the above costed education sector plan is consistent with the government policy framework
2. The past directives and measures implemented in the education sector are fragmented and uncoordinated (not based on a unified principle with linkages to different subsector issues).	
3. The past educational policy decisions have not been based on evidence or analysis due to the lack of reliable and comprehensive statistics.	
4. The current education system does not have a mechanism to continuously upgrade itself to respond to the needs of the world of work.	✓ To upgrade the existing curricula and examinations by shifting the focus from knowledge acquisition to critical thinking and problem-solving skills in order to better respond to the needs of today's labor market. ✓ To upgrade the existing TVET and higher education programs by increasing opportunities for practical experiences through collaboration with private companies to make them more relevant to the world of work. ✓ To develop and implement a continuous capacity development program for teachers/teaching staff to enable them to teach upgraded curricula and programs.
5. The relevant ministries, administrative bodies and schools are not fully serving their intended functions without appropriate coordination and demarcation of roles to contribute to a unified purpose.	✓ To consolidate a unified education policy and guideline in Myanmar. ✓ To redefine roles and responsibilities of different government bodies base on the unified policy and to reorganize the administrative structure accordingly ✓ To develop and implement a continuous capacity development program for each staff according to their roles and responsibilities and to assess their performance against a set of quality standards.

In summary, for Myanmar to overcome current challenges and to proceed with the education reform, the important key is to formulate evidence-based policy decisions while ensuring coherence in major reform agenda (including a school system reform, a curriculum reform as well as decentralization).

Data Collection Survey on Education Sector in Myanmar

Final Report

February 2013

JAPAN INTERNATIONAL COOPERATION AGENCY

PADECO Co., Ltd.
IC Net Limited

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Exchange Rate: 1MMK (Kyat) = 0.11 Japanese Yen
(15 February 2013)

Map of Myanmar

Source: Myanmar Information Management Unit (http://themimu.info/State-Region/Country%20wide/index.php, Retrieved on February 6, 2013）

Abbreviations and Acronyms

ADB	Asian Development Bank
AGTI	Associate of Government Technical Institute
ASEAN	Association of South-East Asian Nations
ASSA	ASEAN Skill Standard Authority
ATEO	Assistant Township Education Officer
AUN/SEED-Net	ASEAN University Network/ Southeast Asia Engineering Education Development Network
AusAID	The Australian Agency for International Development
CapEFA	Capacity Development for Education for All
CAPS	Continuous Assessment and Progression System
CCA	Child Centered Approach
COE	Center of Excellence
DEO	District Education Office
CESR	Comprehensive Education Sector Review
C/P	Counterparts
DAST	Department of Advanced Science and Technology
DBE	Department of Basic Education
DFID	Department for International Development
DEPT	Department of Educational Planning and Training
DHE	Department of Higher Education
DP	Development Partner
DTVE	Department of Technical and Vocational Education
EC	Education College
EFA	Education for All
EMIS	Education Management Information System
EU	European Union
FDI	Foreign Direct Investment
GDP	Gross Domestic Product
GIZ	Gesellschaft für Internationale Zusammenarbeit
GNP	Gross National Product
GoM	Government of Myanmar

GTC	Government Technological College
GTHS	Government Technical High School
GTI	Government Technical Institute
GoM	Government of Myanmar
HE	Higher Education
INGO	International Non-Governmental Organizations
IMF	International Monetary Fund
ITC	Industrial Training Center
IOE	Institute of Education
ILO	International Labour Organization
JETRO	Japan External Trade Organization
JESWG	Joint Education Sector Working Group
JAT	Junior Assistant Teacher
KOICA	Korea International Cooperation Agency
MDEF	Multi-donor Education Fund
MIMU	Myanmar Information Management Unit
MoE	Ministry of Education
MoL	Ministry of Labour
MoST	Ministry of Science and Technology
MoSWRR	Ministry of Social Welfare, Relief and Resettlement
NFE	Non Formal Education
NGO	Non-Governmental Organizations
NSSA	National Skill Standard Authority
PAT	Primary Assistant Teacher
QBEP	Quality Basic Education Programme
REO	Regional Education Office (Officer)
SEO	State Education Office (Officer)
SCCA	Strengthening the Child Centered Approach
TEO	Township Education Office (Officer)
TU	Technological University
TVET	Technical Vocational Education and Training

UCS	University of Computer Studies
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund

1. Introduction

1.1 Background of the Study

Education in the Republic of the Union of Myanmar (Myanmar) has been undergoing a drastic transition period. The Government of Maynmar (GoM) has placed more emphasis on education as a result of the urgent need to develop educational administration, governance and outcomes, especially in the context of the transition to a market economy and ASEAN integration.

Simultaneously, international assistance in the education sector has been accelerating in Myanmar and the framework of educational assistance has begun to be discussed through the Comprehensive Education Sector Review (CESR).

Given this background, this survey aims to provide baseline knowledge for Japan International Cooperation Agency (JICA) to capture the sector-wide situation and identify an "effective approach" to the education sector in Myanmar, while CESR is being undertaken. The survey intends to supplement and support CESR within the broader framework of partnership between the Ministry of Education (MoE) and Development Partners (DPs) for successful completion of CESR.

1.2 Objectives of the Study

The objectives of this survey are:

(1) Collect information and data on the education sector, including basic education, technical vocational education and training (TVET) and higher education (HE)
(2) Analyze and identify priority issues
(3) Design an effective approach to address the priority issues

It should be noted that the findings of this survey, notwithstanding the above objectives, do not constitute any indication of commitment by the Government of Japan regarding future financial assistance, which is subject to discussions between the two governments.

1.3 Fieldwork Schedule

The Study Team conducted fieldwork three times in Myanmar from September 2012 to January 2013; the 1st fieldwork was conducted between 16 September and 9 November 2012, the 2nd fieldwork from 28 November to 20 December 2012, and the 3rd fieldwork from 10 to 26 January 2013. In addition, local researchers followed up on data collection in between the above fieldwork periods.

The Study Team visited various educational stakeholders including government agencies, the CESR Working Group members, DPs, universities and schools, private companies, and so forth as shown in the table below. Additionally, as part of JICA's technical contribution to CESR in the fields of curriculum development and teacher education, the Study Team members supported the CESR Working Group members as international consultants as well as providing collected information and analysis in higher education.

Table 1-1: Field Work Schedule

Date	Schedule	Region
17 September (Mon)	JICA Myanmar Office	Yangon
18 September (Tue)	CESR Chief Technical Advisor and representatives	Yangon
19 September (Wed)	Department of Advanced Science and Technology (DAST), Ministry of Science and Technology (MoST)	Naypyidaw
	Department of Technical and Vocational Education (DTVE), MoST	Naypyidaw
20 September (Thu)	Department of Basic Education 3 (DBE 3), MoE	Yangon
	Ministry of Cooperatives	Naypyidaw
	Ministry of Industry	Naypyidaw
	Ministry of Commerce	Naypyidaw
21 September (Fri)	Yangon Technological University (YTU)	Yangon
	University of Computer Studies Yangon	Yangon
24 September (Mon)	Technological University (Thanlyin)	Yangon
	Ywarma Government Technical High School	Yangon
25 September (Tue)	Yankin Skilled Training Centre	Yangon
26 September (Wed)	DFID	Yangon
27 September (Thu)	CESR TVET	Yangon
	CESR Higher Education, CESR Assistant Task Manager	Yangon
	CESR Chief Technical Advisor	Yangon
	JETRO Yangon	Yangon
30 September (Sun)	World Bank	Yangon
1 October (Mon)	Department of Myanmar Education Research Bureau, MoE/Joint Secretary of CESR Steering Committee	Naypyidaw
	Department of Basic Education 2 (DBE 2), MoE	Mandalay
	Industrial Training Centre Mandalay	Mandalay
	Mandalay Education College	Mandalay
	Sagaing Technological University	Sagaing
	Sagaing Institute of Education	Sagaing
2 October (Tue)	Department of Educational Planning and Training (DEPT), MoE	Naypyidaw
	DAST, MoST	Naypyidaw
	Department of Social Welfare, Ministry of Social Welfare, Relief and Resettlement (MoSWRR)	Naypyidaw
	Technological Research Department Pyin Oo Lwin	Mandalay
	Primary School, Naga	Mandalay
	Branch of Secondary, Mantan	Mandalay
	Amarapura Township Education Office	Mandalay
	University of Technology (Yatanarpon Cyber City)	Mandalay
	Mandalay Education College Practicing Middle School	Mandalay
3 October (Wed)	Myanmar Scientific and Technological Research Department, MoST	Yangon
	Statistics, DEPT, MoE	Naypyidaw
	Admin & finance, DEPT, MoE	Naypyidaw
	Department of Education and Training, Ministry of Border Affairs	Naypyidaw
	Technological University (Mandalay)	Mandalay
	Government Technical High School (Kyaukse)	Mandalay
4 October (Thu)	British Council	Yangon
	ILO	Yangon
	CESR Teacher Education	Yangon
	Department of Higher Education (Lower Myanmar),	Yangon

Date	Schedule	Region
	MoE	
	Ministry of Religious Affairs	Naypyidaw
5 October (Fri)	CESR Task Manager, CESR National coordinator	Yangon
	JICA Myanmar office	Yangon
	University of Yangon	Yangon
	Myanmar Information Management Unit (MIMU)	Yangon
8 October (Mon)	UNICEF	Yangon
	CESR International Coordinator	Yangon
	Thinggandun Township Education Office	Yangon
	JICA Myanmar office	Yangon
	Department of Higher Education (Upper Myanmar), MoE	Mandalay
	Mandalay Technological University (MTU)	Mandalay
9 October (Tue)	Yangon Institute of Education	Yangon
	UNESCO	Yangon
	Department of Basic Education 1 (DBE 1), MoE	Yangon
	Mandalay University	Mandalay
	Yadanabon University	Mandalay
	Bago Regional Education Office	Bago
10 October (Wed)	Saetanar	Yangon
	No. 3 Basic Education High School, Dagon Township (Inclusive Education)	Yangon
	Alpha Info-tech Co., Ltd	Mandalay
11 October (Thu)	Cherry Garment Factory	Yangon
	Capital Automobile Ltd.	Yangon
	CESR Teacher Education	Yangon
	YTU	Yangon
12 October (Fri)	DBE 3, MoE	Yangon
	The Republic of the Union of Myanmar Federation of Chambers of Commerce & Industry (UMFCCI)	Yangon
	Myanmar Marketing Research Development Co., Ltd	Yangon
	CESR Teacher Education	Yangon
15 October (Mon)	West Yangon Technological University (WYTU)	Yangon
	Save the Children	Yangon
16 October (Tue)	SEEDS Asia	Yangon
	Union of Myanmar Travel Association	Yangon
	United Machinery Group Myanmar	Yangon
	AusAID	Yangon
17 October (Wed)	CESR Curriculum	Yangon
	Htoo Group of Companies	Yangon
	SMART group of companies (Technical Service)	Yangon
18 October (Thu)	Fortune Elevator Company	Yangon
	SOE Electric & Machinery Co., Ltd.	Yangon
	Department of Examination Board, MoE	Naypyidaw
19 October (Fri)	Statistics, DEPT, MoE	Naypyidaw
20 October (Sat)	CESR Higher Education Kick-off meeting	Yangon
23 October (Tue)	Myanmar Egress	Yangon
	YTU	Yangon
24 October (Wed)	JICA Myanmar Office	Yangon
26 October (Thu)	CESR Curriculum	Yangon
1 November (Thu)	CESR Curriculum	Yangon
5 November (Mon)	No. 17 Basic Education Primary School, Bahan	Yangon

Date	Schedule	Region
	Township	
	No. 29 Post Primary School, Thingangyun Township	Yangon
6 November (Tue)	Basic High School, Inn Ta Kaw Township	Bago
	No. 3 Basic Education High School, Bago	Bago
8 November (Thu)	Curriculum Workshop	Yangon
16 November (Fri)	Basic High School, Payargyi, Bago	Bago
	No. 1 Basic Education High School, Bago	Bago
	No. 5 Basic Education Middle School, Bago	Bago
30 November (Fri)	CESR Chief Technical Advisor	Yangon
1 December (Sat)	GIZ	Yangon
3 December (Mon)	CESR, Higher Education Development Partners and Open Society Foundations	Yangon
	DBE 3, MoE	Yangon
	JICA Myanmar office	Yangon
4 December (Tue)	Nyaung Thone Pin Post Primary School, Thanlyin Township	Yangon
	Kyaut Yae Twin Basic Education High School (Branch High School), Thanlyin Township	Yangon
	CESR Task Manager, CESR National coordinator	Yangon
	CESR Higher Education	Yangon
5 December (Wed)	Basic Education Middle School, Pyan Htaung Kyaung, Thanlyin Township	Yangon
	No. 17 Basic Education Primary School, Bahan Township	Yangon
	Bahan Township Education Office	Yangon
	Myanmar Imperial College	Yangon
6 December (Thu)	Thar Tha Na Mar Ma Ka Monastic Education Primary school	Yangon
	UNICEF	Yangon
7 December (Fri)	Information Sharing Workshop for Data Collection Survey on Education Sector in Myanmar	Yangon
8 December (Sat)	Curriculum Workshop	Yangon
9 December (Sun)	Chindwin College, Yangon	Yangon
10 December (Mon)	DBE 3, MoE	Yangon
	Yankin Education College	Yangon
11 December (Tue)	Myanmar Noble College	Yangon
	Pyan Nya Myae Monastic Post Primary School, Mingalardon Township	Yangon
	Pon Nya Wi Thut Ti Monastic Primary School, Mingalardon Township	Yangon
	Ministry of Labour	Yangon
	STI	Yangon
12 December (Wed)	High School Inntaing, Hlegu township (Pre-vocational school)	Yangon
	Education Sector DP Group Meeting	Yangon
	DBE 1, MoE	Yangon
	DBE 3, MoE	Yangon
	CESR Curriculum	Yangon
	CESR TVET	Yangon
	CESR international consultants of primary education and secondary education	Yangon
	KOICA	Yangon

Date	Schedule	Region
13 December (Thu)	Myanmar Industrial Association	Yangon
	UNDP	Yangon
	UMFCCI	Yangon
	CESR Teacher Education	Yangon
	CESR Curriculum	Yangon
	YTU	Yangon
14 December (Fri)	CESR Round Table for TVET	Yangon
	Local Training and Teacher Training, DEPT, MoE	Naypyidaw
	Ministry of Industry	Naypyidaw
	DAST, MoST	Naypyidaw
15 December (Sat)	DEPT, MoE	Naypyidaw
17 December (Mon)	CESR Teacher Education	Yangon
	CESR Curriculum	Yangon
	Basic Education High School (Brach), Kawt Yin (Lower), Hpa An Township	Kayin
	Basic Education Primary School, Taung Ka Lay, Hpa An Township	Kayin
	Basic Education Primary School (Affiliated) Taung Gone, Hpa An Township	Kayin
	Technological University (Hpa-an)	Kayin
	Computer University (Hpa-an)	Kayin
	Government Technical Institute (GTI), Wakema	Wakema
18 December (Tue)	Centre for Vocational Training	Yangon
	Taungkalay Monastic School, Hpa An Township	Kayin
	Hpa-an University	Kayin
19 December (Wed)	Kabar services. Co. Ltd	Yangon
	CESR Curriculum	Yangon
20 December (Thu)	JICA Myanmar Office	Yangon
14 January (Mon)	University for Development of National Races	Sagaing
15 January (Tue)	No 2 Basic Education High School (Branch), Pakokku Township and the hostel for students	Magway
16 January (Wed)	Taung Za Lat Monastic Primary School, Pakokku Township	Magway
	Pakokku Township Education Office	Magway
17 January (Thu)	Roundtable Discussions on Preliminary Findings from CESR Phase 1 Rapid Assessment Studies on Post-Primary Education Subsectors	Yangon
18 January (Fri)	Admin & Finance, DEPT, MoE	Naypyidaw
	Director General, DEPT, MoE	Naypyidaw
22 January (Tue)	JICA Myanmar Office	Yangon

1.4 The Study Team

The Study Team, headed by Dr. Norio Kato, is comprised of nine Japanese experts and five local researchers as shown in the table below.

Table 1-2: Study Team Members

	Title	Name
1	Team Leader/Basic Education Sector Analyst	Dr. Norio Kato
2	Deputy Team leader/Teacher Education and Management Specialist (Basic Education)	Mr. Takashi Soma
3	Curriculum and Textbook Specialist (Basic Education)	Mr. Ryuichi Sugiyama
4	Higher Education Specialist	Ms. Midori Ozawa
5	Technical and Vocational Education and Training Specialist	Mr. Chiko Yamaoka
6	Industry and Labor Market Analyst	Prof. Dr. Keiichi Ogawa
7	Educational Administration and Finance Specialist	Prof. Kazuhiro Yoshida
8	CESR Analysis and Aid Coordination Specialist	Ms. Naoko Kitadate
9	Education Information Analyst	Ms. Kanae Kawashima
10	Researcher	Ms. Zin Min Lwin Tun
11	Researcher	Ms. Sandar Kyaw
12	Researcher	Ms. Aye Thinzar Aung
13	Researcher	Ms. Ingyin Htun
14	Researcher	Mr. Lin Htet Oo

2. Education Policy, Administration, Finance and Legal System

Education in Myanmar is entering a major transition period. This can be viewed as the response by the education sector to various rapid reforms being undertaken by the new administration after the shift in power from the military regime toward a democratic one in 2011. At present, each sector is engaged in earnest discussions in preparation for the next phase of the National Development Plan. In the education sector, in particular, there are several ongoing debates about bold and rapid reforms, including the restructuring of the current system of five years of primary education, followed by four years of lower secondary and further two years of upper secondary education (5+4+2 system) into either the 6+3+3 system or the 5+4+3 system, as well as the decentralization of basic education administration. Higher education reforms on the agenda include expansion of the autonomy of universities and promotion of private universities.

In parallel, the geopolitics of DPs in Myanmar is likely to change considerably. The Multi-Donor Education Fund has entered its second phase of support for the Myanmar Quality Basic Education Program (2012-2015). In addition to the existing partners including UNICEF, EU, AusAID, DFID, Denmark and Norway, the Asian Development Bank (ADB) and the World Bank have also participated in the process of CESR which is aimed at providing inputs into the mid-term education development plan.

While the pace of the reforms being initiated by the GoM has been accelerating, proper care needs to be taken to ensure that the process of establishing DPs' support frameworks based on careful sector planning would not be left behind. Moreover, the movement to democratization and marketization in expectation of the 2015 ASEAN integration, coupled with an expected rush of foreign investors, is expected to bring about a structural change in demand for human resources.

Owing to the above context, education in Myanmar has become a dynamic policy area, and the analyses of education administration and finance need to be understood in such a context.

2.1 Basic Laws Related to Education

The basic laws concerning education in Myanmar are Constitution of the Republic of the Union of Myanmar of 2008 (the 2008 Constitution), Basic Education Law of 1973, and the University Education Law of 1973. The main gists of these laws are presented in the following sections.

2.1.1 The Constitution of 2008

The fundamental law of Myanmar is the constitution of 2008, whose original text is in Myanmar. This constitution marked a significant change from the previous constitution that was the Constitution of the Socialist Republic of the Union of Burma promulgated in 1974 (the Constitution of 1974), and laid the foundation for advancing democracy under the new regime. The constitution of 2008 describes obligations of the Union regarding education and the rights of all Myanmar citizens to an education.

The obligations of the Union are set forth in Clauses 22 and 28:

22. The Union shall assist:

(a) to develop language, literature, fine arts and culture of the National races;
(b) to promote socio-economic development including education, health, economy, transport and communication, so forth, of less-developed National races.

28. The Union shall:

(a) earnestly strive to improve education and health of the people;
(b) enact the necessary laws to enable National people to participate in matters of their education and health;
(c) implement free, compulsory primary education system;
(d) implement a modern education system that will promote all-around correct thinking and a good moral character contributing towards the building of the Nation.

The constitution of 2008 declares the general rights of Myanmar citizens in Clause 21:

21. a) Every citizen shall enjoy the right of equality, the right of liberty and the right of justice, as prescribed in this Constitution;

It goes on to mention the rights of Myanmar citizens to an education:

366. Every citizen, in accord with the educational policy laid down by the Union:

(a) has the right to education;
(b) shall be given basic education which the Union prescribes by law as compulsory;
(c) has the right to conduct scientific research, explore science, work with creativity and write to develop the arts and conduct research freely with other branches of culture.

As for the national common language, the constitution of 1974 stated that the common language was Burmese, the language of the most dominant ethnic group. This has been changed to "Myanmar" as the country's official language (Clause 450).

2.1.2 Basic Education Law of 1973 (Amended in 1989)

In accordance with the provision of the constitution, the Union of Burma Basic Education Law, 1973 (Basic Education Law of 1973) was enacted in 1973. The Basic Education Law of 1973 stipulates the objectives, institutions and administration concerning education in Myanmar. It sets out the structure of basic education which comprises five (5) years of primary level, followed by four (4) years of secondary level, and the specified duration of higher level[1] education.

Clause 3 of the law specifies the objectives of basic education as follows:

(a) To enable every citizen of the Union of Burma to become a physical and mental worker well equipped with basic education, good health and moral character;
(b) To procreate citizens of the Union of Burma fully capable of building and safeguarding Burmese socialist society with full understanding and strong conviction in the ideology of the Burmese Way to Socialism;
(c) To lay foundations necessary for branching off at an appropriate stage to appropriate vocational education and training for the purpose of establishing and maintaining Burmese socialist society;

[1] In the unauthorized English text, basic education shall be graded as primary level, secondary level and higher level (Clause 4 (a)). It states that schools having primary level standards shall be called primary schools; schools having secondary level standards with or without primary level standards shall be called middle schools; and schools having secondary and higher level standards with or without primary level standards shall be called high schools. This complication of school definitions requires caution when interpreting the education statics. The terms used for middle schools and high schools are not in conformity to the reality.

(d) To give precedence to the teaching of science capable of strengthening and developing productive forces;
(e) To give precedence to the teaching of arts capable of preservation and development of cultures, fine arts and literature of the State; and
(f) To build a firm educational base for the pursuance of university education.

2.1.3 University Education Law of 1973 (Amended in 1998)

All the ministries that manage universities (currently 13 ministries) must follow this law. According to the law, universities are expected to perform the following objectives:

(a) To engender able individuals imbued with outlook and morality commensurate with socialist ideology for the construction of a Burmese socialist society;
(b) To engender individuals capable of developing socialist economy, public administration and social undertakings;
(c) To give education and training with precedence to the teaching of arts and sciences equated with livelihood;
(d) To undertake research necessary for the success of socialist construction;
(e) To foster a sense of dignity in labor;
(f) To work for a continuous development of the knowledge and proficiency of the working people engaged in the construction of a Burmese socialist society.

2.1.4 Other Laws Related to Education

Other education-related laws include Law of Myanmar Board of Examination of 1973, Education Research Law of 1973, Private Education Law of 1984 and 2006 (that prohibits teachers in public schools from practicing fee-based teaching after the school hours), Private School Registration Law of 2011, Technical, Agricultural and Vocational Education Law of 1974, amended in 1989, and Child Law of 1993. Public universities are established according to the respective laws[2].

2.1.5 Recent Trend of Legal Reforms in Myanmar

Existing laws, such as Section (b), Clause 3 of Basic Education Law, contain some statements that are not suitable for the country's present situation. The Parliament is currently discussing new laws on basic education, education research, Examination Board and university education. A new law for free and compulsory education is being drafted, and the Department of Myanmar Education Research Bureau (DMERB) has conducted a survey of a number of foreign countries in this regard. Concerning the pre-primary education, a new law is being prepared with the support of UNICEF, which will be sent to the Parliament after discussion by the Cabinet.

2.2 Education Development Plan and Major Education Policies

Major education policies in Myanmar have been implemented according to the 30-Year Long-Term Education Development Plan 2001-2031 (30-Year Long-Term Plan) and six five-year medium-term plans that are formulated according to the 30-Year Long-Term Plan. In November 2012, however, the MoE newly drafted National Education Promotion 20-Year Long-Term Plan for 2011/12-2030/31 (the 20-Year Long-Term Plan), which corresponds to the Comprehensive National Development Plan for 2011/12-2030/31 formulated by the Ministry of National Planning and Economic Development (MNPED). Hereafter, this 20-Year Long-Term Plan will supersede the existing 30-Year Long-Term Plan and the four new five-year

[2] Based on the information from the website of Burma Lawyers Council: http://www.blc-burma.org/html/Myanmar%20Law/Indexs/lr_law_ml_azindex.html#u

medium-term plans will be prepared nationally and by each sector. In addition, the Guidance of the Head of State: 10 Points Education Policy, presented by the Head of State, President U Thein Sein at the first regular session of the Parliament in March 2011, provides an overall direction of educational development and it was used as a main reference in formulating the 20-Year Long-Term Plan and a new first five-year plan. Furthermore, the cost estimate for the education sector plan will be established as an output of CESR, which is supported by DPs, and will not be available until after 2014 or later. Attention needs to be paid to the interaction between the government-led exercise and the planning work supported by DPs.

2.2.1 30-Year Long-Term Basic Education Development Plan 2001-2031

The 30-Year Long-Term Plan has been prepared for basic education and higher education respectively. The 30-Year Long-Term Plan for Basic Education was prepared in November 2001. Most of the plan is dedicated to spelling out the preceding activities that led to the plan, and explains 10 areas of program implementation.

Program 1. Creating an education system for modernization and development of the country
Program 2. Basic education for all
Program 3. Improving the quality of basic education
Program 4. Providing access to pre-vocational education and vocational education at different basic education levels
Program 5. Improving access to teaching, learning and communication technology leading towards e-Education
Program 6. Producing well-rounded, developed citizens
Program 7. Capacity building for educational management
Program 8. Carrying out basic education activities in collaboration with community
Program 9. Improving non-formal education activities
Program 10. Improving educational research

For each of the above programs, titles of several sub-items are mentioned but no details are provided. Based on the 30-Year Long-Term Plan, a series of five-year medium-term plans is to elaborate on the detailed implementation. The 30-Year Long-Term Plan aims at achieving universal primary education by the end of the first five-year plan (2001/02-2005/06), universal lower secondary education by the end of the third five-year plan (2011/12-2015/16), and universal basic education by the end of the 30-year period.

The 30-Year Long-Term Plan for Higher Education will be discussed in Chapter 5.

2.2.2 Basic Education Sector National Education Promotion 20-Year Long-Term Plan 2011-2031 (Draft)

This 20-Year Long-Term Plan has been drafted by the MoE, using the President's 10 Points Education Policy and following most of the points of the existing 30-Year Long-Term Plan with some modifications. The plan firstly outlines the President's 10 Points Education Policy, presents Myanmar Education Vision to "create an Education System that will generate a learning society capable of facing the challenges of the Knowledge Age," and then states its Education Motto as "Building a modern developed nation through education". Basically the same 10 Programs as have been included in the 30-Year Long-Term Plan remain unchanged, under which 31 Action Plans and 108 Sub-action Plans are described. It also refers to the following key policy measures currently being implemented: (a) initiation of the compulsory primary education program, (b) awarding of scholarships and stipends, (c) extension of new basic education schools and upgrading of school levels, (d) extension of the organization structure of Township Education Offices (by establishing District Education Offices), (e)

promotion of professional grades for basic education teachers, (f) arrangement to apply CCA at the primary level, (g) allowing private schools to open, and (h) holding discussions on education development.

While the 30-Year Long-Term Plan contained programs that were to be implemented solely by the government resources, the new 20-Year Long-Term Plan includes activities that are expected to be jointly funded by DPs during the first 5 years. Especially, for the 3 years from 2013/14 to 2015/16, the support from DPs is sought in the areas of (a) Compulsory Primary Education Plan, (b) school retention of lower and upper secondary education, (c) upgrading curriculum and syllabus, (d) teacher education development, (e) development of education management and information, (f) early childhood development, and (g) non-formal education. The 20-Year Long-Term Plan will be discussed at the Parliament after consultation with DPs.

2.2.3 10 Points Education Policy by the Head of State

President's 10 Points Education Policy, announced by President U Thein Sein at the Parliament in March 2011 are as follows.

1. To implement a free, compulsory primary education system
2. To increase the enrollment rate in the basic education sector
3. To nurture new generations as intellectuals and intelligentsia in the human resources development
4. To improve capacities of teachers in both basic and higher education sectors
5. To utilize teaching aids more effectively
6. To upgrade the quality and the socio-economic status of educational personnel
7. To provide scholarships, stipends and awards both locally and internationally
8. To promulgate relevant laws for the participation and contribution of private sectors in education services
9. To collaborate with international and local organizations including the UN, INGOs and NGOs
10. To upgrade education standards to an international level

The 10 Points Education Policy is regarded as a primary source of reference that provides a general orientation of Myanmar's education development, as reflected in the process of formulating the new 20-Year Long-Term Plan.

2.2.4 Actions being taken in the Education Sector for the Next National Development Plan

The GoM is currently formulating the next Fifth National Plan (FY2011/2012-FY2015/2016) that is under the parliamentary discussions (as of January 2013). The plan has been drafted "in accord with the policies that encourage (a) to more develop agriculture sector, (b) to translate the nation into an industrialized one ensuring all-round development, (c) to bring about equitable development to regions and states and socio-economic development for the entire people, and (d) accuracy and precision of statistics[3]. The entire picture of the new plan has not yet been made available, but the important position taken by the education sector can be observed from the significant increase in the education budget over the last few years.

In parallel, the Comprehensive National Development Plan for Myanmar 2011-2031 will be delivered in early 2013. It will comprise four five-year programs setting targets for each

[3] Based on the speech by Dr. Kan Zaw, Union Minister for National Planning and Economic Development at the Parliament on January 10, 2013. http://www.myanmar.com/newspaper/nlm/index.html retrieved on January 12, 2013.

program, and will be linked to the roadmap for poverty reduction set in 2011,[4] which will be discussed in the later section. The GoM has prepared a draft of Framework for Economic and Social Reforms: Policy Priorities for 2012-2015 towards the Long-Term Goals of the National Comprehensive Development Plan (draft FESR) in November 2012, which was made public on the occasion of the First Myanmar Development Cooperation Forum held on January 19-20, 2013. The draft FESR draws on the Fifth Five-Year Plan and the guidelines set by the President. It states that "Education is a top government priority" and affirms the GoM position saying that it "has already increased public expenditure on education significantly and will increase expenditure further in the coming years" and giving focus on formulating overarching education sector reform policy and strategy, promoting decentralization of education management, extending the basic education from 11 to 12 years, and on child-centered teaching methodologies, upgrading teacher training, curriculum reform, and system for education quality assessment, among others. In August 2012, the President issued an instruction to all ministries to prepare "A National Development Plan" and to each State and Region to prepare its own development plan. The MoE conducted internal discussions on priority issues for the period between 2012 and 2015, and departmental heads and staff members of Basic Education, Higher Education and Educational Planning and Training gathered in Naypyidaw during September 17-19, 2012, to consolidate the results of internal discussions. Only local staff members of DPs were admitted to participate as observers. After the opening speech by the Union Minister for Education, U Mya Aye, two deputy ministers U Aye Kyu and Dr. Myo Myint made presentations for the development of basic education and higher education respectively, which gives evidence that the highest ranked officials of the MoE were present at the meeting. The gathering discussed the following 12 items:

(1) Effective implementation of compulsory primary education
(2) Supervision of activities related to school retention at the lower and upper secondary levels
(3) Effective implementation of scholarship and stipend programs
(4) Effective implementation of CCA in basic primary level education
(5) Strengthening Early Childhood Care Development and education activities nationwide
(6) Awarding prizes to well-rounded students and forming scout and Red Cross Organizations in schools (changed from the pre-discussion item: Supplementary education activities in basic education sector)
(7) Participation of private sector in education services and systematic supervision of establishment of quality private schools
(8) Development of educational management and information system
(9) Upgrading Basic Education Curriculum and Syllabus to international level and developing Educational Assessment System accordingly
(10) Strengthening basic education teachers' competency and maintaining continuous professional teacher education development
(11) Implementation of Non Formal Education and continuous education
(12) Development of quality teaching learning environment in basic education schools

These 12 points were presented as the "priority projects" in the basic education subsector development plan at the consultation meeting with DPs held immediately after the internal discussions on September 28, 2012. The sequential number of each point represents the priority order. These 12 points are included in the first 5 years of the 20-Year Long-Term Plan as the priority action plans. At this consultation meeting, the policy measures that are currently being implemented were explained. These were: (i) Provision of textbooks and exercise books free of

[4] From a newspaper interview with Union Minister for National Planning and Economic Development. http://www.mmtimes.com/index.php/business/3500-national-development-plan-for-2013-release.html accessed on January 2013.

charge starting from AY2011/2012, (ii) Provision of scholarships and stipends, (iii) Promulgation of private school registration laws and opening of private schools, (iv) Upgrading and reforming of State Education Offices, Regional Education Offices, Township Education offices and establishment of District Education Offices including appointment of IT staff, (v) Opening pre-school classes in basic education schools, (vi) Offering in-service and per-service training including for nation-wide implementation of CCA, and (vii) Provision of education for out-of-school children and adults.

Meanwhile, regarding higher education, the following 13 activities were the discussed as focus areas within the MoE:

(1) Organization of Faculty at the Universities under the Ministry of Education
(2) Development of Quality Assurance System and extension of cooperation with International Universities and Educational Organization
(3) Revision of University Entrance System
(4) Extension of Technical Vocational Education Trainings (TVET) through Human Resource Development Programme (HRD) in order to be able to produce medium skilled technicians and workers necessary for development of the Economic and Industrial sectors of the country within a short period of time
(5) Strengthening capacity of the University Management officers, teachers and laboratory technicians
(6) Strengthening capacity of the students
(7) Prescribing respective laws for the participation of private sector in education services
(8) Promotion of education to the international level
(9) Development of Good University Education Atmosphere
(10) Strengthening network with International Universities
(11) Upgrading English teaching
(12) Promotion of teaching International Relations, Laws and Economics
(13) Production of outstanding intellectuals in respective subjects through awarding local scholarships

At the end of the internal discussions, the order of these activities was sequenced according to their priority levels, as shown in the above.

2.2.5 Other Major Policy Documents

Other major policy documents on Myanmar's education include "30-Year Long-Term Plan for the Ministry of Education"," Education for All National Plan of Action", and "Rural Areas Development and Poverty Alleviation Plan," which are briefly explained below.

(1) Education for All National Plan of Action (NPA)

NPA was prepared in 2003 to advance efforts to achieve Education for All (EFA) objectives. The NPA places itself in the context of the 30-Year Long-Term Plan, and describes activity plans for (a) access and quality of basic education, (b) ECCE, (c) non-formal and continuing education, and (d) education management and EMIS. A detailed plan to implement EFA are to be prepared at the Township level, and all levels including Central, State and Regional are to support the implementation of the plan. The following goals are to be achieved through the implementation of NPA:

(a) Ensuring that significant progress is achieved so that basic education of good quality is compulsory and completely free for all school-age children by 2015;
(b) Improving all aspects of the quality of basic education: teachers, education personnel and

curriculum;
(c) Achieving significant improvement in the levels of functional literacy and continuing education by 2015;
(d) Ensuring that the learning needs of young people and adults are met through non-formal education, life-skills training and preventive education;
(e) Expanding and improving comprehensive early childhood care and education; and
(f) Strengthening Education Management Information System

One of the progress reports (as of 2005) features examples of Child-Friendly Schools supported by UNICEF, Community Learning Centers (CLC), other non-formal education examples, and inclusive education initiatives.

(2) Rural Development and Poverty Alleviation Plan 2011–2015

This document was adopted in June 2011, at the national level workshop on rural development and poverty alleviation attended by the President[5].

This document describes activities planned to achieve the general objectives of rural development and poverty alleviation. They include: necessary provisions to achieve successful implementation of free, compulsory primary education for all school-age children; construction of buildings for boarding students; establishment of trust funds to reduce educational waste in primary and lower secondary levels; undertaking a program to ensure access to higher education for all students who pass the matriculation examination; undertaking activities for improving quality of teachers; and encouraging private sector participation and contribution in education services, among others.

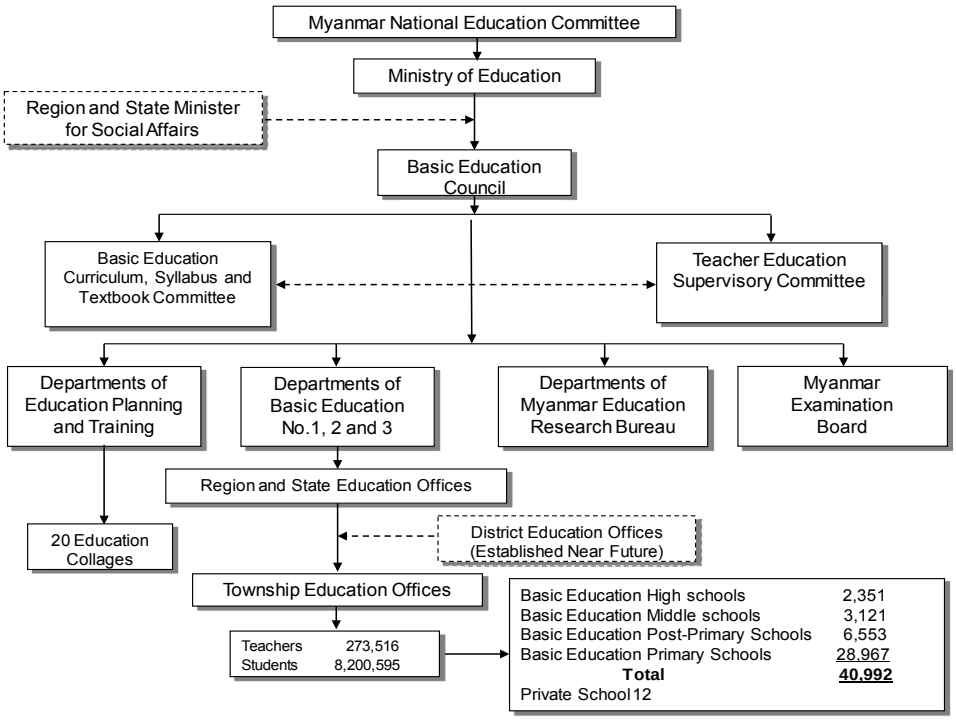
In the area of non-formal education, the plan includes activities to implement a basic literacy program to increase adult literacy; implement continuing education which consists of post literacy, income generation and quality of life programs; open and expand Community Learning Centers; and collaborate with UN agencies, as well as international and local NGOs.

2.3 Education Administration and Finance

2.3.1 Basic Education Administration

The Basic Education Law specifies the key structure of basic education administration. Under the MoE, the GoM constitutes the Basic Education Council. This council is responsible for planning and providing basic education, training teachers, promoting the qualification of teachers as well as other matters relating to curricula, syllabi and textbooks among other activities, and to supervise basic education on behalf of the GoM (Clause 5). The Minister for Education chairs the council, with 12 other members including the Deputy Minister and the Director Generals of Basic Education Department and Higher Education Department. Under this council, the Basic Education Curriculum, Syllabus and Textbook Committee and the Teacher Education Supervisory Committee are formed (Clauses 6 and 7). In accordance with the stipulation of this law, the structure of basic education administration today is shown in Figure 2-1.

[5] In November 2011, the "Framework Action Plan on Rural Development and Poverty Eradication (2011-2015)" was adopted at the ASEAN ministers meeting on rural development and poverty eradication. http://www.myanmargeneva.org/11nlm/jun/n110621.htm, http://www.aseansec.org/26706.htm (Retrieved on 15 November 2012)



Source: Zaw Htay (2012) Education System in Myanmar, PowerPoint presentation, partly modified by the Study Team

Figure 2-1: Basic Education Subsector Administration Structure

The National Education Committee is the primary body in advising the formulation of education policies, coordinating at the national level, advising the policy implementation, and monitoring and analyzing the education practices. This committee is composed of the Minster for Education as President, the Minister for Science and Technology as Vice President and 14 members at the deputy minister level (according to the revision made in April 2011).

The MoE has three departments for basic education. Department of Basic Education (DBE) 1 covers 7 States and Regions of Kayin, Tanintheryi, Bago (East), Bago (West), Mon, Rakhine, and Ayeyarwady. DBE 2 covers 9 States and Regions of Kachin, Rakhine, Chin, Sagaing, Magway, Mandalay, Shan (South), Shan (North), and Shan (East). DBE3 supervises the Yangon Region. Department of Educational Planning and Training (DEPT) is responsible for 20 Education Colleges. Department of Myanmar Education Research Bureau and Myanmar Examination Board are also at the department level bodies. Under each DBE, there are State Education Offices (SEOs) or Regional Education Offices (REOs), each of which coordinate with and supervise Township Education Offices (TEOs). Since last year, District Education Offices (DEOs) are being created between SEOs/REOs and TEOs[6]. It is expected that establishment of DEOs will ease responsibilities of TEOs, which used to be involved in district-level administration, and will enable TEOs to concentrate on education administration at the township level. Also at the state and regional level, State or Regional Minister for Social

[6] When the Study Team visited Thinggandun Township Education, it was found that while District Education Office has been recently given a separate room within the Township Education Office, the demarcation of their roles were not clear yet, and no staff were found to be working in the District office.

Affairs, who coordinates with other deconcentrated administration of central line ministries, is in charge of education matters in his/her area.

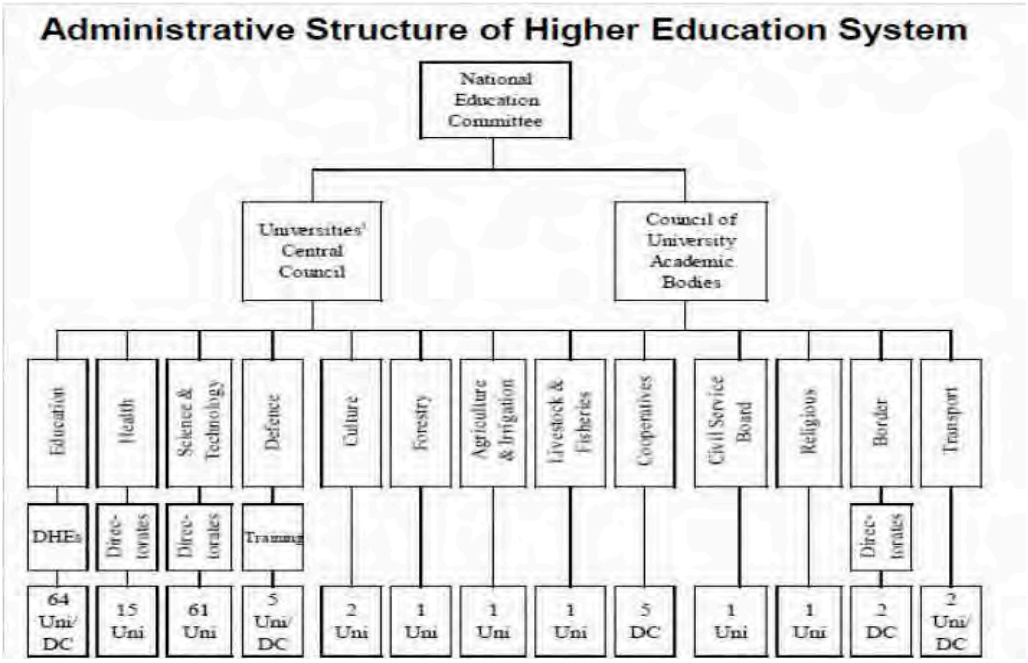
Apart from the MoE, several other ministries are involved in the management of basic education. For early childhood education and development, the Ministry of Social Welfare, Relief and Resettlement (MoSWRR), the Ministry of Health and the MoE have jointly established the coordination committee. The MoSWRR provides care services at their facilities that generally have sufficient space, facilities and trained staff, while MoE provides education for pre-school children using existing primary schools which do not have adequate teachers, facilities or space. The MoSWRR also manages specialized education facilities for people with disabilities.

In addition to formal school education, there are a large number of monastery schools (see Chapter 3 for details), under the supervision of the Ministry of Religious Affairs. However, the Ministry of Religious Affairs does not have any budget for education, and the management of monastery schools is solely dependent on donations and contributions from local communities.

To help advance education in the remote and educationally disadvantaged areas, the Ministry of Border Affairs establishes Youth Training Centers for children to get access to primary, middle schools and high schools in the states in the border areas and the states affected by conflict. In addition, the Ministry of Border Affairs provides teacher training at University for Development of National Races (UDNR) for ethnic minorities, as well as scholarships for higher education at the university level to educate individuals who are expected to lead the development of the border states.

2.3.2 Higher Education Administration

The administration structure for higher education is established according to the University Education Law of 1973. As in the case with basic education, National Education Committee is the central coordinating and oversight body for higher education. The administration structure for higher education based on this law is shown in Figure 2-2.



Source: Myo Thein Gyi, 2012, Myanmar Higher Education Policy, PowerPoint presentation at Conference on Development Policy Options with special reference to Education and Health in Myanmar

Figure 2-2: Higher Education Subsector Administration Structure

All the universities are publicly administered and supervised by 13 ministers for their respective fields as shown in the above Figure. Based on the University Education Law, the Universities' Central Council is established to formulate policies and guide and supervise universities. Similarly, the Council of University Academic Bodies supervises matters relating to the standard of university education, syllabi, and examination. Both councils are chaired by the Minister for Education.

2.3.3 Education Finance and Budgetary System

The government budget for basic education under the MoE is initially prepared by three DBEs, each compiling the education budget for the respective States and Regions under their supervision. Each school of basic education submits the school budget, based on the annual plan which is produced according to the current five-year medium-term plan, to the TEO. TEO then compiles the township budget and submits it to the State and Regional Education Office. Each DBE compiles the plans for which it is responsible and makes a final review. The budget that is approved by the Parliament is allocated to schools through the same route. The budget for education colleges is included in the DEPT budget.

The budget for higher education is managed by two Departments of Higher Education; one is responsible for Lower Myanmar (DHEL) and the other is responsible for Upper Myanmar (DHEU). Each department administers the budget for higher education institutions under their coverage. Although there is an ongoing debate on delegating financial management authority to public universities, it does not have a legal basis yet.

Separate budget items are provided for Myanmar Examination Board, Department of Myanmar Education Research Bureau, and Department of Myanmar Language Commission. Department of Myanmar Education Research Bureau administers the budget for non-formal education.

2.4 Education Budget

2.4.1 Education Budget in the National Budget

The trend of the education budget spending between 2007/8 and 2012/13 (the sum of the current budget and the capital budget under the MoE only[7]) is presented in Table 2-1. Between 2007/8 and 2010/11, the education budget's share of the total national budget was in the range of 7% to 10%. The share of the revised 2011/12 budget and the proposed budget for 2012/13 declined to around 5% as a consequence of a significant increase in the overall government budget during the same period. The decline in the share of the education budget is also partly explained by the huge and extraordinary increase in the allocation to sectors related to economic infrastructure, such as energy, communication, and industry[8]. In terms of the size relative to GDP, the education budget has been in the range of 0.6% to 0.8%[9]. Although the budget for the education sector has nearly doubled between 2011/2012 and 2012/2013 in real terms, it still accounts for merely 1.43% of GDP, putting Myanmar far below the level that other neighboring Asian countries spend on education (between 2.7% and 5.9%). This phenomenon is related to the fact that the size of the total government budget relative to GDP is already much smaller in comparison with other Asian nations. Such a low level of education spending relative to its neighbors may pose hurdles for the country to further advance educational development. However, the abrupt and massive increase in public spending also poses major risks for sound macro-economic management; therefore, cautious monitoring is required.

In the background of the surge in education budget since 2011/12 is the GoM's position that prioritizes education development. Under the compulsory primary education policy, free provision of textbooks and exercise books, construction of new schools and renovation of existing school buildings, extensive application of CCA, and other activities are included in the budget for basic education. In higher education, in response to the upgrading of undergraduate programs from 3 to 4 years, expansion of university facilities is budgeted along with establishment of a new education college in Lasho. Construction of new DEOs is also pushing up the capital budget. In addition, as the temporary measures while reviewing the civil service salary scale, a special allowance of 30,000 kyat is being paid to all the government-appointed civil servants, including teachers and ministry staff members since January 2012.

7 Budgets for higher education managed under the other ministries are not captured here.

8 For instance, the budget for the energy sector has increased by over 4,300 times and the budget for communication has increased by 1,600 times during the years 2010/11 and 2011/12.

9 The figures of Myanmar's government budget and GDP are not consistent between the government source and IMF especially in recent years. Consistent time series information for them is not available to the Study Team. Accordingly, the estimates made in this section need to be understood as indicative.

Table 2-1: The Government of Myanmar Budget, GDP and Education Budget

(Unit: Million Kyat)

		2007/8	2008/9	2009/10	2010/11	2011/12	2012/13
(1)	MoE budget*1	169,690	173,466	209,476	266,649	310,137	638,926
(2)	Total Government budget *2	2,196,826	2,280,735	3,174,735	2,594,228	6,241,548	12,570,550
(3)	GDP*3	23,336,113	28,778,383	32,350,527	36,436,342	39,719,126	44,644,637
(4)	(1)/(2)	7.72%	7.61%	6.60%	10.28%	4.97%	5.08%
(5)	(1)/(3)	0.73%	0.60%	0.65%	0.73%	0.78%	1.43%
(6)	(2)/(3)	9.41%	7.93%	9.81%	7.12%	15.71%	28.16%
(7)	Change of MoE budget in real terms		-14.1%	13.0%	19.1%	12.5%	94.6%

Notes and Sources

*1: Source: DEPT. Figures for 2007/8, 2008/9, and 2009/10 are on expenditure basis, 2010/11 is provisional actual, 2011/12 is revised budget, and 2012/13 is the departmental proposal.

*2: Source: Myanmar Data 2010, CD-ROM.

*3: Source: IMF, World Economic Outlook Database, October 2012 (GDP is for a calendar year, the figure in the 2007/8 column for example is for 2007. Figures for 2011 and 2012 are provisional estimates.)

Reference: Education Spending Relative to the Government Spending and GNP of the Neighboring Countries, 2010

	Cambodia	Indonesia	Lao PDR	Malaysia*	Philippines*	Thailand	Vietnam
% of Government Spending	12.4%x	17.1%	13.2%	18.9%*	15.8%*	22.3%	19.8%y
% of GNP	2.7%	3.1%	3.3%	5.9%*	2.7%*	3.9%	5.5%
Gov. Spending as % of GNP	19.9%	18.3%	23.2%	27.5%	19.2%	23.2%	32.7%

Source: UNESCO EFA Global Monitoring Report 2012 and IMF World Economic Outlook Database, October 2012. Figures with "x" are for 2007, "y" for 2008, and "*" for 2009.

2.4.2 Analysis of Education Budget

The education budget in the most recent year (2012/13) is presented by its administrative departments in Table 2-2. The allocation of the current budget clearly favors basic education (the three DBE allocations in total account for 87% of the current MoE budget). Higher education has a relatively high allocation of the capital budget and it has seen a relatively large increase in allocation from 2011/12 to 2012/13.

Table 2-2: Composition of Myanmar Education Budget by Department (2012–13)

(Unit: Million Kyat)

Department		2012-2013				Change in years	
		(1) Current	(2) Capital	(3) Total	(2)/(3)	2010/11-2011/12	2011/12-2012/13
1	Head Office	313.7	83.3	397.0	21.0%	59.4%	-1.1%
2	DHE (L)	30,345.2	27,381.9	57,727.1	47.4%	19.1%	173.9%
3	DHE (U)	20,517.1	41,291.6	61,808.7	66.8%	29.9%	268.6%
4	DBE (1)	178,894.1	17,498.0	196,392.1	8.9%	18.7%	79.1%
5	DBE (2)	213,234.7	20,193.9	233,428.6	8.7%	13.9%	96.3%
6	DBE (3)	50,773.5	10,779.0	61,552.6	17.5%	8.7%	90.0%
7	DEPT	19,915.5	4,234.2	24,149.6	17.5%	14.7%	172.4%
8	MBE	1,771.0	134.0	1,904.9	7.0%	49.4%	27.1%
9	DMERB	635.3	620.7	1,256.0	49.4%	19.9%	243.4%
10	DMLC	213.8	96.0	309.7	31.0%	8.9%	72.4%
	Total	**516,613.9**	**122,312.5**	**638,926.3**	19.1%	16.3%	106.0%

Source: DEPT

The allocation of the current budget of education by subsector is presented in Table 2-3. Throughout the years observed, primary education has received over 40%, followed by upper secondary and lower secondary education.

Table 2-3: Allocation of Current Education Budget by Subsector 2009/10–2012/13

	2009/10 Actual Expenditure	2010/11 Provisional expenditure	2011/12 Provisional budget	2012/13 Proposed budget
Primary education	44.6%	45.3%	46.2%	42.2%
Lower secondary education	14.5%	14.7%	17.2%	15.7%
Upper secondary education	22.0%	21.7%	20.7%	23.6%
Higher education	11.7%	10.9%	10.8%	9.8%
Administration for basic ed.	6.5%	6.8%	4.4%	8.1%
Administration excl. basic ed.	0.8%	0.6%	0.8%	0.6%
	100.0%	100.0%	100.0%	100.0%

Source: DEPT

Table 2-4 is the itemized breakdown of the basic education current budget by the level of education. In recent years, the spending on salary (most of which consists of teacher salaries) has accounted for over 95% of the school budget under DBEs. But in the year 2012/13, the allocation to maintenance has generally increased for all levels, resulting in the relative decline of the salary share. The maintenance budget is used for the repair of schools and roads, as well as for the maintenance of computers, copy machines, cars and other fixed assets.

From the pre-primary to the upper secondary level of education, the request for school construction is made through the TEO. The State and Regional Education Offices decide how the construction budget is allocated and the DBE in charge gives final approval. The budgets for school construction, provision of textbooks and exercise books are all managed centrally, and accordingly, the schools do not make these decisions. As important measures to promote compulsory primary education, textbooks are now being provided free of charge, with 1,835.5 million kyat allocated towards student textbooks in 2011/12 and 7,224 million kyat allocated towards student textbooks and 6 exercise books per student in 2012/13[10].

Table 2-4: The Share of Budget Items under DBE1, 2 and 3 by Level of Education

Item	Primary		Lower Secondary		Upper Secondary	
	2011/12	2012/13	2011/12	2012/13	2011/12	2012/13
Salary	95.5%	81.1%	97.2%	85.5%	97.7%	90.1%
Transportation	0.2%	0.1%	0.2%	0.2%	0.3%	0.2%
Labor charges and expenses	0.3%	6.1%	0.4%	3.4%	0.6%	2.3%
Maintenance	4.0%	12.7%	2.2%	10.9%	1.3%	7.4%
Money Transfer	0.0%	0.0%	0.0%	0.0%	0.1%	0.0%
Total	100.0%	100.0%	100.0%	100.0%	100.0%	100.0%

Source: DEPT

The unit cost per pupil (student) based on public education expenditure is presented in Table 2-5. The unit cost for lower secondary education is conspicuously low, compared to other levels. The ratios of the unit cost among primary, lower secondary, upper secondary and university

[10] The budget for textbooks and exercise books is included in the DEPT budget.

education is approximately 1.0 : 0.8 : 3.9 : 7.5. The upper secondary unit cost is around four times of that for primary education.
The variation of the unit costs by the level of education and by DBE is shown in Table 2-6. At all levels, the unit cost is higher for DBE 1, 2 and 3 in this order. There is a difference of some 7% between DBE 1 and DBE3 at the primary education level, 23% at the lower secondary level, and as much as 35% at the upper secondary level. The difference in the unit costs for non-salary expenditure is wider.

This pattern of varying unit costs is explained by several factors. First, the budget structure does not match the reality of the schools. The primary school budget includes not only for primary schools but also for post-primary schools and branch middle schools. Similarly, the lower secondary school budget includes budgets for the primary school that operates under the management of the same middle school as well as for the branch high schools. And the upper secondary unit cost includes the budget for coexisting primary and middle schools. Secondly, teachers serving in remote and difficult areas are paid double the amount of salary of regular teachers to compensate for the hardship. Thirdly, the pupil/student-teacher ratio also affects the unit costs. According to the school statistics as of August 2012, the average ratio is 28.9 for primary schools, 36.3 for middle schools, and 25.7 for high schools. Considering these factors, it is reasonable to conclude that the unit cost for primary education is inflated as relatively more teachers receive double the basic salary, and the unit cost for middle schools is lowered due to the high student-teacher ratio.

The information on the unit costs can be useful for assessing whether necessary provisions are made to schools to assure education quality, for education planning, for comparisons between education levels and among regions. The MoE is in the process of moving to unit cost-based education budgeting. But the present budget structure makes it difficult to allow subsector-based program management.

Table 2-5: Education Unit Cost of Public Expenditure by Level of Education (2009/2010)

(Unit: Kyat)

Primary unit cost	15,014
Lower secondary unit cost	11,839
Upper secondary unit cost	58,704
University Students (excl. distance)	112,636
University Students (incl. distance)	43,381

Source: DEPT

Table 2-6: Education Unit Cost of Public Expenditure by Level of Education by DBE (2009/10)

	Unit Cost DBE1	Unit Cost DBE2	Unit Cost DBE3	Unit Cost (non-salary) DBE1	Unit Cost (non-salary) DBE2	Unit Cost (non-salary) DBE3
Primary unit cost	21,552	21,282	20,105	433	421	229
Lower secondary unit cost	18,095	16,346	14,724	255	381	164
Upper secondary unit cost	87,690	75,589	64,754	2,416	1,601	1,094

Source: DEPT

The expenditure related to education by household is shown in Table 2-7 below. On average, households spent 6.4% of non-food expenses on education (the sum of expenses of education, stationary, and school supplies) in 2006. The household spending on education exceeded that

for medical care (1,286 kyat) and house rent and maintenance (1,416 kyat), demonstrating the increasing household burden for education.

Table 2-7: Education Related Spending by Household

(Unit: Kyat)

	1989	1997	2001	2006
(1) Education	9.29	137.78	495.92	1,714.10
(2) Stationary and school supplies	7.40	59.33	22.30	122.61
(1)+(2) as a share of non-food spending	3.6%	4.9%	6.3%	6.4%
Average number of household members	5.27	5.25	5.37	4.72

Source: Myanmar Data 2010

2.5 Main Education Reform Activities

As discussed earlier, DEOs have been established since 2011 between the State/Regional Education Offices and TEOs, with a view to advancing decentralized education administration. At the same time, measures are being taken to strengthen the function of TEOs (MoE: EFA, February 2012). However, the allocation of sufficient budget and staff has yet to be provided for the DEOs to become fully functional. Demarcation of roles between State/Regional Education Office and TEOs also needs to be communicated to the offices concerned.

With regard to the structural review of the education system, some options of changing the current 5+4+2 system (5- year primary, 4-year lower secondary and 2-year upper secondary) into 6+3+3 or 5+4+3 are presently being considered to adapt Myanmar's education system to the international standard. There are varying views on this matter, and the opinions of policy makers have not converged on a single model. In addition to the argument of extending the basic (pre-tertiary) education from 11 to 12 years, another important issue is the admission age for primary education, which is currently five years old, against the international norm of six years old. The discussion on this matter does not seem to have matured yet either.

The direction of these major reforms will have significant influence on the ongoing process to revise the curriculum, strengthen teaching staff, and, as discussed in other chapters, to address issues of disadvantaged education provision in the border states, as well as on the issues related to various type of schools including monastery, post-primary, affiliated and branch schools.

2.6 School Monitoring and Evaluation System

As a general rule, school inspection at the basic education level is to be conducted regularly by TEOs, SEOs, and REOs. According to the findings of the Study Team at Thinggandun TEO, schools are divided into a number of groups, and the Assistant Township Education Officer (ATEO) leads the inspection team together with subject teachers invited from schools other than those to be inspected. In the case of middle schools, the inspection team is comprised of Township Education Officer, school head teacher, and subject teachers (one from middle school and another from high school, each for science and arts subject), and Township Education Officer leads the inspection. For the upper secondary schools, inspections in Yangon Region are conducted by DBE3, and inspections in the areas under DBE1 and 2 are done by State/Regional Education Offices (SEO/REO) lead by Assistant State/Regional Education Officer with subject experts (science and arts subjects).

A set of evaluation forms called KaSaSa is used for school inspection. KaSaSa is specified by the MoE for (1) a regular inspection (for primary, middle and high school), (2) for an unannounced inspection (for primary, middle and high school), and (3) a detailed questionnaire. In total a set of 7 forms is to be completed by the schools. The forms for the regular inspection (1) and the unannounced inspection (2) are to be completed by the inspection team leader, while

the questionnaire (3) is to be completed by the school head teacher. In the case of Thinggandun TEO, these forms are kept at DBE3.
Each school is given an evaluation rating (A, B, C, D or E) according to the inspection results based on the following criteria: (a) Accomplishments of the school head teacher; (b) Level of school attendance; (c) Implementation of monthly lesson plans; (d) Students' achievements; (e) Use of teaching aids, facilities and laboratories; (f) Cultivating morals and ethics; (g) Capacity of teaching staff; (h) Adequate classrooms and furniture; (i) School sanitation and tidiness; (j) Adequate teaching aids and multimedia facilities; (k) Greening of school campus; and (l) Good physical setting of schools.

In addition to the regular school inspection, Continuous Assessment and Progression System (CAPS) is being introduced throughout the country. This is aimed to improve the quality of education and completion rate by providing special teaching for students who are trailing behind in class[11]. CAPS was piloted in the 1990s with the support of UNICEF, and it is presently applied to all middle schools.

[11] http://www.unhchr.ch/tbs/doc.nsf/(Symbol)/3696fdf1928799318025650d00597e4b?Opendocument (Retrieved on 15 November, 2012)

3. Basic Education[12]

Myanmar has been implementing various reforms since 2010 in response to its transition to a market economy and a rapid increase in demand for skilled labor. In order to cope with these reforms and changes, various policies, laws and regulations, including the modification of the Basic Education Law, have been under discussion and preparation as discussed in Chapter 2. One of the recent decisions is the permission of private schools to open at the basic education level under the Private School Registration Law, which was approved in December 2011.

3.1 Education System

In Myanmar, the school year starts in June and ends in March of the following year. Children who reach five (5) years old are required to enter primary school. The GoM is responsible for basic education starting from 5-year primary education, followed by 4-year lower secondary education and 2-year upper secondary education. In total, the GoM provides 11-year general education. However, this is one year less than other ASEAN countries. In addition, the required school starting age of five years old corresponds to the age of the last year of pre-primary education in other ASEAN countries.

Table 3-1: Education System in ASEAN Countries

Countries	School System (Year of schooling)	Starting Age
Cambodia	6-3-3 (12)	6
Indonesia	6-3-3 (12)	6
Laos	5-4-3 (12)	6
Malaysia	6-3-2-2 (13)	6
Myanmar*	5-4-2 (11)	5
Philippines**	6-4 (10)	6
Thailand	6-3-3 (12)	6
Vietnam	5-4-3 (12)	6

*The Philippines is now under transition towards a 12-year schooling system by 2015.
** Myanmar has indicated a direction towards a 12-year schooling system in near future.

3.1.1 Jurisdiction of Schools

In Myanmar, schools have been established not only by the MoE but also by other ministries, monasteries and communities. However, all schools need to be approved to become MoE-authorized schools. Private schools are now able to operate up to the upper secondary level after the Parliament's approval of the Private School Registration Law in December 2011.

[12] The discussion of basic education in this chapter follows the responsibility of DBE, which means pre-primary, primary, lower secondary (middle school) and upper secondary (high school).

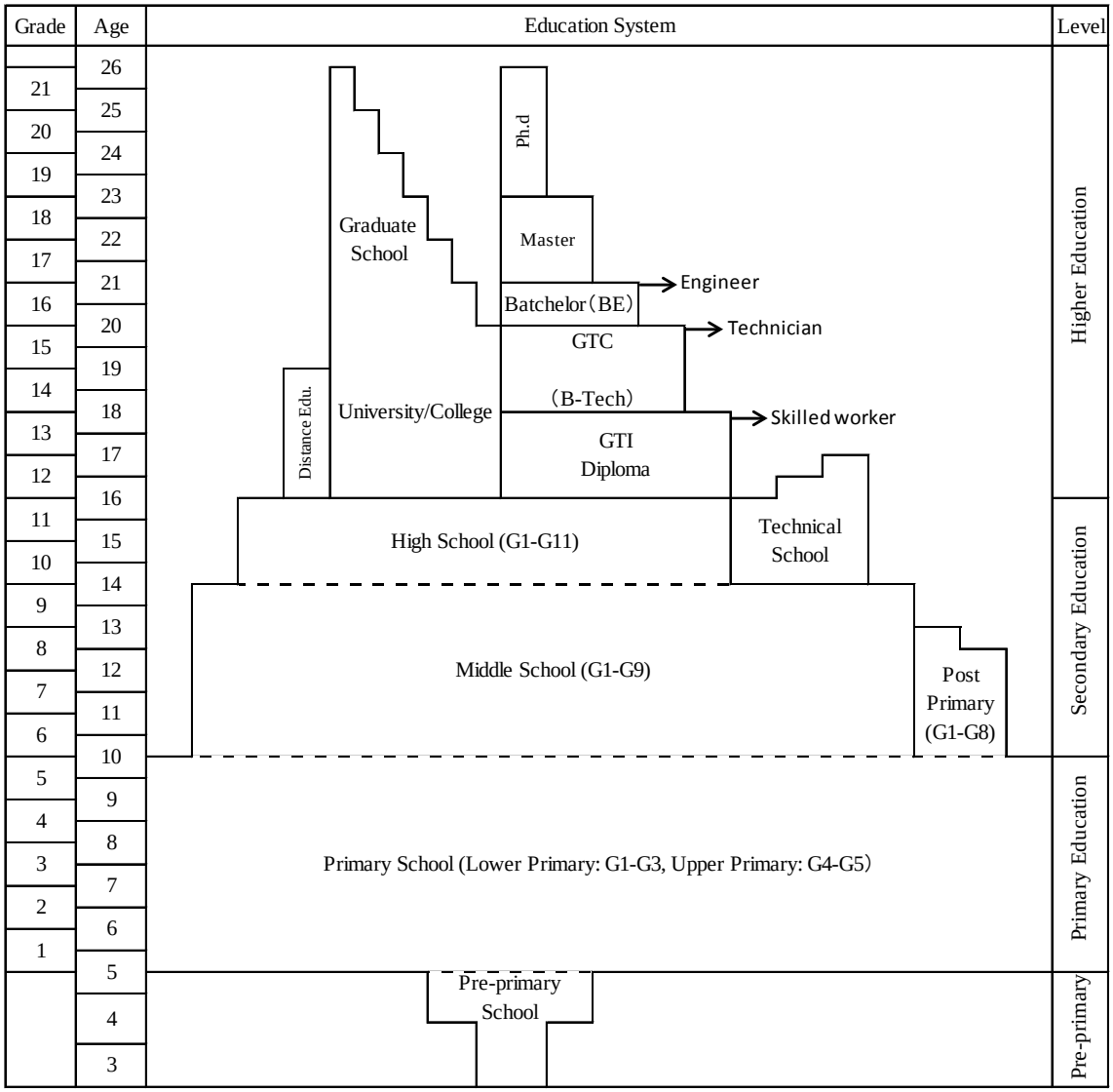


Figure 3-1: Education System in Myanmar

3.1.2 Types of Schools

There are four types of schools in Myanmar: (i) approved/main schools; (ii) branch schools; (iii) affiliated schools and (iv) self-help schools. Among them, affiliated schools and self-help schools, each of which is administratively attached to a main school, have to prepare and manage all school facilities and teacher arrangement by themselves and students in these affiliated and self-help schools are reported as students of the main schools. Most of the expenses including the cost of teachers' salaries should be borne by the entity which established the school (mostly communities, monasteries and other ministries are bearing the cost). Since administering examinations at the affiliated school is not allowed in many cases, students have to take examinations at the main school. Table 3-2 shows the approval criteria of each type of school.

Table 3-2: Approval Criteria of Each Type of School

	Affiliate/Self-help School	Branch School	Approved School
High School	(Does not exist)	✓ The school has more than 50 students at the high school level ✓ The head teacher qualification is above the middle school head teacher	✓ The school has more than 170 students at the high school level ✓ The school should be equipped with a multimedia room, laboratory and library
Middle School	✓ The number of students reaches from 152 to 240 at the middle school level ✓ Teachers are recruited by the entity which established the school	✓ The number of students reaches 240 or more at the middle school level ✓ Teachers are appointed by the government ✓ The head teacher qualification is above the primary head teacher	✓ The number of students reaches 240 or more at the middle school level ✓ The head teacher qualification is above the middle school head teacher ✓ Teachers are appointed by the government ✓ More teachers are appointed than in the branch school
Post-primary School	✓ The number of students reaches from 150 to 240.		
Primary School	✓ The number of students reaches 20 or more ✓ Teachers are recruited by the entity which established the school	✓ The number of students reaches 20 or more ✓ The school is established near the approved school ✓ Teachers are appointed by the government	✓ The number of students reaches 55 or more ✓ Teachers are appointed by the government

Source: Interview by Kayn City TEO

3.1.3 Monastery School

Monastery schools, under the Ministry of Religious Affairs, have been opened by monks who are willing to provide educational opportunities for economically disadvantaged children. How monastery schools are managed is different from school to school. Their financial sources are mainly contribution from private donors. Monks or donors prepare the land and facilities, and teachers are recruited by the monks, resulting in varying educational backgrounds of teachers among schools.

Table 3-3: The Number of Monastery Schools and Students

Number of Monastery Schools			
	AY2009	AY2010	AY2011
High School	2	2	2
Middle School	112	112	112
Post-primary School	210	246	293
Primary School	1,078	1,071	1,108
Number of Students			
	AY2009	AY2010	AY2011
High School Level	4,552	2,889	3,301
Middle School Level	18,999	20,680	17,901
Primary School Level	168,157	176,172	191,504

Source: Yearbook, Ministry of Religious Affairs

3.1.4 Private School

Establishment of private schools was not allowed until the Private School Registration Law was approved by the Parliament on 2 December 2011. The law permits the opening of private schools up to the upper secondary level[13]. 47 schools have been approved, among which 39 schools have been approved for a two-year operation. In addition, other 19 schools were granted a one year trial operation for future approval[14].

3.2 Pre-primary Education

While there are a number of education providers, two ministries play a major role in providing pre-primary education: (i) the MoE and (ii) the MoSWRR. The MoE has established a pre-primary education program which is attached to the existing schools to offer classes to prepare children from 3 to 5 years old to enter primary school. Meanwhile, the MoSWRR established 68 nursery schools that emphasize sentiment education for children from 0 to 5 years old. Enrollment is estimated at 22.9 % of this age group. Teachers at pre-primary schools are graduates from Education Colleges (ECs), and receive training offered by the MoE.

Currently, "Education Policy on Early Childhood Care and Development (ECCD)" is being developed by the MoE with assistance from UNICEF, and the law on ECCD is under review by the Cabinet. They are about to be submitted to the Parliament.

3.3 Enrollment Trend

3.3.1 Population Statistics

The enrollment rate is used as an indicator to determine how many children are in the education system. The total population is the base parameter used to calculate the enrollment rate. However, a census of Myanmar's population has not been conducted on a regular basis. Therefore, the total population of Myanmar is estimated from the population statistics by a survey conducted in 1987 with the rate of population growth. As different agencies have their own estimates of the population growth rate, there is a wide gap in the estimated population of Myanmar among various agencies.

For example, the International Monetary Fund (IMF) estimates Myanmar's population at 62.41 million people in 2011 against the World Bank's estimate of 48.33 million in the same year. On

[13] All higher education institutions are established as state/public institutions. However, a new law for the establishment of private higher education institution is currently being drafted.
[14] CESR Curriculum Working Group

the other hand, the GoM announced that its population was at 59.13 million (2009)[15]. In this report, the government data is used unless indicated otherwise.

3.3.2 Enrollment to Schools

(1) Comparison with other ASEAN Countries

Table 3-4 compares school enrollment in each school level among ASEAN countries. There is little difference in lower and upper secondary enrollments between Myanmar and countries with a similar percentage of the population below the poverty line. However, Myanmar's net enrollment rate (NER) in primary school is lower than other countries.

Table 3-4: School Enrollment in ASEAN Countries[16]

(Unit: %)

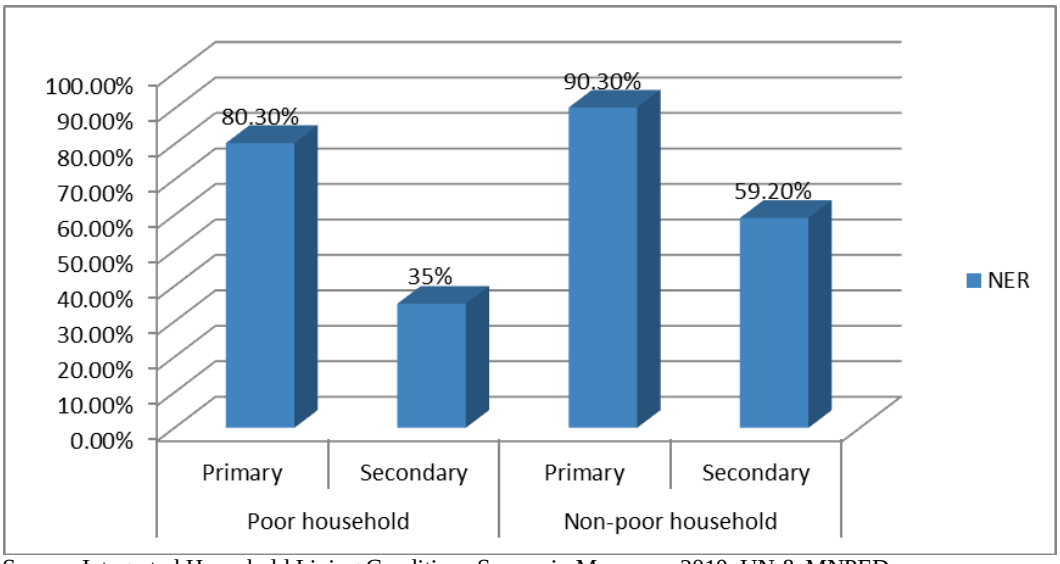
	Population ratio below poverty line*1	Net enrollment rate in primary	Net enrollment in lower secondary	Net enrollment in upper secondary
Cambodia	30.1	95.2	35.0	20.6
Indonesia	12.5	98.0	86.1	55.8
Laos	27.6	97.0	—	—
Malaysia	3.8	—	—	—
Myanmar 2011/12*3	**25.6**	**84.6**	**47.2**	**30.0**
Myanmar 1988/89*3	**—**	**74.7**	**23.6**	**10.1**
Philippines*4	26.5	89.9		60.9
Thailand	7.75	90.0	—	71.0
Vietnam	14.5	98.0	76.0	41.0

Source*1 : ADB,2012, Key Indicators in Asia and the Pacific
*2: Cambodia: MOEYS EMIS, 2010/11
Indonesia: MoE Statistics, 2012
Philippines: MoE Statistics, 2011
Thailand, 2011, UNESCO UIS
Other data, MEXT Japan, 2012
*3: Education for All: Access to and Quality of Education in Myanmar, February, 2012, MOE
*4: The Philippines has 6-year primary and 4-year secondary education.

3.4 Access to Schools

Figure 3-2 shows NERs of students who belong to non-poor households or poor households[17]. It is observed that the gap at the primary level between poor and non-poor households is around 10%. However, this widens to around 24% at the secondary level. This may be due to financial constraints because while primary school education is provided for free, secondary school education is not.

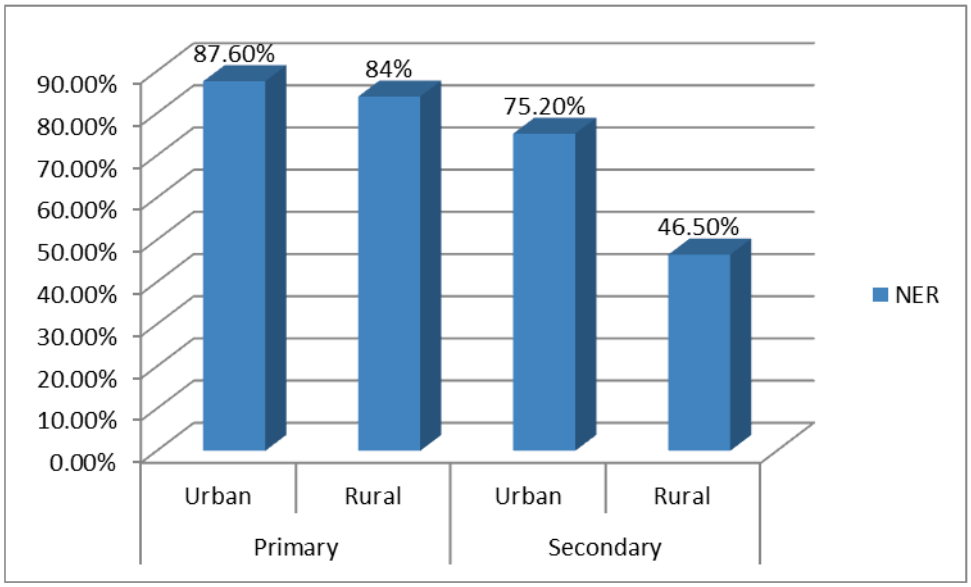
[15] Myanmar Data 2010, Department of Population, Ministry of National Planning and Economic Development
[16] The net enrollment rates shown are the data of 2010 to 2011. The population ratio below poverty line is the data of 2007 to 2011.
[17] The poverty line was defined as 376,151 kyat/year (1,030 kyat/day) in 2010. For those who are under the poverty line are counted as the poor.



Source: Integrated Household Living Conditions Survey in Myanmar, 2010, UN & MNPED

Figure 3-2: Gap of School Access between the Rich and the Poor

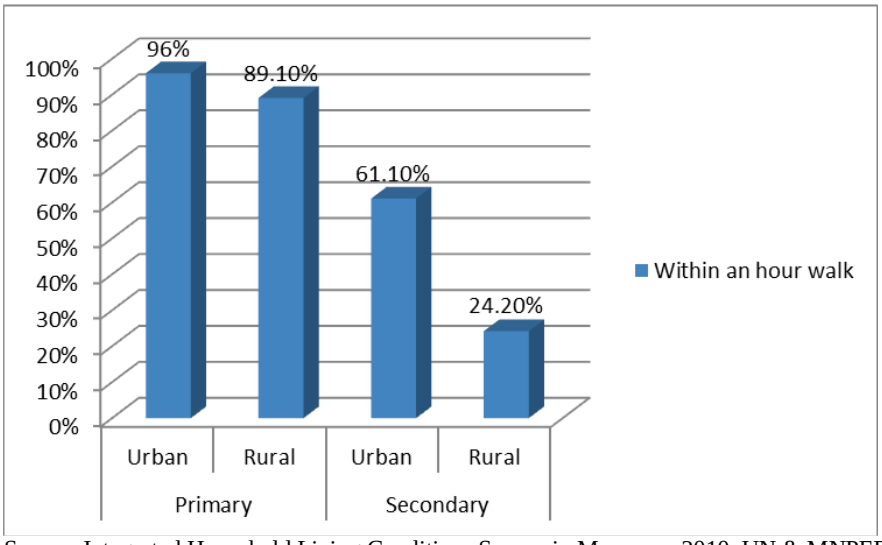
Figure 3-3 shows NERs of urban and rural areas. There is only a slight difference in primary level enrolment rates (only 3%), whereas the difference becomes more pronounced at the secondary level (around 30%) between urban and rural areas.



Source: Integrated Household Living Conditions Survey in Myanmar, 2010, UN & MNPED

Figure 3-3: Access to School in Urban and Rural Areas

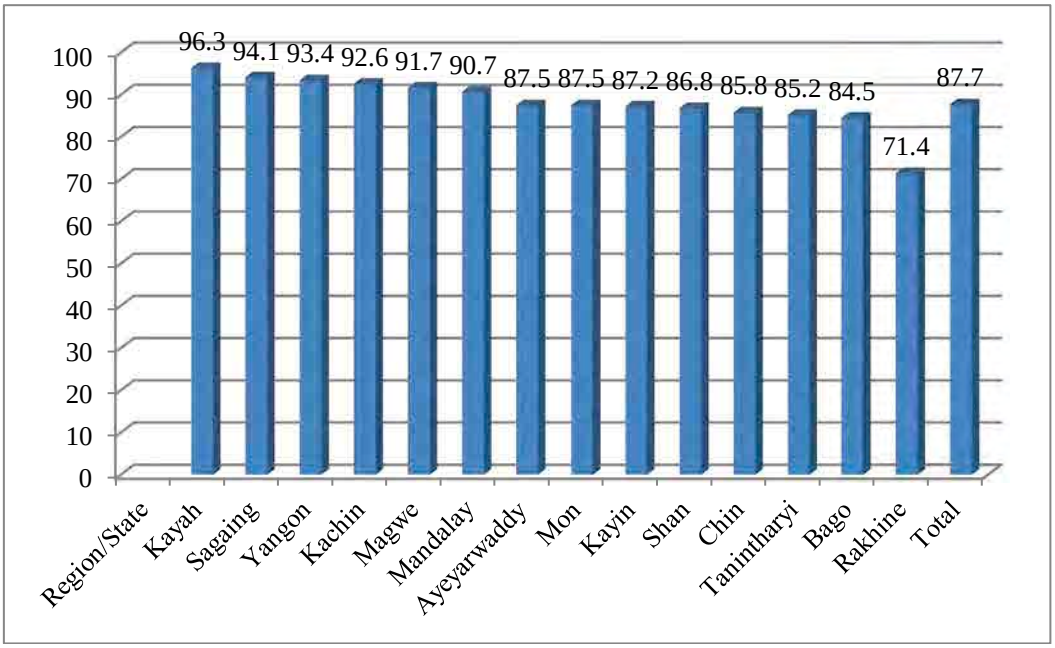
Figure 3-4 shows the ratio of students who reside within an hour's walk to school (within 1.23 miles). More than 90% of pupils at the primary level reside within this distance but at the secondary level (includes Grade 6 and above of post primary schools) only 60% of students who live in urban areas and 24% of students who live in rural areas are within this distance. Low enrolment in secondary school in rural areas is considered to be a result of difficulty of access to secondary school. Unlike in urban areas, it is difficult to secure transportation to school in rural areas, especially during the rainy season.



Source: Integrated Household Living Conditions Survey in Myanmar, 2010, UN & MNPED

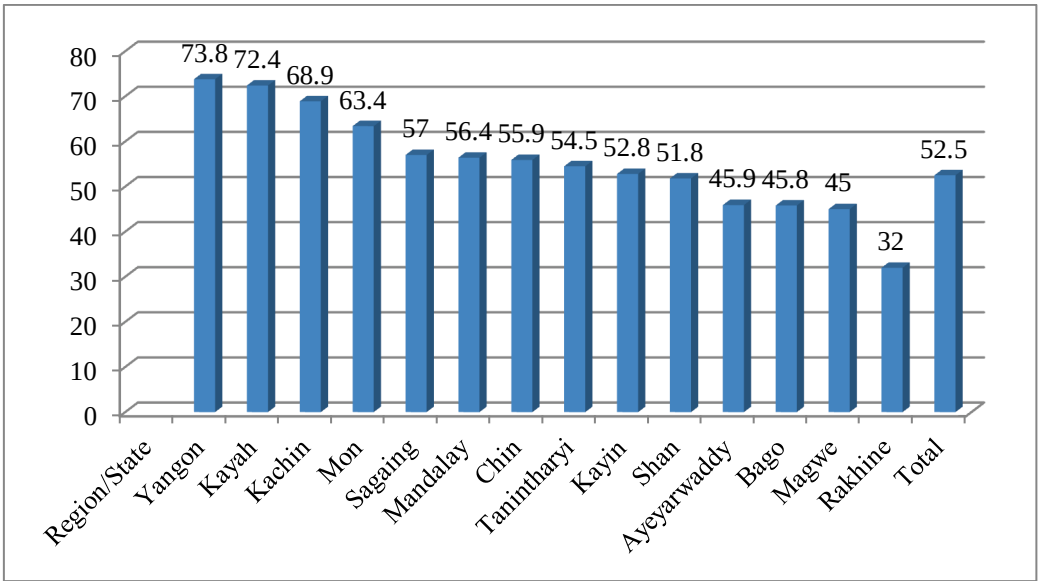
Figure 3-4: Ratio of Students who Reside within An Hour's Walk from School

Figure 3-5 and Figure 3-6 show the gap of NERs both in primary and secondary education among regions/states. Rakhine state shows the lowest NER both in primary and secondary levels. The gap for primary education among regions/states excluding Rakhine is around 12 points, on the other hand the gap for secondary education more than doubles to around 29 points. This shows that the gap among regions/states becomes wider at upper levels of education. The possible reasons are: (i) limited access in rural areas in secondary level; (ii) young labor force in rural and Thai border areas; and (iii) lack of understanding of the importance of education by parents.



Source: Integrated Household Living Conditions Survey in Myanmar, 2010, UN & MNPED

Figure 3-5: NER by the Region/ State in Primary Education



Source: Integrated Household Living Conditions Survey in Myanmar, 2010, UN & MNPED

Figure 3-6: NER by the Region/ State in Secondary Education

3.5 Quality of Education

The later sections in this report for Teacher Education and Management and National Curriculum provide more details on the main issues of quality of education. This section therefore, focuses on the educational environment which is one of the critical factors impacting on the quality of education.

At the schools which the Study Team visited, it was observed that the quality of educational environment was not adequately assured because; (i) More than 100 students were studying in one classroom, in which teachers have to rely more on lecture-type lessons; (ii) Most schools in rural areas have no walls between classrooms, making it difficult for students to concentrate; (iii) There seem to be no standards pertaining to school facilities- for example, schools in urban areas provide desks and chairs for students, whereas only desks are provided in rural areas.

A classroom in a rural school

Students in all grades are studying in one floor together. Students of the same grade sit together around each blackboard.

An over-crowded classroom in an urban school

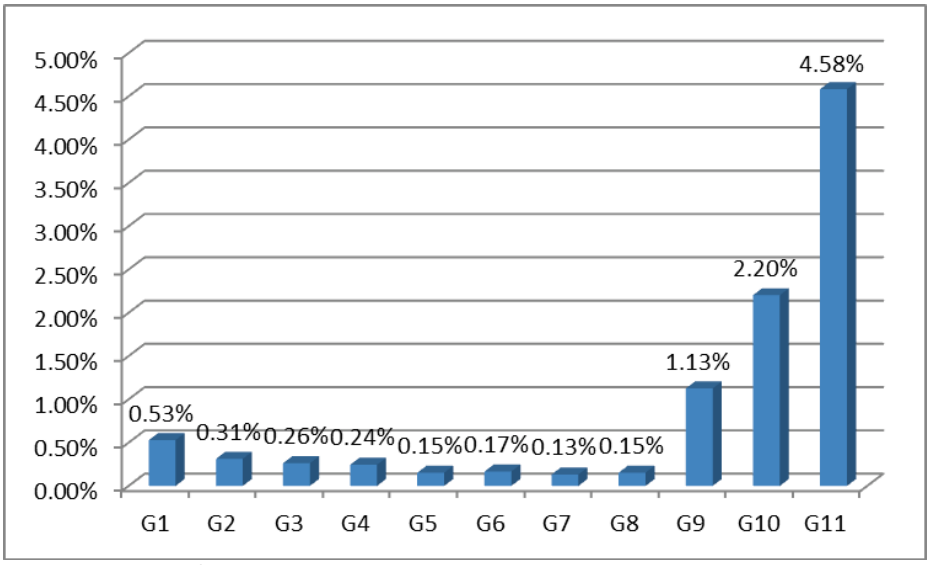
Around 120 students are in one classroom.

Thus, it is highly recommended to examine the number of teachers, classrooms, school facilities and so forth, based on the actual situation at the school level. In addition, standards to define an appropriate educational environment should be established.

3.6 Internal Efficiency

3.6.1 Repetition and Dropout

Figure 3-7 shows the rate at which students repeat each grade. In general, the rate remains low between G2 and G8 while G1 shows a slightly higher rate. However, the rate increases each year from G9 to G10 and G11, which are the final years of middle school and high school. The MoE discourages schools from failing unsuccessful students in examinations and teachers are making efforts to support low achieving students by conducting pre-tests and providing supplemental study sessions after school. This is one of the main reasons why repetition rate is kept low.



Source: Calculated from Education Statistics Year Book, 2010/11 & 2009/10

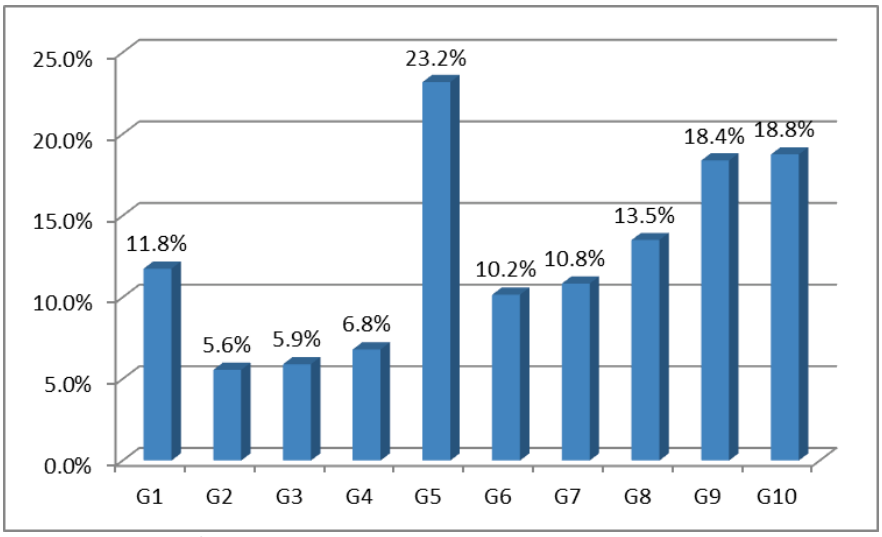
Figure 3-7: Repetition Rate in AY2009

Figure 3-8 shows the dropout rate in each grade. About 23% of students drop out in the 5th grade of primary school, which is the last year of primary school and shows the highest dropout rate. The dropout rate increases as the grade level becomes higher. In the 8th and the 9th grade the dropout rate is more than 18%. In addition, a high dropout rate is observed for the 1st grade of primary school, which is the starting year of compulsory education.

The high dropout rate is caused by various reasons: (i) migration of families due to seasonal jobs; (ii) parents' low interest in education, especially in rural areas; (iii) migration of students as young labor, especially to Thai border regions/states. In addition, difficulty of access to middle schools in rural areas is one of the reasons behind the high dropout rate at Grade 5. The high dropout rate at Grade 1 is also a result of difficult access to primary school in rural areas, as well as a lack of readiness of G1 entrants to study in primary education. Primary education has become free, but parents still have to bear several costs[18] from the middle school level and

[18] Parents need to pay PTA fee and ASL (Athletic, Stationary and Library) fees from middle school in addition to purchasing textbooks, exercise books and uniform.

these place heavy burdens on poor households that choose to send their children to higher school levels.



Source: Calculated from Education Statistics Year Book, 2010/11, 2009/10 & 2008/09

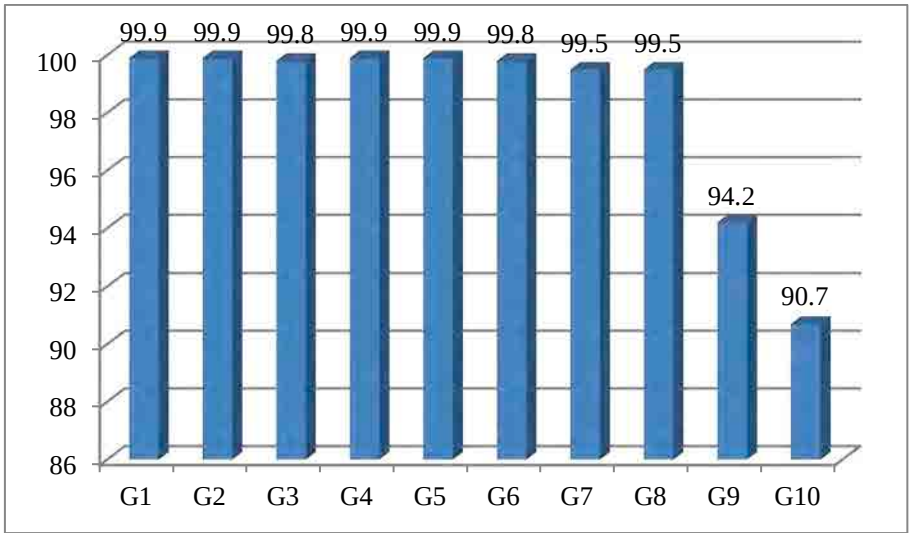
Figure 3-8: Dropout Rate in Each Grade

3.6.2 Promotion and Examination

(1) Promotion

Middle schools and high schools accept students who have completed primary schools and middle schools, respectively. There is no entrance examination to proceed to middle/ high schools. In addition, students are accommodated from schools that have no upper grade classes. However, the promotion examination is carried out every year to determine whether students can proceed to the next grade. The current examination system has been in place since 1998. Teachers are required to provide guidance on taking the examination well in advance to help all students to pass the examination and be promoted.

Figure 3-9 shows the percentage of students in each grade that passed the promotion test. Except for the high school level, it is indicated that almost all students have passed this examination.



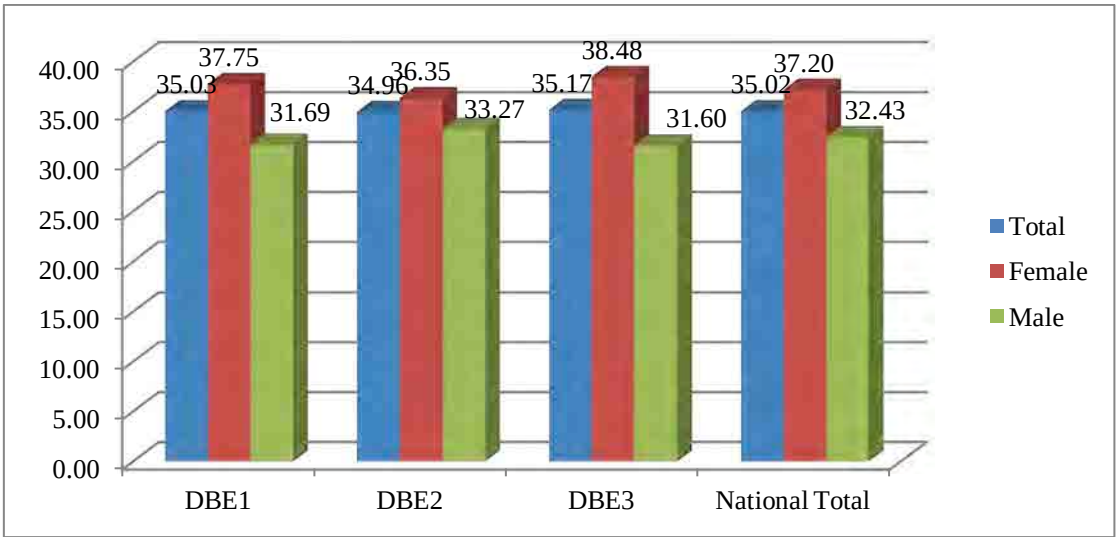
Source: Education Statistics Year Book, 2010/11

Figure 3-9: Pass Rate of Promotion Examination (2010/11)

(2) Matriculation Examination

The matriculation examination[19] has two purposes in Myanmar: a graduation examination of high schools and an entrance examination to higher education institutions. This is unique to Myanmar.

Figure 3-10 shows the rate at which students passed the matriculation examination. Overall the rate is around 35% in 2010/11 and the students from three DBEs had similar results. However, the rate at which females passed is higher than that of males.



Source: Education Statistics Year Book, 2010/11

Figure 3-10: Pass Rate of Matriculation Examination (2010/11)

[19] The level of the matriculation examination is basically followed by the O-Level examination which examines to what extent students learned basic knowledge. However contents of the matriculation examination cover up to G11 level.

3.7 Education for Ethnic Groups

There are more than 130 ethnic groups in Myanmar such as Bamar, Shan, Rakhine and Kayin. Bamar is the largest group which comprises around 69%, followed by Shan at 8.5%, Kayin at 6.2%, Rakhine at 4.5%, Mon at 2.4%, Chin at 2.2%, Kachin at 1.4% and other groups at 0.1% of the total population (1983 Population Census). Major issues to improve educational opportunities for ethnic groups are: (i) improvement of access for children who live in mountainous areas; (ii) poverty issues; (iii) social, cultural consideration and understanding and (iv) communication by their ethnic language. The Ministry of Border Affairs provides educational opportunities for children from the middle school level who are in difficult conditions to continue education, such as living in a poor household, being orphaned or being raised by a single-parent. The Ministry of Border Affairs established 29 Youth Training Centers nationwide and accommodates these children by providing training for daily living and schooling to nearby middle schools and high schools. After they complete high school, the Ministry of Border Affairs further provides TVET or higher education opportunity and the graduates are required to return to their ethnic communities and work as community leaders. The Ministry of Religious Affairs also started to provide a similar training program for Chin ethnic group at primary and middle school levels from 2006 and students who complete this training program are accepted at Youth Training Center under the Ministry of Border Affairs.

3.8 Issues in Primary and Secondary Education in Myanmar

Based on the analysis in the previous sections, the following issues in primary and secondary education have been identified.

3.8.1 Access

1. Enrollment in education has improved in recent years. However, The NER in primary education is still below other ASEAN countries. It has also been pointed out that the dropout rate is high at beginning and the final stages of each school level. In terms of access, the NER of students who belong to poor households is low. Access in rural areas and enrollment of students from poor households tend to decrease as they progress to higher grades. Therefore, it is necessary to take measures to improve access to middle and high schools as well as to provide support, incentives and alternative measures for children from to poor households.
2. Monastery schools have an important role in providing educational opportunities to disadvantaged groups by offering free education. However, there are still limitations to establishing monastery schools at the middle and high school levels. This in turn limits students' access to higher levels of education.
3. Although primary education is now free, parents have to shoulder several school fees from middle school education onwards. This is one of the barriers that children from poor households face in progressing to upper levels of education.
4. Due to the geographical reason, it is difficult for children in the border areas to get access to schools. Alternative programs by providing boarding facilities and mobile schooling need to be considered.

3.8.2 Quality

1. There is a lack of qualitative criteria in establishing schools.
2. Standards to assess quality of the education environment are necessary to maintain appropriate class sizes and facilities.
3. A teacher-centered teaching approach and rote learning still dominate in the classroom.
4. The contents of examination still tend to emphasize knowledge acquisition. This reflects classroom teaching priorities.

5. Curriculum contents to be taught at schools should consider social and cultural aspects of ethnicity as well as using ethnic language as the language of instruction for ethnic groups.

3.8.3 Management

1. Compared to other ASEAN countries, the school starting age of five years old is younger. In addition, the total number of schooling years from primary to upper secondary is 11 years and this is one year shorter than in other countries. Five years old in the first grade in Myanmar corresponds to the last year of pre-school education in other countries. It is necessary to verify whether the teaching contents offered in Myanmar are equivalent to other countries by analyzing curriculum contents of the entire primary and secondary education programs.
2. Education policies for pre-primary education differ among ministries. While the MoSWRR emphasizes nursery education such as sentiment education, the MoE places emphasis on learning preparation for primary schools. The policies need to be unified among relevant ministries to provide/expand pre-primary education to eligible pupils.
3. School head teachers do not have enough management and administration authority in primary and middle schools. Therefore, it seems difficult to strengthen school management at both school levels. In addition, school inspections are carried out on a regular basis but more emphasis should be put on improving the quality of teaching.
4. The matriculation examination has the following issues:
   - ✓ Due to the characteristics of the examination, the level to pass the examination is set at the same level as entrance to university. Therefore, graduation and completion rates of high school students is low,
   - ✓ The rate at which students pass the examination differs greatly depending on the selection of subjects. Students become less interested in taking the subjects for which it is difficult to pass the examination.
5. It is difficult to appoint qualified teachers to the border areas/ remote areas, because most of the teachers are reluctant to work in these hardship postings.

3.9 Teacher Education in Myanmar

This section provides necessary information based on the CESR format. CESR format which is instructed by CESR team includes three areas of analysis: (1) Management, (2) Quality, and (3) Access. These are followed by "critical issues" and "recommendations", under which some recommendations are made directly targeted on to CESR (Phase 2), detailed analyses.

3.9.1 Management

(1) Teacher Education Structures in ASEAN countries

In last two decades, many ASEAN countries have embarked on educational reforms, following their commitment to the “Education for All” world declaration in 1990, which is focused, among other things, on ensuring quality teaching by competent teachers in their respective countries. Myanmar is one of the countries to improve teacher education system and in late 1990’s its teacher education system was reformed to facilitate the training of more competent teachers at the basic education level in the country.

Table 3-6 shows the current structures in support of teacher education in ASEAN countries. According to the documents available on websites, it is seen that these countries have been upgrading teachers’ qualifications by extending the length of teacher training courses. Teachers in most of these countries are supposed to complete a 4-year training course at a university or college. The Bachelor of Education (B.Ed.) degree is the standard qualification for teachers, regardless of which school level they teach, be that primary, middle, to high school. Also,

excepting Laos and Cambodia, most individuals who enter the teacher education program are high school graduates.

Table 3-5: Structures in Support of Teacher Education in ASEAN Countries

Country	Length of course			Nature of Institution	Entry Requirement	Pupils Teacher Ratio*1	Primary Completion Rate (%)*1	Trained Teacher in Prim. Sch.*1	Population 2011 (Million)*2	GDP 2011 (Billion USD)*2
	Primary Sch.	Lower Second. Sch.	Upper Second. Sch.							
Myanmar	1yr Cert.Ed	2yrs Dip.Ed	5yrs B.Ed	University (IOE) Education College (EC)	High school graduation	28 (2010)	104% (2010)	100% (2010)	48.34	42.0
Thailand	4yrs Dip.Ed		4/5yrs B.Ed BA/BSc +1yr	University	High school graduation	16 (2008)	-	-	69.52	345.6
Philippines	4yrs B.Ed (Elem)	4yrs B.Ed (Secondary) +Subject Spec		University Teachers College	High school graduation	31 (2009)	92 (2009)	-	94.85	224.8
Laos	1-4yrs	3yrs	4/5yrs Degree	University (NUOL) Teachers Training College (TTC) Teacher Training School (TTS)	For primary moving to lower secondary graduate	27 (2011)	93 (2011)	94 (2011)	6.29	8.3
Malaysia	4/5yrs Degree	4/5yrs B.Ed BA/BSc+1yr		University and Teachers College	High school graduation and entry test	13 (2009)	-	-	28.86	278.7
Indonesia	4yrs Diploma/Bachelor			University and Teachers College	High school graduation	16 (2010)	109 (2010)	-	242.33	846.8
Cambodia	2yrs (PTTC)	2yrs (RTTC)	1yr (NIOE)	National Institute of Education (NIOE) Regional Teachers Training Center (RTTC) Provincial Teacher Training Center (PTTC)	High school graduation Junior high school graduation for disadvantaged regions	47 (2011)	90 (2011)	99 (2011)	14.31	12.9
Vietnam	Upper Sec. Diploma	College Diploma	Degree	University College	High school graduation	20 (2010)	-	98 (2010)	87.84	124.0
Singapore	4yrs B.Ed.	2yrs Dip.Ed.		University	High school (A Level)	17 (2009)	-	94 (2009)	5.18	239.7
Brunei	3yrs Cert.	4yrs BA/BSc+1yr		University (IOE)	High school (O Level)	11 (2011)	120 (2011)	88 (2011)	0.41	12.4

Source: *1: World Data on Education (7th edition), UNESCO (2011) http://www.ibe.unesco.org/en/services/online-materials/world-data-on-education/seventh-edition-2010-11.html
*2: World Development Indicators Database, World Bank (2012) http://data.worldbank.org/country/ Myanmar Teacher Education Review, UNICEF (2007)
(BA: Bachelor of Arts, BEd: Bachelor of Education, BSc: Bachelor of Science, Cert.Ed: Certificate in Education, Dip.Ed: Diploma in Education)

(2) Teacher Education in the 30-Year Long-Term Plan for Basic Education

The MoE has been implementing its 30-Year Long-Term Plan for Basic Education 2001-2031. According to the plan, the GoM set priority areas in basic education. One of these emphasizes teacher education (Process 4).

In 2001, the MoE's 30-Year Long-Term Plan reported 6 areas of implementation for improving the quality of teacher education.

(1) Opening the pre-service teacher training course
(2) Reduction of in-service uncertified teachers
(3) Appointing pre-service trained teachers
(4) Ensuring full strength of teaching staff for basic education schools in border areas
(5) Improving the quality of teacher education
(6) Accomplished and on-going activities

With the plan as a reflection of the GoM's commitment, many activities were initiated and implemented. These included upgrading Teacher Training Colleges (TTCs) and Teacher Training Schools (TTSs) to Education Colleges (ECs), providing pre-service teacher training, introducing a credit assessment system, new teaching certificates (Diploma in Education, etc.), postgraduate degrees in education (Master of Education and Doctor of Philosophy, etc.) and in-service teacher training. According to a report by the MoE, educational reform has, to some extent, been successful. Particularly, the number of uncertified teachers has been drastically reduced through the provision of several in-service teacher trainings for certifying, while the teacher appointment system has been made more systematic and efficient by assigning executive committee under DEPT to be responsible. Special consideration for the teachers in border areas was also introduced, in terms of promotion and other benefits, so that in cooperation with University of Development of National Races (UDNR) more competent teachers have been appointed in those areas. Management training for TEO and head teachers also was conducted for ensuring improved school management together with school infrastructure construction and maintenance.

After 12 years of implementation so far, it is necessary to reexamine the quality of those services provided by the government. It seems that still most of the initiatives are centrally controlled and it is unclear if the contents of these programs are still relevant to the actual needs of the school and teachers in the field.

Unfortunately, a widely agreed-upon teacher competency standard as an overall goal for improved teacher education is still yet to be clearly seen in the current education system. In addition, the standard curriculum for teacher education must be consistent from EC through IOE and in-service training. These areas of service should be discussed as soon as possible in order for Myanmar to keep up with the international trend. There are two major aspects: 1) more relevant support for teachers, and 2) more attention to be paid to students' learning within the teacher education program.

(3) Career Development of Basic Education Teachers

Before 1998, the basic education teachers' career path was linear, from Primary Assistant Teacher (PAT), to Junior Assistant Teacher (JAT) through Senior Assistant Teacher (SAT) and above. By gaining years of teaching experience and upgrading teaching certificates and degrees, teachers advanced in their careers and increased their salaries.

Nowadays, the teacher career path has become more flexible and complicated through the introduction of several entry points to the teaching profession. It is assumed that university

graduates still face difficulty in getting a job, as compared with students in teacher education institutes like IOE and EC who are assured of getting a teaching job if they accept deployment to any area.

Due to the ascending salary system, once a teacher starts his/her career, he/she starts looking for a better position in a higher level school. This is the system, but even this system can support improvements in teacher quality. Every time a teacher moves to a higher position, the teacher is expected to take training courses to upgrade knowledge and skills. For instance, PAT takes a diploma course at EC for becoming JAT and JAT takes a degree course at IOE to become SAT or other position. Unfortunately, the chance to practice educational theory in class is only in teaching the bloc curriculum. If the curricula of EC and IOE do not meet teachers' needs and teachers are in effect taking classes just to move to a higher salary status, pedagogical improvement will not be possible even after 2~5 years of the program. It is suggested that EC and IOE curriculum be reviewed as early as possible to meet the needs of teaching in class.

Another issue around career development is related to the absence of a teacher education policy, which leads to the lack of professional standards for each of the stakeholders in education sector according to age, responsibility, level of school, etc. In addition, a teacher appraisal system is also not in place in Myanmar and only TEOs have the authority to report outstanding or underperforming teachers to higher authorities.

As of October 2012, the number of PATs is 180,532, JATs 67,175, and SATs 26,738. As seen here, teaching posts at higher level schools comprise about one third of the number of lower level schools, not including IOE graduates who are employed as high school teachers. Transferring to a higher school is not easy and many teachers stay at primary schools even though they have teaching certificates that qualify them for a higher salary scale.

Looking at all the career development issues mentioned above, it is strongly suggested that 1) the teacher career development be linked with the salary system, 2) a teacher appraisal system be developed, 3) teacher education policy be formulated and approved, and 4) policy-based professional standards for teachers be defined set out as soon as possible

(4) Absence of Teacher Education Policy

So far, the MoE has issued several directives as necessary. For example, the Guidance of the Head of State was issued in March 2011, providing some notion about the goal of teacher education "to improve capacities of teachers in both basic and higher education sector". But there is no clear direction for teachers towards the goal of their professional development. It seems there is no comprehensive document regarding teacher education policy in Myanmar.

Due to the absence of a comprehensive teacher education policy in Myanmar, it is hard to figure out the framework of continuing professional development for teachers and the professional standards for all stakeholders in the education sector. Therefore, the long-term goal of all the efforts, like pre-service teacher education and in-service teacher training, is vague. Consequently systematic design of teacher education and effective and efficient implementation of teacher education programs is difficult.

Among the project initiatives in the past, one of them, called JICA's Strengthening Child Centered Approach (SCCA) which was active from 2004 to 2011, proposed concrete descriptions of teacher competencies as shown in Table 3-7.

Table 3-6: Goal of CCA Lesson and Competency of the Teachers

Goal of the CCA Lesson	CCA Competency of Teachers
1. **Subject Matter:** Students will understand the subject content more clearly and deeply, and be able to apply the acquired knowledge to daily life. 2. **Learning Skills:** Students will improve their learning skills by actively participating in the Teaching/ Learning process. This includes participating in various learning activities as well as taking part in collaborative learning among themselves. 3. **Positive Attitude:** Students will demonstrate their interest, participation and joy in learning.	1. **Subject Skills:** Teachers will be able to teach appropriate subject content with deep understanding and mastery of the subject matter. 2. **Lesson Designing Skills:** Teachers will be able to design effective lessons based on CCA. 3. **Teaching/Learning Material Skills:** Teachers will be able to design, develop and utilize low cost and effective T/L material. 4. **CCA Teaching Skills:** Teachers will be able to conduct effective T/L activities using various teaching techniques and facilitating students' active learning. 5. **Assessment Skills:** Teachers will be able to assess student's learning by applying the various assessment techniques. 6. **Positive Attitude:** Teachers will be able to communicate in a friendly manner with students and increase their interest in learning.

Source: SCCA2 Project Poster

(5) Teacher Supervision System

Middle and primary school teachers in Myanmar have very limited power to make decisions in terms of school management and teacher supervision. Generally, it is TEOs and high school head teachers who are responsible for these decisions. Day-to-day supervision is carried out by Assistant Township Education Officers (ATEO) who visit schools, deliver messages from TEO and DBE, and check teachers' attendance. At the school level, it is the head teacher who checks teachers' attendance every day. In Myanmar's teacher supervision system, high school head teachers are given extensive responsibility in many areas of school management. Therefore, at the township level, TEO and high school head teachers are expected to attend school management training sessions organized by DEPT. However, in terms of teachers' professional development, the teacher current supervision system in this country does not seem to adequately serve to develop teachers' capacity of teaching. One TEO in Mandalay Division stated that whenever he goes to school he is busy dealing with teachers' request for transfer and promotion and has no time for lesson observation or advising teachers.

(6) Critical Issues

<u>Management</u>

1. Teacher education systems in many ASEAN countries have been upgraded to 4 year degree programs for the teachers of all levels, but Myanmar provides a 1-year program for primary teachers, 2 years for lower secondary teachers and 5 years for high school teachers.
2. The salary scale for teachers starts low but becomes higher from PAT, JAT to SAT
3. There is an absence of a teacher education policy in Myanmar, since pieces of directives so far have not been consolidated to make one systematic policy document.
4. Lack of professional standards makes long-term goals of teachers unclear, which makes it difficult to figure out framework of continuing professional development (CPD).
5. Head teacher's responsibility is limited and TEO/ATEO manage primary/middle schools.
6. Management and leadership training for head teachers have not been organized yet.

(7) Recommendations

For Solving or Improving the Situation

1. All teacher education institutes should be upgraded into bodies that award 4year degrees. This will help to produce specialized teachers at each level with B.Ed, such as B.Ed (Primary) for primary school teachers, B.Ed (Lower Secondary) for middle school teachers, and B.Ed (Upper Secondary) for high school teachers.
2. The salary scale for teachers should be restructured separately and equalized for each level of school.
3. Teacher Education Policy needs to be formulated.
4. Professional standards for all education related personnel should be discussed among the stakeholders and formulated. This should subsequently guide all training programs to ensure greater consistency throughout teachers' professional careers.
5. A National Teacher Council (tentative) should be established to oversee the professional standards for educational personnel.
6. More school management authorities should be delegated to head teachers of primary/middle schools, and decentralized school management system should be re-structured.
7. School-level management and leadership training must be organized for head teachers at primary/middle schools.

For Phase 2

1. More detailed information should be collected about the necessary preparation for upgrading educational institutes to bodies that award 4 year degrees.
2. Teacher education policy framework should be discussed and documented.
3. By involving more stakeholders the Comprehensive professional standards for all education related personnel should be discussed and documented more thoroughly.
4. Mission, roles and responsibility for National Teacher Council (tentative) should be discussed and a proposal should be prepared.
5. The current decentralized school management system must be structured.
6. Training needs for school head teachers are to be collected and incorporated to school-level management and leadership training.

3.9.2 Quality

(1) After Re-Institutionalization of Pre-Service Teacher Training Program (After 1998)

Pre-service teacher training stopped in 1971 but was re-instituted in 1998 based on the education seminar in May 1998. This reform upgraded five Teacher Training Colleges (TTCs) and 14 Teacher Training Schools (TTSs) to Education Colleges (ECs). Thus, teachers from the old system and from the new system are now together in the same school.

Table 3-7: List of Teacher Education and Training Institutes in Myanmar

	Division/State	Name of Institute	Founded	Remarks
Institute of Education (IOE)	Yangon Division	Yangon IOE	1964	Former TTC was founded in 1931 and YIOE gained its present status as a degree-awarding professional institute in 1964 when the University Law was enacted.
	Sagain Division	Sagain IOE	1992	IOE (Mandalay) was founded in 1992, and moved to Sagaing Division in 2000 and became Sagaing IOE
Education College (EC) (Former TTC)	Yangon Division	Yankin EC	1947	
	Mandalay Division	Mandalay EC	1955	
	Mon State	Mawlamyaing EC	1953	
	Ayeyawady Division	Pathein EC	1966	
	Bago Division	Toungoo EC	1967	
Education College (EC) (Former TTS)	Shan State	Taunggyi EC	1968	
	Magway Division	Magway EC	1965	
	Sagaing Division	Moneyar EC	1996	
	Kachin State	Myitkyina EC	1952	
	Tanintharyi Division	Dawei EC	1953	
	Rakhine State	Kyaukphyu EC	1953	
	Sagain Division	Sagain EC	1968	
	Magway Division	Pakokku EC	1982	
	Bago Division	Pyay EC	1968	
	Ayeyawady Division	Bogalay EC	1970	
	Kayin State	Pa-an EC	1996	
	Ayeyawady Division	Myaungmya EC	1968	
	Mandalay Division	Meiktila EC	1953	
	Yangon Division	Hlegu EC	1986	
	Yangon Division	Thingangyun EC	1969	
University under the Ministry of Border Affairs	Sagaing Division	University of Development of National Races (UDNR)	1964	UDNR gained a university status in 1991. Since it is responsible for providing teacher education to ethnic groups, students who completed Grade 9 can be admitted to a 3-year teacher certificate course and some of them can continue to a degree course.

Currently, the minimum requirement for applying to be a high school teacher (Senior Assistant Teacher: SAT) or an Educational Administrator is a Bachelor of Education (B.Ed) degree. This degree is only offered to the people from Lower Myanmar at Yangon IOE in Yangon Division and for those in upper Myanmar at Sagaing IOE in Sagaing Division. Both of these IOEs are under the control of Department of Higher Education (DHE), MoE. (See Table 3-8)

(2) Yangon Institute of Education (YIOE)

YIOE was founded as a TTC in 1931. When the University Law was enacted in 1964, this institute gained its degree-awarding status. In 1970, the Master of Education (M.Ed.) course was introduced and later the Doctor of Education (PhD) was also offered by the institute. As of 2012, YIOE has 113 teachers and an administrative staff of 173. Student enrollment in each program is, respectively, B.Ed 1,748, M.Ed 114, and PhD 24. Internet access is available on campus with wireless LAN for the graduate students and the university staff. In addition, IOE Practicing School has been recognized as a good school, in which there are 160 teachers and 8,312 students.

In YIOE, the B.Ed. equivalent to the high school teacher certificate can be obtained. There are three different admission systems. One is called B.Ed. (Direct Intake) which is for students from

Lower Myanmar who have passed the matriculation examination. These students can apply directly to DHE, and the DHE selection committee selects 300 candidates for YIOE's consideration. YIOE interviews the candidates and makes final selections.

A second admission system is known as B.Ed. (Bridge Program). This program is for those who have completed two years pre-service training at EC (D.T.Ed). Students with higher performance may apply for this degree program at IOE. An annual quota of 300 is available. The Education College Board under guidance of DEPT recommends 300 candidates to be enrolled in the third year of the B. Ed in YIOE.

The last admission system is the B.Ed (Correspondence Course). Those teachers who are in service with any Bachelor's degree and have at least five (5) years of teaching experience can apply to this course. After passing an entrance examination they take the program remotely.

Students in any of the three courses may apply to high school teacher and educational administrator positions after successful completion.

Teaching staff of YIOE from two fields of study, namely academic and education, jointly teach their students to keep YIOE's quality of education high. In the education field, there are three departments: 1) Educational Psychology (Among the staff, 10 PhD holders), 2) Education Theory (11 PhD holders) and 3) Methodology (12 PhD holders). Each department head is proficient in the English language and two were awarded their PhD from universities in Japan.

Annual curricula are drafted by the department heads and other staff and approved by the Board of Study (BOS), consisting of 10 to 20 former professors and subject experts. The medium of instruction at YIOE is English. However, Myanmar is also used to help students understand their classes better. YIOE's budget is decided by DHE and the MoE, and YIOE does not have any decision-making authority, including over the use of the budget. Students pay tuition fee of 500 kyat per month. Some of the interviewees mentioned that due to job security reasons, students are likely to choose IOE as their professional institute, as almost all graduates get a teaching job or an administrative job. Thus, the students admitted to IOE are, to some extent, bright ones, if not among the best performers in their cohort.

(3) Sagaing Institute of Education (SIOE)

For the betterment of educational standards in upper Myanmar, Mandalay Institute of Education (MIOE) was opened as part of Mandalay University in 1992. In 2000, the main function of IOE was shifted to the present location in Sagaing and MIOE was reopened as Sagaing Institute of Education (SIOE). When MIOE was opened, the rector was invited from Yangon IOE and also most of the teaching posts were occupied by professors from Yangon IOE and Mandalay University. Now, SIOE has a teaching staff of 151 out of which 25 hold a PhD and 126 have a Masters' degree. The minimum requirement for SIOE's teaching staff of SIOE is a Masters' degree. The number of administrative staff at SIOE is 165. Doctoral programs have not yet been prepared.

As at YIOE, SIOE's tuition fee is 500 kyat per month. Curriculum, budget and entrance requirements are also the same as YIOE. In order to maintain the standard of education, SIOE is using a self-assessment system with 12 criteria. Normally, female students outnumber male students, but since 2011 the MoE initiated a new policy of recruiting more male teachers and now a fixed percentage of 60% male students and 40% female students has been set.

Due to its location in upper Myanmar, SIOE accepts students from the area. However, the matriculation examination, which provides the chance to enter SIOE, is administered in

Myanmar language, and there is no special arrangement for the ethnic minorities even during classes. Furthermore, inclusive education is not applicable to SIOE, as no guidelines have been developed by the IOE authority.

Table 3-8: Number of Teaching Staff and Students at SIOE

Teaching Staff	
Post	**No.**
Professor	7
Associate Professor	3
Lecturer	28
Assistant Lecturer	36
Tutor & Demonstrator	7

Students		
Course	**No.**	**Completion Rate**
Bachelor of Education (B.Ed)	1,429	97.92%
Master of Education (M.Ed)	102	100%
Master of Philosophy (M.Phil)	4	100%
Post-graduate Diploma in Multi-media Arts (PGDMA)	131	100%
Bachelor of Education (B.Ed Correspondence)	1,900	98.64%

Source: Interview with SIOE staff on 1 October, 2012

(4) University for Development of National Races (UDNR)

The Ministry of Border Affairs runs one university called University for Development of National Races (UDNR) located in Ywathitkyi, Sagaing Division. Initially it was opened in 1964 as the Academy for the Development of National Groups. In 1988, the Civil Service Selection and Training Board took over control of the university. UDNR is responsible for providing opportunities for higher education to the ethnic groups in border areas free of charge. Since they have their own mother tongue, the students from the ethnic groups may have disadvantages given that the official language is used in the formal education system. Therefore, UDNR accepts about 200 students who complete Grade 9 every year and teaches them for 3 years to certify Cert. Ed (including the matriculation examination pass status). Some high performing students can then proceed to other degree courses.

Table 3-9: Course Completed Trainees (1964 to 2010)

a	M.Ed.	93
b	M.Phil (Ed.)	35
c	B.Ed. (1 year)	1050
d	B.Ed. (4 year)	1961
e	B.Ed. (2 year bridge)	443
f	D.T.Ed.	635
g	J.A.T.C.	956
h	P.A.T.C. / Cert. in Ed.	6859
i	Special P.A.T.C.*	461
	TOTAL	12493

*3-4 month special teacher training program

(5) Education College (EC)

As mentioned above, there are 20 ECs in the country, of which five used to be TTCs and 15 TTSs before 1998. All 20 ECs now offer two years D.T.Ed program. After institutionalization of pre-service teacher training in 1998, there have been five different programs offered in ECs; however, students who have completed high school can only apply to one year Cert. Ed. programs and two year D.T.Ed. programs. After successfully completing one year, the students are awarded Cert. Ed. and can become primary school teachers. Those finishing 2 years become

middle school teachers. Nowadays, almost all the students enrolled in first year of EC choose to continue to their second year.

Apart from those two programs, EC offers a one year Diploma in Teacher Education Competency (DTEC) to university graduates to become middle school teachers. It is assumed that university graduates have good academic backgrounds, and the duration of the course can be shortened by cutting down those academic classes that do not apply to teaching.
EC also takes primary and junior teachers in service as students in a short course during the summer holidays. After they complete the courses and pass the final examination, Primary Assistant Teacher Certificate (PATC) and Junior Assistant Teacher Certificate (JATC) are awarded, respectively. In all courses, female students outnumber male students as seen in the Table below. (See Table 3-11)

Table 3-10: Courses for Teaching Certificates in EC

	EC (1st Year)	Summer Holiday	EC (2nd Year)	Remarks
High school graduates	Cert. Ed. (3,532)	-	D.T.Ed (3,052)	Almost all students enrolled in 1st year of EC continue to their 2nd year. (Male: Female = 1:3)
University graduates	DTEC (3,946)	-	-	Students start as PAT for at least 2 years before promotion to JAT. (Male: Female = 1:12)
Primary school teachers	-	PATC (114)	-	There will be no course opened in 2012. (Male: Female = 1:13)
Middle school teachers	-	JATC (5,605)	-	(Male: Female = 1:11)

(Figures show numbers of students in 20 ECs in the country in 2011[20])

The tuition fees in EC are kept low (See Table 3-12) and almost 100% of EC graduates obtain teaching jobs as primary school teachers. This is why high school graduates who face financial difficulty at home and pass the matriculation examination tend to prefer to choose EC as one of their priorities of higher education. But since EC is residential, the Dining Fee could be a heavy burden for some students.

Table 3-11: List of the Fees in EC

Admission Fee	120 kyat
Hostel Fee	240kyat
School Fee	120 kyat/month
Dining Fee	7,500 kyat/month
School Council Fee	50 kyat
Laboratory Fee	60 kyat
Practical Art Subject	30 kyat
Examination Fee	50 kyat/semester

EC curriculum can be considered as six (6) parts according to their different objectives; 1) Methodology, 2) Academic Subject, 3) Co-curricular Subject, 4) Social Studies, 5) Modern Studies, and 6) Bloc teaching.

[20] MOE (2011) Statistical Year Book 2011

Table 3-12: EC Curriculum

Methodology	Academic Subject	Co-curricular Subject
Educational Theory	Myanmar	Physical Education (Theory & Practical)
Educational Psychology	English	Industrial Arts (Theory & Practical)
Myanmar	Mathematics	Domestic Science (Theory & Practical)
English	Science Course (Any of 2 options) 1. Physics 2. Chemistry 3. Biology	Agriculture (Theory & Practical)
Mathematics		Fine Arts (Theory & Practical)
Natural/Basic Science	Liberal Arts Course (Any of 2 options) 1. Geography 2. History 3. Economics	Music (Theory & Practical)
Geography		**Social Studies**
History	**Modern Studies**	Life Skills
Practicum	ICT	Union Spirit
Bloc Teaching	Language Lab	Moral and Civics
		Aspect of Myanmar

Source: Mandalay EC Presentation on 1 October 2012

Table 3-13: Academic Cycle of EC

Month	EC	Cert. Ed	D.T.Ed	DTEC	JTC
Aug	Cert.Ed and D.T.Ed admission forms			1st Semester Starts	
Sep	List of admission forms to DEPT				
Oct	Selection Board in DEPT				
Nov	List of attendees to be announced				
Dec		1st year 1st Semester Starts	2nd year 1st Semester Starts	1st Semester Ends	
Jan				**Bloc Teaching**	
Feb				**Bloc Teaching**	
Mar					
Apr	DTEC admission forms	1st year 1st Semester Ends 1st year 2nd Semester Starts	2nd year 1st Semester Ends	2nd Semester Starts	Plenary training in summer
May	List of admission forms to DEPT				Plenary training in summer
Jun	DTEC Entrance Exam		**Bloc Teaching**		Course duration is from June to March
Jul	DTEC announces List of attendees		**Bloc Teaching**		
Aug		1st year 2nd Semester Ends	2nd year 2nd Semester Starts	2nd Semester Ends	
Sep		**Bloc Teaching**			
Oct		**Bloc Teaching**			
Nov				DTEC Award	
Dec			2nd year 2nd Semester Ends		
Jan			D.T.Ed Award		
Feb		Cert. Ed Award			

Source: Source: Mandalay EC Presentation on 1 October 2012

Table 3-14 shows the annual workload of Mandalay EC, which looks confused because of running 4 different courses in the same campus.

(6) Critical Issues

1. The lack of "Professional Standards" makes long-term goals of teachers unclear, in turn making it difficult for teachers and teacher educators to set goals under the framework of continuing professional development (CPD)
2. Teacher support mechanisms are not adequate from the current education system in Myanmar.
3. Guidance from the educational administration side is limited, because indicators used for regular school inspection by education offices are seldom related to class improvement. The evaluation form does not have enough space, and guidelines are inadequate, which may lead to routine operation.
4. Teachers' evaluation system is not yet well established in terms of effectiveness of classroom teacher (e.g. Child Centered Approach, etc.).

5. IOE and EC provide lecture oriented and standardized lessons.

(7) Recommendations

For solving or Improving the Situation

1. Professional Standards for all education related personnel should be discussed among the stakeholders and formulated, which should guide all training programs to be more consistent throughout teachers' professional careers.
2. A National Education Staff Development Center (tentative) that is linked with its satellite centers (e.g. Division/State Education Staff Development Center) should be established to train all educational personnel and maintain nation-wide professional standards.
3. The school inspection system should be more focused on teaching and learning in the classroom, and related evaluation formats should be revised in line with new teaching approaches including lesson observation.
4. A new teacher evaluation system should be introduced and its training program provided to all relevant personnel (teachers, teacher educators, ATEO, TEO)
5. Curriculum reforms for IOE and EC are to be addressed as soon as possible.
6. Overseas training for teacher educators needs to be considered for revising and implementing internationally standardized teacher education curriculum.

For Phase 2

1. New teacher education curriculum together with Professional Standards for all education related personnel should be formulated following discussion among stakeholders.
2. Mission, roles and responsibility for National Educational Staff Development Centre (tentative) should be discussed and a proposal prepared.
3. Needs assessment of training for every educational personnel should be conducted.
4. Teachers' evaluation including lesson observation with international standard evaluation format should be conducted to uncover issues in classroom teaching and learning.

3.9.3 Access

(1) Teacher Needs and Supply

Every year, teachers' vacancies are reported by all the Township Education Officers (TEOs) based on a request by all three DBEs, namely DBE1 (Lower Myanmar), DBE2 (Upper Myanmar) and DBE3 (Yangon Division). Available teacher posts are compiled into a list by DBEs by 1st March every year, and requests for the new teachers are sent to DEPT.

After receiving the vacancy list from DBE, DEPT provides a new teacher list to each DBE. DBE forms the Educational Committee chaired by the Director General to appropriately deploy newly certified teachers from ECs and IOEs. New teachers are considered by two main criteria, namely specialized subjects and native hometown (language and cultural background) and are deployed to each TEO through REO/SEO by May with an official appointment letter. They start their teaching at the beginning of the academic year (1st June). DEO officials say that there is no big gap between teacher needs at the school level and supply from DEPT.

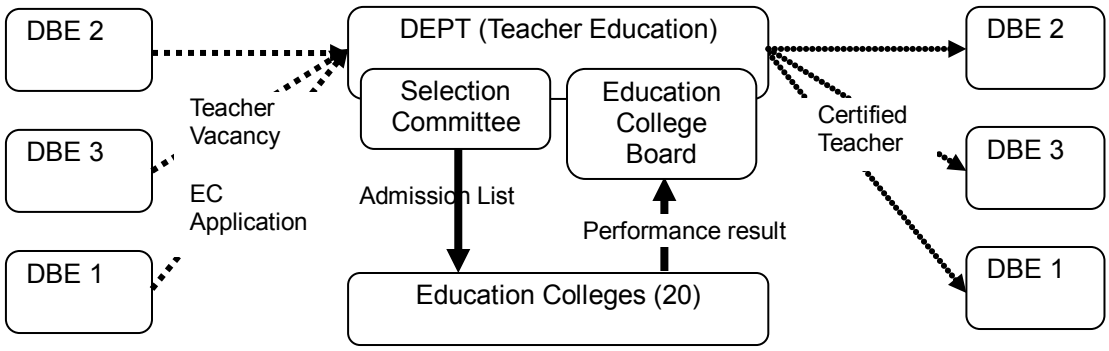


Figure 3-11: Teacher Request and Deployment System between DBE and DEPT

Students who pass the matriculation examination and who want to become teachers are required to submit their applications to each DBE through either TEO, DEO, REO or SEO where the applicant lives. The 1st selection is made at Selection Committee formed at REO/SEO. Screened applications are sent to the Selection Committee formed at DEPT for the 2nd selection chaired by DG. After that, an interview attendance list is sent by EC Principals to each EC, so that EC Principals can finally admit the screened applicants. Recently, due to the need for male teachers, selection standards for males are slightly lower than that for the female.

After completion of teacher training courses (DTEd, DTEC) at each EC, the trainees are finally evaluated by the Education College Board chaired by DG DEPT. Based on the results from the Final examination (40%) and others (60%), such as Bloc teaching, Attendance and Practical, DG DEPT issue teaching certificates to students and the list of newly certified teachers is sent to each DBE. The top 500 trainees with the highest marks are recommended for admission to 2 IOEs. Out of about 7,000 trainees who graduate from ECs every year, 500 (7 %) go to IOEs, while only a few go into teaching after completion of the 1st year (Cert. TEd).

The tables below show the actual status of teacher deployment in the country by calculating Students Teacher Ratio (STR).

Table 3-14: Teacher Deployment (Primary School)

		No. Primary School	No. Teacher	No. Students	Students Teacher Ratio
DBE1	Rural	17,492	74,597	2,201,906	29.5
	Urban	1,127	13,219	312,310	23.6
	Total	**18,619**	**87,816**	**2,514,216**	**28.6**
DBE2	Rural	16,956	74,798	1,853,034	24.8
	Urban	1,353	17,668	456,427	25.8
	Total	**18,309**	**92,466**	**2,309,461**	**25.0**
DBE3	Rural	1,520	8,755	223,412	25.5
	Urban	757	10,191	325,766	32.0
	Total	**2,277**	**18,946**	**549,178**	**29.0**
EC			**196**	**6,790**	**34.6**
DBEs (Union)	Rural	35,968	158,150	4,278,352	27.1
	Urban	3,237	41,078	1,094,503	26.6
	Total	**39,205**	**199,424**	**5,379,645**	**27.0**

Source: Statistical Year Book 2011

At the primary level, STR stands between 23.6 and 32.0 (National average is 27.0), which do not show significant variations across divisions. . But if we look at the regional distribution, Bago West (Urban) region shows only 17.1, while Rakhine (Rural) region 36.5.

Table 3-15: Teacher Deployment (Middle School)

		No. Middle School	No. Teacher	No. Students	Students Teacher Ratio
DBE1	Rural	820	16,487	662,325	40.2
	Urban	149	7,923	231,262	29.2
	Total	**969**	**24,410**	**893,587**	**36.6**
DBE2	Rural	899	17,628	723,477	41.0
	Urban	183	13,058	375,846	28.8
	Total	**1,082**	**30,686**	**1,099,323**	**35.8**
DBE3	Rural	113	2,707	91,156	33.7
	Urban	136	7,639	225,820	29.6
	Total	**249**	**10,346**	**316,976**	**30.6**
EC		**20**	**169**	**4,794**	**28.4**
DBE (Union)	Rural	1,832	36,822	1,476,958	40.1
	Urban	468	28,620	832,928	29.1
	Total	**2,320**	**65,611**	**2,314,680**	**35.3**

Source: Statistical Year Book 2011

At the middle school level, STR shows between 28.8 and 41.0 (National average is 35.3), which looks a little higher, but still comparable. But if we look at it region wise, Bago West (Urban) region shows only 20.0, while Shan South (Rural) region 45.0.

Table 3-16: Teacher Deployment (High School)

		No. High School	No. Teacher	No. Students	Students Teacher Ratio
DBE1	Rural	331	6,112	130,959	21.4
	Urban	186	4,313	106,291	24.6
	Total	**517**	**10,425**	**237,250**	**22.8**
DBE2	Rural	242	3,919	114,202	29.1
	Urban	319	7,142	197,759	27.7
	Total	**561**	**11,061**	**311,961**	**28.2**
DBE3	Rural	34	550	22,121	40.2
	Urban	135	3,185	99,476	31.2
	Total	**169**	**3,735**	**121,597**	**32.6**
EC					
DBE (Union)	Rural	607	10,581	267,282	25.3
	Urban	640	14,640	403,526	27.6
	Total	**1,247**	**25,221**	**670,808**	**26.6**

Source: Statistical Year Book 2011

At the high school level, STR shows between 21.4 and 40.2 (National average is 26.6), which looks a little standardized. But if we look at it region wise, Shan East (Rural) region shows only 9.1, while Sagain (Rural) region 42.8.

Table 3-17: Number of Teachers by Level of Certificate and Gender

			Primary School			Middle School			High School		
			Urban	Rural	Total	Urban	Rural	Total	Urban	Rural	Total
Head Teacher		**Total**	**3,151**	**32,319**	**35,470**	**446**	**1,634**	**2,080**	**608**	**289**	**897**
		Female	2,081	20,087	22,168	277	861	1,138	352	258	610
			(66.0%)	(62.2%)	**(62.5%)**	(62.1%)	(52.7%)	**(54.7%)**	(57.9%)	(89.3%)	**(68.0%)**
SAT	G10-G11	**Total**							**14,640**	**9,007**	**23,647**
		Female							12,410	7,247	19,657
									(84.8%)	(80.5%)	(83.1%)
	G9	**Total**				**683**	**2,343**	**3,026**	**2**	**25**	**27**
		Female				429	1,894	2,323	1	19	20
						(62.8%)	(80.8%)	(76.8%)	(50.0%)	(76.0%)	(74.1%)
JAT	Middle Level	**Total**				**9,199**	**20,945**	**30,144**	**18,936**	**10,020**	**28,956**
		Female				8,342	17,201	25,543	17,120	8,439	25,559
						(90.7%)	(82.1%)	(84.7%)	(90.4%)	(84.2%)	(88.3%)
	Primary Level	**Total**	**14,715**	**31,821**	**46,536**	**1,513**	**3,483**	**4,996**	**1,819**	**1,518**	**3,337**
		Female	13,899	27,424	41,323	1,410	3,086	4,496	1,701	1,325	3,026
			(94.5%)	(86.2%)	(88.8%)	(93.2%)	(88.6%)	(90.0%)	(93.5%)	(87.3%)	(90.7%)
PAT	Primary Level	**Total**	**12,956**	**65,175**	**78,131**	**3,325**	**8,742**	**12,067**	**3,599**	**3,245**	**6,844**
		Female	12,480	55,903	68,383	3,239	7,797	11,036	3,494	2,971	6,465
			(96.3%)	(85.8%)	(87.5%)	(97.4%)	(89.2%)	(91.5%)	(97.1%)	(91.6%)	(94.5%)
Total			**30,822**	**129,315**	**160,137**	**15,166**	**37,147**	**50,233**	**39,604**	**24,104**	**63,708**
Female			28,397	103,414	131,874	13,697	30,839	44,536	35,078	20,259	55,337
			(92.1%)	(80.0%)	**(82.4%)**	(90.3%)	(83.0%)	**(88.7%)**	(88.6%)	(84.0%)	**(86.9%)**

Source: Statistical Year Book 2011

The table above shows teacher deployment status by gender. At every school level, more than 80% of teachers are female. (Primary school: 82.4%, Middle school: 88.7%, High school: 86.9%) But female percentages of head teachers are lower. (Primary school: 62.5%, Middle

school: 54.7%, High school: 68.0%) In fact, it is commonly viewed that Myanmar society accepts female teachers more than male teachers. The fact that male students only see female teachers in their schools also reinforces this view and may further discourage males to consider teaching as a desirable job for them. That management positions tend to be occupied by more male teachers is also not a fair representation of gender roles and responsibilities. There is no strong reason for male teachers to be more suitable as head teachers.

(2) Pre-Service Teacher Training (PRESET)

All the pre-service teacher training available in Myanmar are seen as opportunities for non-certified teachers to receive a teaching certificate and become a certified teacher. All kinds of teaching certificates for teaching in basic education can be obtained in two types of institutions, namely Education Colleges (ECs), of which there are 20 in the country, and Institutes of Education (IOEs), of which one is in Sagain Division (Upper Myanmar) and the other in Yangon (Lower Myanmar). Another opportunity for people from border areas to obtain teaching certificates is provided at the University for Development of National Races (UDNR) under the Ministry of Border Areas.

Table 3-18: List of Teaching Certificates and Relevant Degrees in Myanmar

	Program	Starting Year	Duration	Entry Requirement	Selection Method	Assessment Method	Qualification to be granted
EC1	Certificate in Education	1998	1 Year	Matriculation examination pass	Matriculation marks, Number of candidates which sanctioned for specific area	For each semester Tutorial (10%) Assignment/ Practical Task (10%) Semester end test (National Exam) (30%)	Cert. Ed
EC2	Diploma in Teacher Education	1998	2 Years	Cert. Ed	Those candidates who got Cert. Ed and prefer to proceed the second year	For each semester Tutorial (10%) Assignment/ Practical Task (10%) Semester end test (National Exam) (30%)	D.T.Ed
EC3	Diploma in Teacher Education Competency	2004	1 Year	Bachelor Degree Holder	Entrance exam marks/ Number of candidates which sanctioned for specific area	For each semester Tutorial (25%) Assignment/ Practical Task (15%) Semester end test (National Exam) (60%)	DTEC
EC4	Primary Teacher Certificate in Correspondence Course	1978 to 2010	1 Year (Plenary Training during Summer)	Primary School Teachers who do not have certificate	Number of years of job experiences	Assignment Final exam (National Exam)	Primary Teacher Certificate (PATC)
EC5	Junior Teacher Certificate in Correspondence Course	1994	1 Year (Plenary Training during Summer)	Middle School Teachers who do not have certificate and age under 58	Number of years of job experiences	Assignment Final exam (National Exam)	Junior Teacher Certificate (JATC)
IOE1	Bachelor of Education (Direct Intake) (on campus)	2000 (1964)	(4 Years) 5 Years Since 2012	Matriculation examination results (High marks)	Regular application	Credit system - Tutorial (20%) - Semester-end Test (80%) CGPA 3 (Passed) CGPA 4 and above (Qualified) CGPA 4.5 and above (Credit)	B.Ed (DI)
IOE2	Bachelor of Education (Bridge Program) (on campus)	2002	(2 Years) 3 Years Since 2012	Qualified in D.T.Ed	Selected by the Education College Board	Credit system - Tutorial (20%) - Semester-end Test (80%) CGPA 3 (Passed) CGPA 4 and above (Qualified) CGPA 4.5 and above (Credit)	B.Ed (Bridge)
IOE3	Bachelor of	1970	2 Years	Bachelor Degree	Entrance Exam/	Assignment (20%)	B.Ed (Corr.)

	Program	Starting Year	Duration	Entry Requirement	Selection Method	Assessment Method	Qualification to be granted
	Education (Correspondence Course)			Holder and at least 5 years of job experience	Seniority of job experience	Exam (80%)	
IOE4	Master of Education	1970	2 Years	B. Ed (Qualified)	Entrance Exam	For each semester - Tutorial (30%) - Semester end test (70%) - Thesis	M.Ed
IOE5	Master of Arts (Teaching of English as a Foreign Language)	1998	2 Years	Dip.ELTM, B.A (English)	Entrance Exam/ Interview	For each semester - Tutorial (30%) - Semester end test (70%)	M.A (TEFL)
IOE6	Master of Philosophy	2005	2 Years	B. Ed Holder At least 15 years of job experience	Entrance Exam	1 year: 3 term papers in core subjects 2 year: 3 term papers in specialized subjects	M.Phil
IOE7	Doctor of Philosophy	2000	5 Years	M. Ed Holder	Entrance Exam	1 Year: Preliminary Course 4 Year: Research	Ph.D
IOE8	Post Graduate Diploma in Media of Art	1999	1 Year	B. Sc Holder	Entrance Exam	3 Modules (Computer Company) 1 Module (IOE)	PGDMA
IOE9	Post Graduate Diploma in Teaching	1999 to 2008	1 Year	Any Bachelor Degree Holder (Except LLB)	Entrance Exam	Same as B.Ed course CGPA- 2 (passed)	PGDT
IOE10	Certificate of Educational Technology	2004/05 to 2005/06 (5batches)	2 months (1st - 4th batch) & 5 months (5th batch)	Higher degree from University (Master and honors)	Entrance Exam	Same as B.Ed course	CET
IOE11	Special Certificate of Educational Technology	2006 to 2007 (2batches)	1 month	B.A(English) Higher degree from University(Master and honors	Interview	Same as B.Ed course	SCET
IOE12	Diploma in English Language Teaching Methodology	1999	9 Months (300 hours: on week days 7:00am - 9:00am)	B.A(English)	Entrance Exam Interview	Same as B.Ed course	Dip.ELTM

Source: CESR Teacher Education Working Group

Those who obtained "Cert.Ed." and "PATC" are certified primary school teachers. Those who obtained "D.T.Ed.", "DTEC", "JATC" and "PGDMA" are certified middle school teachers, although they start their career as primary assistant teachers (PAT) after graduation. After 5 years as primary school teachers, they can apply for promotion to junior assistant teachers (JAT) at the middle school level. Lastly, those who obtained B.Ed and above from IOE are eligible to apply to positions as either senior assistant teachers (SAT) at the high school level, or education officer positions at ATEO, TEO or above.

The table below shows the number of teaching staff and students at each Education College. It was found that there are no ECs in Chin state and Kayah state, and students from these two states are admitted to ECs in other divisions/states. Every EC has a hostel facility, but those trainees who are travelling away from their hometown and family find it difficult to make the decision to further their education at EC in a different area. The teacher student ratio (TSR) at ECs is 8.6 on average; however, EC from Kyaukphyu in Rakhine is 17.3, while Dawei in Thaninthaye is only 1.8. Some remedial measures should be taken to equalize these ratios among ECs across the country.

Table 3-19: Distribution of Education Colleges across Myanmar

S/N	Location (State/Division)	No of ECs	Name of EC	No. Teaching Staff	No. Students 1st Year (#15/2010)	No. Students 2nd Year (#14/2009)	No. Students DTEC (#7/2010)	Teacher Students Ratio
Upper Myanmar								
1	Mandalay	2	Mandalay	71	221	242	197	9.3
			Meikhtila	67	208	226	368	12.0
2	Magway	2	Magway	64	144	238	277	10.3
			Pakokku	60	129	154	173	7.6
3	Sagaing	2	Sagaing	63	207	228	227	10.5
			Monywar	68	211	164	279	9.6
4	Kachin	1	Myitkyinar	54	170	184	195	10.2
5	Shan	1	Taunggyi	65	180	201	225	9.3
6	Chin	0	X	N/A	N/A	N/A	N/A	N/A
			Sub-Total	512	1,470	1,637	1,941	9.9
Lower Myanmar								
7	Kayin	1	Phaan	60	155	211	212	9.6
8	Thaninthaye	1	Dawei	61	112	0	0	1.8
9	Bago	2	Taungoo	59	146	177	124	7.6
			Pyay	56	115	112	107	6.0
10	Mon	1	Mawlamyaing	58	155	272	241	11.5
11	Rakhaine	1	Kyaukphyu	43	198	265	281	17.3
12	Ayeyarwaddy	3	Pathein	63	117	136	267	8.3
			Myaungmya	60	75	126	146	5.8
			Bogalay	54	120	131	154	7.5
13	Kaya	0	X	N/A	N/A	N/A	N/A	N/A
			Sub-Total	514	1,193	1,430	1,532	8.1
Yangon								
14	Yangon	3	Yankin	72	163	164	211	7.5
			Thingangyun	68	113	145	115	5.5
			Hlegu	63	113	156	147	6.6
			Sub-Total	203	389	465	473	6.5
Total		**20**		**1,229**	**3,052**	**3,532**	**3,946**	**8.6**

Source: Statistical Year Book 2011

Staffing at individual ECs is probably similar. Table 3-21 shows is the staffing at the Mandalay EC as an example. There are five categories of staff at an EC. According to statistical data[21], as of March 2011 there are 507 Assistant Lecturers (out of which 429 are female) and 678 Tutors (576 female) in the 20 ECs nationwide.

[21] MOE (2011) Statistical Year Book 2011

Table 3-20: Staffing at Mandalay EC

Post	Male	Female	Total
Administrative Staff	2	6	8
Assistant Lecturer	4	29	33
Tutor	7	32	39
Practicing Middle School Teacher	8	32	40
Office Staff	29	16	45
Total	50	115	165

Source: Mandalay EC Presentation on 1 October 2012

Each EC has its affiliated practicing school (PS) in the same campus. The number of students varies from 1,806 at Yankin ECPS to 159 at Pyay ECPS[22]. Generally, ECPS are recognized as good schools with bright students, though the schools go only through to the middle school level. The ratio between boys and girls is nearly 1:1 in every ECPS. On the other hand, majority of the teachers at ECPS are female. Of 169 teachers in 20 ECPS Middle Schools, 159 are female, and of 196 in 20 ECPS Primary Schools, 177 are female. Teacher recruitment for ECPS is handled by DEPT unlike in normal government schools where recruitment is handled by DBE.

(3) Teacher Certification System

Teaching certificates are issued by DEPT. After completion of teacher training courses (DTEd, DTEC) at each EC, the trainees are finally evaluated by Education College Board chaired by DG DEPT, under Teacher Education Section. Based on results from the Final examination (60%) and other assignments (40%) such as Bloc teaching, Attendance and Practical, DG DEPT prepares a list of trainees who are to be certified, and submits this to the MoE for approval. After approval, DG DEPT issues the teaching certificates to them. In a few cases, trainees drop out from EC due to reasons including sickness, economical constraints and violation of college law. But in general, almost 100% trainees successfully complete teacher training courses and receive teaching certificates.

(4) Teacher Appointment System

After receiving a new teacher list from DEPT, each DBE establishes the Educational Committee chaired by the Director General to appropriately deploy newly certified teachers from ECs and IOEs. New teachers are considered by two main criteria, namely specialized subjects and native hometown (language and cultural background) and are deployed to each TEO through REO/SEO by May along with an official appointment letter. They begin teaching at the beginning of the academic year (1st June). DEO officials say that there is no big gap between teacher needs at school level and supply from DEPT.

(5) In-Service Teacher Training (INSET)

In the Myanmar context, INSET is an opportunity for teachers in service to upgrade themselves in any of the job related areas of study, so that they can perform better in the various situations. From 1971 to 1998, initial teacher training was conducted in either TTC or TTS after teachers received their teaching jobs; this is why these courses are considered as INSET, even though program contents were prepared as PRESET. Since this system was discontinued in 1998, INSET is now the only program offered by EC and IOE for teachers in service.

As a follow up to JICA's Strengthening Child Centered Approach Project (SCCA project: 2008-2010), "CCA extension Plan" is being implemented by DEPT using the MoE budget. According to the plan, by 2015 teachers in all the townships in the country will have CCA

[22] MOE (2011) Statistical Year Book 2011

training, although some modifications were made based on the actual budget. The teachers are expected to be equipped with new teaching techniques to improve lessons, so that students' learning is also expected to improve.

"Basic Education and Gender Equity (BEGE)" is another INSET program for teachers by the MoE in cooperation with UNICEF from 2011 to 2015, under which several activities are to be implemented to improve basic education. "Life Skills Training" is one of the components of BEGE, and teachers are trained, within limited project areas, with new knowledge and skills about health/sanitation and nutrition education for school level improvement. In other components, "Early Childhood Development" and "HIV/AIDS prevention" are among the subjects taught to teachers. Some teaching materials (e.g. posters) are also provided to the training participants. At a school in Mandalay where the Study Team visited during the survey, the posters about infectious diseases and nutritional information were hung on the wall in the classrooms.

A part of the above mentioned training sessions, the MoE conducted some refresher courses for primary and secondary teachers. In total, 209,908 teachers were trained from 2006-07 to 2008-09. In addition, refresher courses for English language and Mathematic were conducted and 13,062 teachers were trained in the 2009-10 academic year.

(6) Continuous Professional Development (CPD)

The concept of Continuing Professional Development (CPD) has become popular in developed countries and is recognized as an effective way of professional development for teachers. In order to make an impact on teachers' professional behavior, there must be 1) long-term teacher education policy, 2) head teachers' leadership, 3) teachers' commitment to their own learning. For this reason, it is still too early to achieve successful implementation of CPD in developing countries. It is also suggested that the education sector in Myanmar shift their current mode of teacher education and training from an ad hoc basis to the other mode of CPD. In a broad sense, M.Ed and M.Phil and PhD offered by IOE should constitute some of examples of CPD.

But the basic principle of CPD is that opportunities are provided not far from school, continuously, and are designed to address teachers' learning needs. JICA's SCCA2 project considered cluster meeting as an effective learning opportunity for teachers in service and implemented some basic programs for disseminating the concept of CCA. Another opportunity for teachers in school is school meetings, which has been held since long time ago, but unfortunately this meeting is normally used as a means of delivering information from the MoE or DBE to teachers. Since these meetings are already in the system, if teachers' professional development aspect, for example "Lesson Study" approach, is incorporated into these meetings, these will better utilized as effective CPD. As of November 2012, UNICEF is planning to initiate a new program of "School based In-service Teacher Education". This is also expected to bring about some teachers' professional development in future.

(7) Critical Issues

Access

1. There are two states without ECs, namely Chin State and Kayah State. Students from these two states find it difficult to attend an EC after the matriculation examination.
2. Male students are not attracted to attend the teacher education program.
3. INSET is organized on an ad-hoc basis and has not been institutionalized.
4. School-based and Cluster-based training opportunities are not regularized in the current system.

5. Myanmar language as medium of instruction might exclude the scope of participation of ethnic minorities in teacher education. It is only in UDNR that these minorities get the chance to become certified teachers.

(8) Recommendations

For solving or Improving the Situation

1. New ECs are necessary in Chin, Kayah and Shan States to equalize opportunity for individuals across the nation to access teacher training courses.
2. Some counter actions should be taken to attract male students to take teacher training courses.
3. Some different levels of training should be prepared as INSET according to the levels of the teachers, including specialized program mandatory for beginning teachers, experienced teachers, expert teachers, and even for head teachers.
4. CPD, such as School-based and Cluster-based training, must be regularized by administrative support, and TEO/ATEO should make sure to hold these on-site trainings.
5. A more flexible system for ethnic people should be taken into consideration particularly incorporating the use of their native languages, not only at UDNR but also at other institutions in border areas. Some universities in border areas should be utilized as schooling sites.

For Phase 2

1. More detailed information should be collected about the needs of teachers from deprived areas.
2. The teacher education policy framework should be discussed and documented.
3. Professional standards for all education-related personnel should be discussed and documented, with the involvement of more stakeholders Training needs of TEO/ATEO/ Head teachers should be discussed and incorporated into capacity development framework of educational personnel to implement CPD programs in townships, school clusters and schools.
4. Teachers' capacity assessment based on lesson observation and interviews should be conducted and their training needs should be identified.

3.10 National Curriculum

This section provides necessary information based on the CESR format.

3.10.1 Brief History of Curriculum Revision in Myanmar

The modern school curriculum here in Myanmar was introduced nationwide in 1952. The brief history of the national curriculum revision process is described in the table below. The national curriculum has been irregularly revised according to the policies and needs in each time period.

Table 3-21: History of the Curriculum Revision in Myanmar

Year	Summary and points of the reform
1952	Release of "Creating New Life" (CNL) plan. Development of CNL curriculum and syllabus.
1962	Design of basic education syllabi to promote vocational education
1966	Revision of syllabi to foster decent citizens based on the Basic Education Law. The syllabi put more emphasis on vocational education and introduced science and art subjects.
1975-77	Minor revisions made on curriculum and syllabus. General science subject introduced as "fused subject."
1998-99	Primary school curriculum revised to accomplish Education Promotion Programme. General study (natural science, moral & civics, and life skills) for lower primary level, social studies (geography, history, moral & civics, life skills) and basic science for upper primary level, and aesthetic education for all primary levels introduced. Teaching hours for physical education and school activity revised.
1999-2000	Second revision of secondary school curriculum (lower and upper secondary) to accomplish Education Promotion Programme. School curriculum in ASEAN countries reviewed to adapt to foreign standards. Co-curricular subjects such as physical education, aesthetic education and life skills included in the secondary school curriculum.
2006-2007	Curriculum study of ASEAN counties conducted to review upper secondary school curriculum. Some missing contents identified by the study are added to upper secondary textbooks through reference to the English GCE-O level curriculum.
2012-2013	Agriculture subject for primary school was introduced.

Source: Created by the Study Team according to the series of interview with curriculum officers in DEPT (2012) and 30-Year Long-Term Plan for Basic Education 2001-2031 (2001), MoE

3.10.2 Needs around the Curriculum Reform

(1) New National Constitution

The new national constitution was issued in 2008. Myanmar's overall human resource development goal as prescribed in the constitution was revised, as shown in the table below.

Table 3-22: Human Resource Defined in the Constitution

Old constitution	New constitution
Article 10 The state shall cultivate and promote the all round physical, intellectual and moral development of youth.	Article 28 (d) The Union shall implement modern education systems that will promote <u>all around correct thinking</u> and a good moral character contributing towards the building of the Nation.

The new constitution put more emphasis on specific competency "all around correct thinking" to build a better nation. The national curriculum is one of the most important polices used to accomplish the national goal.

As it has been four years since then, we can easily understand that the curriculum reform together with the education system review is the key to boosting the improvement of education quality in Myanmar.

(2) School System Review

As mentioned in Chapter 2, the current school system is now being reviewed and options replacing the current 5+4+2 system into 6+3+3 or 5+4+3 are presently being considered to transform Myanmar's education to the international standard.

According to recent discussion with government officials, decisions regarding the reformation of the school system reformation will likely be made soon. It is obvious that the curriculum must be revised based on the new school system.

(3) Introduction of New Teaching and Learning Method

The Child Centered Approach (CCA) is being introduced throughout the country as a national policy. It was firstly introduced in cooperation with JICA in 2004-2005 to promote the development of children's creativity, analytical skills, critical thinking, and problem-solving skills, and is recognized as contributing to the improvement of education quality. However the current curriculum does not consider the CCA method since most of the curriculum was developed before CCA was introduced. Teachers and students continue to anticipate the development of appropriate contents suitable for CCA.

3.10.3 Situation Analysis on Intended Curriculum

(1) National Curriculum Framework

The national curriculum framework is defined under the Basic Education Law. The current Basic Education Law was issued in 1973 and is under modification, reflected by the revision of the Constitution in 2008. Although discussion of curriculum reform has been making process, the current curriculum will be examined here in order to identify issues for the appropriate transition to a new curriculum.

Definition of National Curriculum and its Maintenance

Curriculum, syllabus, and textbook are defined in Article 1 of Basic Education Law as follows.

Article 1:
(c) "Curriculum" shall mean subjects taught at school and practical education development activities constituting training inside and outside school for the purpose of realizing the educational objectives prescribed by this Law.
(d) "Syllabus" shall mean detailed programme of instruction for each school subject or for each practical educational development activity.
(i) "Text-book" shall mean a book published or prescribed by the Basic Education Curriculum, Syllabus and Text-book committee formed under this Law for use at school and teachers' training schools.

Despite the clear definition of the National curriculum framework in Basic Education Law, specific "Curriculum" and "Syllabus" are not properly maintained as comprehensive documents in Myanmar, though textbooks are published and distributed to schools. Curriculum-related information actually exists, but it is fragmented in various documents. For example, the official teaching hours of each subject are described in the training booklet named "School Management Refresher Training for Basic Education." Also, the "Monthly Curriculum" (MC) developed by the Regional Education Office (REO) and authorized by DBE is the well-known school syllabus despite being called "curriculum." In addition to that, modifications relating to school curriculum are made during an annual conference in April- the "Seminar on National Education Promotion"- without updating the current curriculum documents. DBE merely notifies schools about decisions and modifications through REO, District Education office (DEO) and Township Education Office (TEO). For instance, an agriculture subject was newly introduced for primary schools, but the MC and other related curriculum booklets have not yet been revised.

This kind of fragmentation makes curriculum reform discussion difficult and complicates the analysis done by curriculum experts. Then it decelerates curriculum reform process.

In other words, well-maintained comprehensive curriculum documents will enable all educators including non-formal education sector and civil society to achieve National human resource development goals as a whole. Documents with clear guidance also encourage the private sector to develop teaching aids and other educational materials that strengthen Myanmar education quality.

Curriculum Review System

Curriculum review system should be considered as a part of curriculum framework in order to update national curriculum regularly. National achievement study using standardized tests is widely conducted in various countries for the curriculum review. Examples of National achievement studies in different countries are shown in Table 3-24.

Table 3-23: National Achievement Study for Curriculum Review

Country	Frequency	Target level for Achievement study
Japan	Every 10 years	G1-9
Australia	Every year	G3, 5, 7
Philippines	Every year	G6
Lao PDR	Every 2 years	G1-3 & 6
Malaysia	Every year	G6, 9, 11
Thailand	Every 2 years (proposed)	Primary & Secondary
Vietnam	Every year	Primary & Secondary

Source: An International Comparative Study of School Curriculum, 1999, National Institute for Educational Policy Research, Japan

Currently Myanmar does not have this kind of curriculum review system. Though the matriculation examination is the achievement test provided throughout the country, the result only judges whether students pass or fail. It does not review the strengths and weaknesses of the curriculum.

(2) Situation of Textbook and Teachers' Guide

Table 3-25 shows the years of revision for textbooks and teacher's manuals of each subject. In Myanmar, a major curriculum revision for primary and lower secondary levels was conducted between 1998 and 2001, and the curriculum for upper secondary level was reformed from 2006. Generally, the textbooks and teachers' manuals currently used in Myanmar were developed based on these reforms, except life skills. In AY2012/2013, an agriculture subject was newly introduced.

Table 3-24: Year of Revision for Textbook and Teacher's Manual

Lower Primary

Subject	Textbook	Teachers Manual
Myanmar	1999	1999
English	1999	1999
Mathematics	1999	1999
General Study		
(a) Natural Science	1999	1999
(b) Moral & Civics	1999	1999
(c) Life Skills	2005	2005
Aesthetic education	n/a	2000
Physical education	n/a	1999
Agriculture	2012	n/a

Upper Primary

Subject	Textbook	Teachers Manual
Myanmar	1999	1999
English	1999	1999
Mathematics	1999	1999
Social Study		
(a) Geography + History	1996*	1996*
(b) Moral & Civics	n/a	n/a
(c) Life Skills	2005	2005
Basic science	1999	1999
Aesthetic education	n/a	2000
Physical education	n/a	1999
Agriculture	2012	n/a

Lower Secondary (Middle School)

Subject	Textbook	Teachers Manual
Myanmar	2000	2000
English	2000	2000
Mathematics	2000	2000
Geography	2001	2001
History	2000*	2002
General science	2000	2000
Life Skills	2009	2009*
Moral and Civics	2000*	2000
Vocational	*	*
Physical education	n/a	2000
Aesthetic education	n/a	2000

Upper Secondary (High School)

Subject	Textbook	Teachers Manual
Myanmar	2007	2007
English	2007	2007
Mathematics	2007	2007
Chemistry	2007	2007
Physics	2007	2007
Biology	2007	2007
Economics	2007	2007
Geography**	2001	2007
History**	2001	2007
Life Skills	n/a	2000
Moral and Civics	n/a	2000
Vocational	n/a	n/a
Physical education	n/a	2000
Aesthetic education	n/a	2000

Source: Created by the Study Team
*Revised in 2000 for only G8
** Geography and History are indicated as revised in 2001, although new textbooks were developed in 2001 as only the appearance was modified.

Figure 3-13 shows the simplified analysis of the above table. As shown in the figure, only 30 percent of textbooks and teacher's manuals were modified in recent 10 years. In addition, according to the curriculum officer in DEPT, the past revision made only minor modifications even though the official curriculum reform was completed except for English in 1999-2000 (The English textbook was totally revised at the revision).

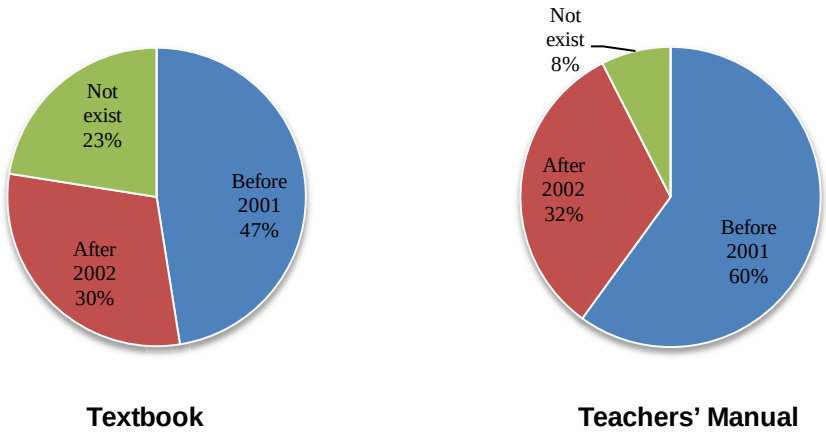


Figure 3-12: Percentage of the Revision Year of Textbook and Teacher's Manual

(3) Curriculum Design

Subject Organization Overview

Figure 3-14 shows the subject organization from primary to upper secondary level in Myanmar. As an agriculture subject was newly introduced in AY2012/2013, the structure was slightly changed from the previous year. As defined in Basic Education Law, the national curriculum of Myanmar consists of separate subjects based on academic disciplines. This kind of curriculum design is called "separate-subject curriculum." Generally, Myanmar defines two main subject groups - core subjects and co-curricular subjects.

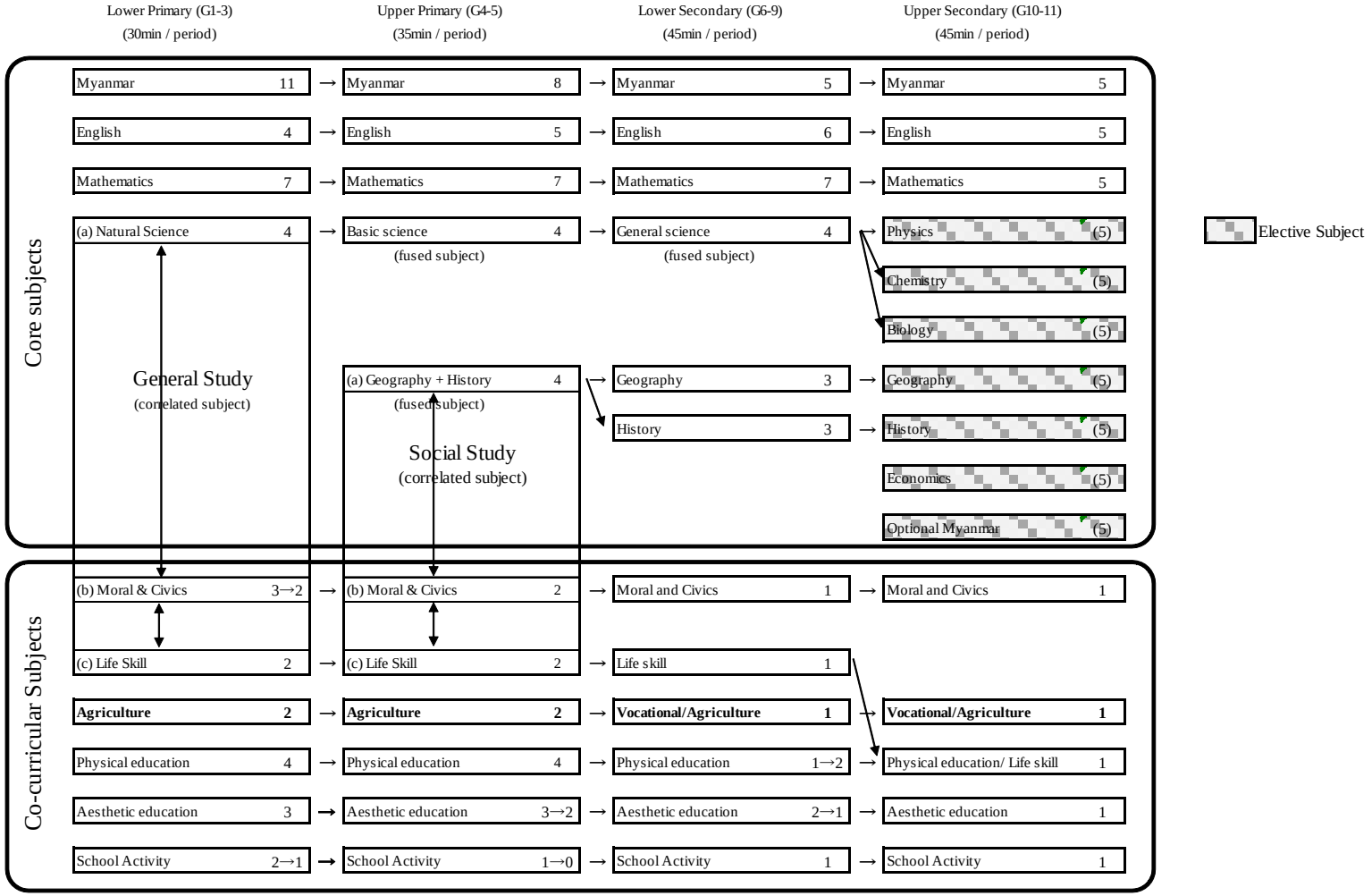
Core subjects in Myanmar consist of national language, English, mathematics, science and social studies. Co-curricular subjects such as arts and physical education are set out around core subjects. Science is handled as a combined subject in primary and lower secondary level, and is divided into physics, chemistry, and biology at upper secondary level. Social study is combined in primary, too and is divided into geography and history at lower secondary level, while economics is added at the upper secondary level. These core subjects are the scope of the matriculation examination for graduating from high schools. It is quite an orthodox curriculum structure, similar to the Japanese curriculum.

One unique characteristic of the Myanmar curriculum is found in the formation of correlated subjects which stimulate interests of children by strengthening correlation between subjects. General study at the lower primary level involves study of the three subjects (natural science, moral and civics, and life skills) while social study at the upper primary level consists of geography + history, moral and civics, and life skills.

Upper secondary level students can select three subjects from among several courses, such as optional Myanmar, geography, history, economics, chemistry, physics, and biology. The combinations of subjects offered are as shown below.

- ✓ Economics, Physics, Chemistry
- ✓ Biology, History, Chemistry
- ✓ Geography, History, optional Myanmar
- ✓ History, Economics, optional Myanmar
- ✓ History, Physics, Chemistry
- ✓ Physics, Chemistry, optional Myanmar
- ✓ Physics, Chemistry, Biology
- ✓ Geography, Physics, Chemistry

At the upper secondary level, physics, chemistry, biology, and mathematics have been taught in English since 1986, and textbooks and examinations are only in English.



Source: Created by the Study Team / Instruction: Number of Each Subject Indicates Periods/Week. Periods revised in this year are shown as “periods before -> periods after”). Arrows in “General Study” and “Social Study” indicate correlations between subjects

Figure 3-13: Subject Organization

Curriculum Design Approach

Table 3-26 shows the trend of curriculum design approach among 18 countries including the ASEAN countries, USA, Germany. The study was conducted in 1999 by National Institute for Educational Policy Research in Japan.

Table 3-25: Curriculum Design Approach in Various Countries

Country	Curriculum Design Approach
Australia	OBA (Outcome-based Approach)
China	CBA (Content-based Approach)
Fiji	CBA
France	CBA-> Combination
Germany	Combination
India	CBA -> OBA
Indonesia	CBA
Japan	CBA
Lao PDR	Combination
Malaysia	Combination
New Zealand	OBA
Philippines	Combination
Republic of Korea	Combination
Sri Lanka	CBA -> OBA
Thailand	OBA
United States (New York state)	Combination
Uzbekistan	OBA -> Combination
Vietnam	CBA -> Combination

Source: An International Comparative Study of School Curriculum, 1999, National Institute for Educational Policy Research, Japan

Recently, informatization of society has placed more emphasis on the capacity to utilize information rather than just knowing the information. In this context, an Outcomes-Based Approach (OBA) has been widely introduced worldwide. OBA designs a curriculum based on "what kinds of competency children need to obtain." On the contrary, the traditional curriculum design approach is called Content-Based Approach (CBA), which considers "what needs to be learned by children." As described in the previous section, Myanmar currently follows CBA based on the orthodox separate-subject curriculum organization.

It is often argued whether which approach is better than the other between CBA and OBA. Both CBA and OBA have strengths and weaknesses. Thus the discussion to change the curriculum design approach should be conducted carefully. A dramatic curriculum change can easily cause problems if teachers cannot effectively follow such a change. For example, the South African case is widely known as a failure case caused by the drastic change[23].

On the other hand, Japan has consistently performed well in terms of education quality, even though it still follows CBA. Japan always scores one of the highest results in international achievement test such as PISA[24] or TIMSS[25]. Table 3-27 shows the result of latest TIMSS (2011) for countries listed in above table. The number in the table indicates the ranking among participating countries.

[23] "OBE (Outcome-Based Education) was introduced to South Africa in the late 1990s by the post-apartheid government as part of its Curriculum 2005 programme, but it was widely viewed as a failure, and was eventually scrapped in 2010.http://en.wikipedia.org/wiki/Outcome-based_education#South_Africa

[24] Program for International Student Assessment (http://www.oecd.org/pisa/)

[25] Trends in International Mathematics and Science Study) (http://timss.bc.edu/)

Table 3-26: Result of TIMSS 2011

Mathematics				Science			
G4 (50 countries)		G8 (42 countries)		G4 (50 countries)		G8 (42 countries)	
2	Korea	1	Korea	1	Korea	3	Korea
5	Japan	5	Japan	4	Japan	4	Japan
11	USA	9	USA	7	USA	10	USA
16	Germany	12	Australia	17	Germany	12	Australia
19	Australia	16	New Zealand	24	Australia	15	New Zealand
31	New Zealand	26	Malaysia	31	New Zealand	27	Thailand
38	Thailand	28	Thailand	35	Thailand	32	Malaysia
		38	Indonesia			40	Indonesia

Source: Created by the Study Team based on data retrieved from http://timss.bc.edu

Teaching Hours

Table 3-28 shows teaching hours per week among ASEAN counties (except for Brunei) and Japan in different grades.

Table 3-27: Teaching Hours Per Week among ASEAN Countries and Japan

	Subjects	Average	Myanmar	Cambodia	Indonesia	Lao PDR	Malaysia	Singapore	Philippines	Thailand	Vietnam	Japan
G3	Core Subjects	937	930	920	980*	455	990	1230	1500	960	700	746
	Co-curricular	362	270	280		525	390	240	300	540	245	469
	Total	1267	1200	1200	980	980	1380	1470	1800	1500	945	1215
G5	Core Subjects	910	1120	920	595	560	840	1170	1500	900	735	759
	Co-curricular	425	280	280	525	600	480	300	400	600	280	501
	Total	1335	1400	1200	1120	1160	1320	1470	1900	1500	1015	1260
G9	Core Subjects	1092	1260	1400	800	1170	1080	1160	1440	960	700	950
	Co-curricular	475	315	350	480	450	480	440	540	840	350	500
	Total	1567	1575	1750	1280	1620	1560	1600	1980	1800	1050	1450
G11	Core Subjects	1080	1350	1500	1215	1215	n/a**	800	n/a**	640	840	n/a**
	Co-curricular	564	225	100	540	405		800		1160	720	
	Total	1644	1575	1600	1755	1620		1600		1800	1560	

Source: Created by the Study Team based on the information described in "World Data on Education Seventh Edition 2010/11[26]", UNESCO

* The Government of Indonesia defines total teaching hours only in lower primary level. Each School decides core subject/co-curricular subject distribution.

** Malaysia, Philippines and Japan use credit system in upper secondary level so that school curriculum varies in each school.

As the definition of core subjects and co-curricular subjects differs by county, teaching hours are calculated according to the definition in Myanmar (Core subjects: national language, foreign language, mathematics, natural science and social science. Co-curricular subjects: Others).
The figures in the table are presented in the following graph for further analysis. Figure 3-15 shows the total teaching hours per week among ASEAN countries and Japan. Total teaching

[26] http://www.ibe.unesco.org/en/services/online-materials/world-data-on-education/seventh-edition-2010-11.html

hours in Myanmar almost overlap with the average total teaching hours of all represented countries. Thus no problems have been found here regarding total teaching hours.

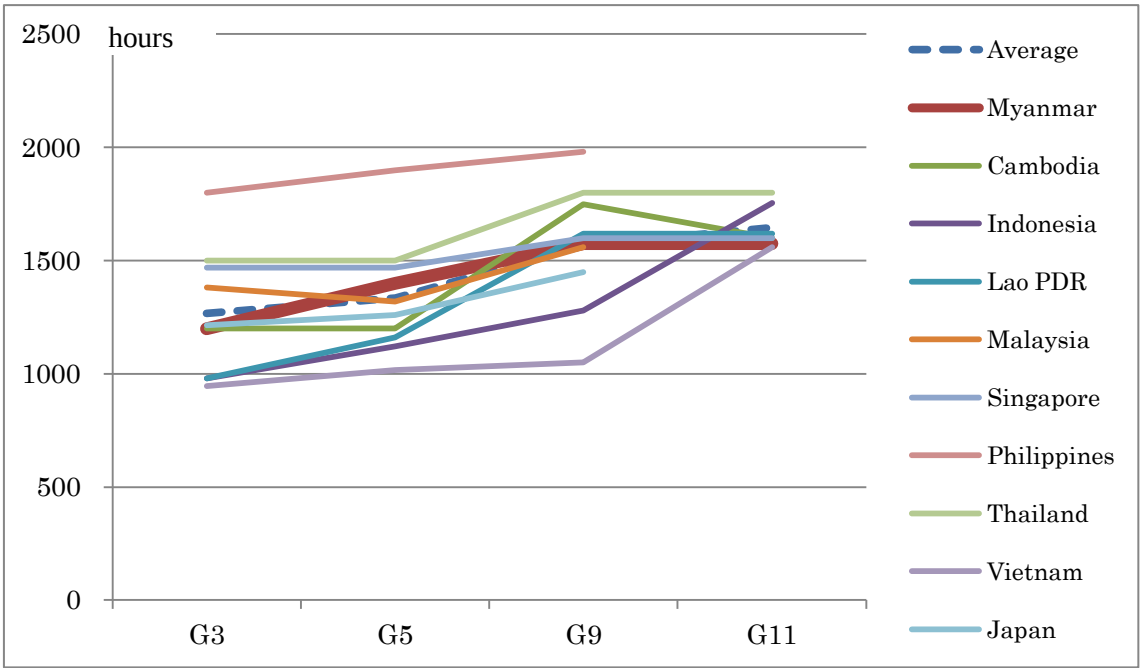


Figure 3-14: Teaching Hours Per Week among ASEAN Counties and Japan (Total)

The following figures also support the relevance of total teaching hours in Myanmar. Table 3-29 shows the comparison of annual teaching hours between Myanmar and Japan. In Myanmar, the length of each class is defined as 30 minutes at lower primary level, 35 minutes at upper primary level, and 45 minutes for lower and upper secondary levels. One academic year has 36 weeks. Based on this information, annual teaching hours are calculated as shown in the table. Table 3-29 also shows the annual teaching hours in Japan for comparison. It indicates that annual teaching hours in Myanmar are more than in Japan at all levels.

Table 3-28: Comparison of Annual Teaching Hours Myanmar and Japan

Lower Primary		**Upper Primary**	
Total (Periods/week)	40	Total (Periods/week)	40
Total (Periods/year)	1,140	Total (Periods/year)	1,440
Total (hours/year)	720	Total (hours/year)	840
Japan G3 Total (hours/year)	709	Japan G5 Total (hours/year)	735
Lower Secondary (Middle School)		**Upper Secondary (High School)**	
Total (Periods/week)	35	Total (Periods/week)	35
Total (Periods/year)	1,260	Total (Periods/year)	1,260
Total (hours/year)	945	Total (hours/year)	945
Japan G9 Total (hours/year)	846	Japan G11 Total (hours/year)	875

As a result, the total teaching hours of Myanmar are also greater than in Japan as shown in Table 3-30, although schooling years in Myanmar is 11 years which is shorter than Japan's 12 years.

Table 3-29: Comparison of Total Teaching Hours at Each Education Level

Education Level	Myanmar	Japan
Primary Total	3,960	4,234
Lower Secondary Total	3,780	2,538
Upper Secondary Total	1,890	2,625
Ground Total	**9,630**	**9,396**

Figure 3-16 clearly indicates that teaching hours for core subjects in Myanmar are higher than other countries. Although it is at the country average at grade 3, Myanmar spends considerably more time on teaching core subjects at higher grade levels.

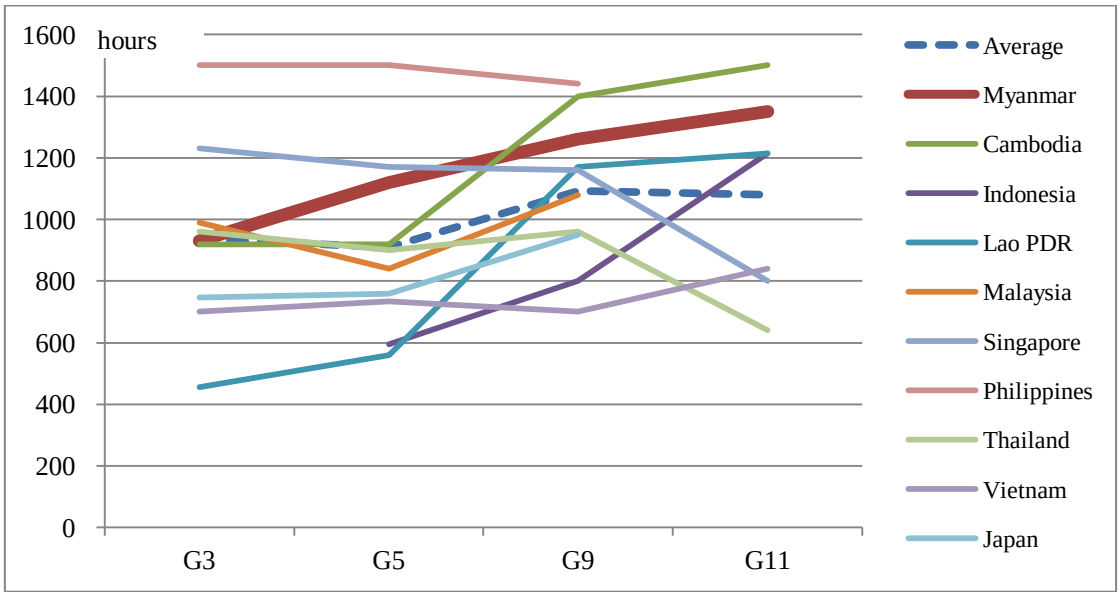


Figure 3-15: Weekly Teaching Hours among ASEAN Counties and Japan (Core Subjects)

On the other hand, Myanmar spends less time on co-curricular subjects, as shown in Figure 3-17. This is actually the least level among those countries.

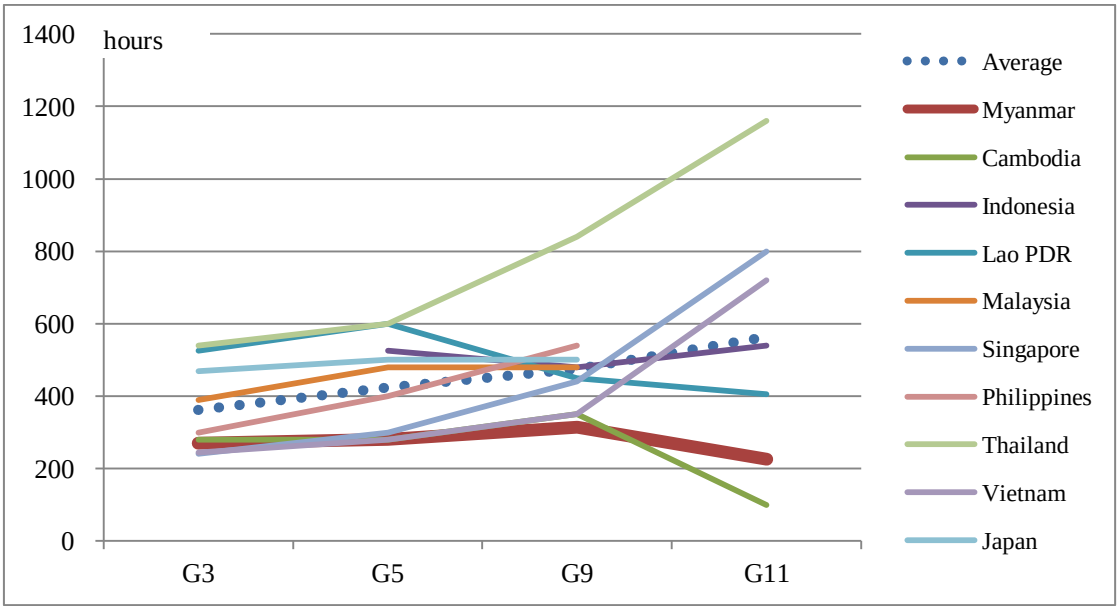


Figure 3-16: Weekly Teaching Hours among ASEAN Counties and Japan (Co-Curricular Subjects)

3.10.4 Situation Analysis on Implemented Curriculum

(1) Annual Teaching Plan and Timetable

As mentioned in the previous section, school curriculum called Monthly Curriculum (MC) is developed and distributed by REO. Schools develop their own school curriculum and weekly timetable according to the MC and school condition. This system seems to work well, and schools implement the own curriculum.

(2) Textbook

Deployment of Textbooks

The GoM decided on a policy to deploy all textbook for free of charge in all primary schools from AY2011/2012. The policy was successfully implemented and schools received textbooks as planned. Teachers commented that thanks to the new textbook, student motivation has improved compared to the previous year. Therefore almost all school teachers in primary school supported this free textbook policy and teachers in middle and high schools strongly hope that the policy will be expanded to the upper level, according to a series of interviews with school teachers made by the Study Team in co-operation with the CESR Working Group in November, although the interviewees were limited in number (The result of the quick survey is shown in the box below).

For Primary Teachers:
"Is the free textbook policy good?"
Yes: 9, No: 0

For Middle and High School Teachers:
"Should the free textbooks policy be introduced for middle and high schools?"
Yes: 31, No: 2

Source: Joint school observation by the Study Team and the CESR Working Group, November 2012

Some teachers pointed out during the interview that textbooks contain inappropriate information for example; Myanmar coin is printed in mathematics textbook though it is not used recently.

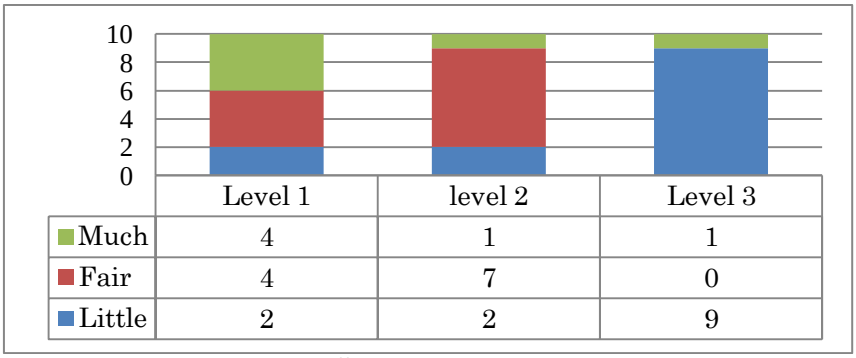
Quality of Learning Contents

A curriculum analysis workshop was held on 8th November 2012 supported by JICA in order for curriculum officers in DEPT to strengthen the capacity for curriculum reform. In the workshop, textbook analysis activities were organized for their practice. The following special assessment standard was prepared for the analysis based on the Bloom's taxonomy for cognitive domain that describes the level of thinking skills.

Level 1: Lower Level Thinking Skills that require thinking skills such as Recollection, Recognization, Description, Definition, Calculation/Computation, Retrieving, Measurement and Comprehension.

Level 2: Middle Level Thinking Skills that require thinking skills such as Comparison, Classification, Relating, Interpretation (Explain), Selection, Representation, Modeling, Drawing and Solving routine problems.

Level 3: Higher Level Thinking Skills that require thinking skills such as Analysis, Examination, Integration/Synthesis, Prediction/Hypothesis, Design, Drawing Conclusions, Generalizion/Specialization, Justification and Solving Non-routine Problems.
According to the above standard, curriculum officers of 10 subjects group analyzed a G5 textbook to determine how much information of each thinking level was contained in it. The result is shown in Figure 3-18. As it was just a practice exercise conducted over a limited period of time, the result was not seriously examined and may include some error. But it could still be useful for providing an indication of overall textbook characteristics in Myanmar



	Level 1	level 2	Level 3
Much	4	1	1
Fair	4	7	0
Little	2	2	9

Source: Analyzed by curriculum officers in DEPT (November 2012)

Figure 3-17: Result of Textbook (G5) Analysis

The analysis indicates that textbooks contain much level 1 information that uses lower level thinking skills. Only one subject (life skills) is judged as containing a considerable amount of level 3 information relative to the other 9 subjects.

Textbooks are the most important teaching and learning material used to improve the ability of students. Hence, the characteristics imply that students in Myanmar have less opportunity to improve their higher level thinking skills.

(3) Quality of Lesson

First, the quality of lesson is assessed using the Pupil Teacher Ratio (PTR) in general. The national (average) PTR is 1:25 for primary in AY2010/11[27]. This figure has already surpassed the target of EFA (1:30). In the meantime, the PTR for the middle school is 1:35 against the EFA target 1:27. Thus, the quality of lessons in primary schools is ensured at a certain level, but further improvement is still needed at the middle school level. In addition, the actual classroom situation is significantly different from school to school. It was confirmed by the Study Team and the CESR Working Group through joint school observations in November 2012 that a considerable number of schools have a large number of students in one class i.e. more than 50 students/class. That fact must be taken into consideration. The sample PTRs confirmed by the joint observations is shown in the table below.

Table 3-30: PTR in Surveyed Schools

Level	High School A			High School B			Middle School C		
	Teacher	Students	Ratio	Teacher	Students	Ratio	Teacher	Students	Ratio
Primary	8	631	1;79	11	529	1:51	12	676	1:56
Middle	50	1764	1:35	35	1262	1:36	20	435	1:22
High	45	1136	1:30	23	562	1:22	n/a	n/a	n/a
Total	103	3731	1:36	69	2353	1:34	37	1111	1:35

Source: Joint school observations by the Study Team and the CESR Working Group, November 2012

Even though CCA has been introduced, the large number of students prevents teachers from being able to properly conduct CCA. Hence this kind of disparity must be taken into consideration to improve education quality. In Japan's case, the government legally set the maximum number of students per class which to 40 students. For example, if a school has 41 students in a certain grade, the school is expected to organize two classes and deploy two teachers.

Teaching in English is also a considerable issue in Myanmar. The Study Team confirmed through lesson observation that lessons conducted in English seemed strongly textbook or curriculum centered rather than CCA because of the language barrier both for teachers and students. The class was like an English class, and students had to work hard to understand the contents of the class in English. This seemed to spoil creative skill development.

Teachers in high schools also indicated their doubts about this policy. According to the joint school observation of the Study Team and the CESR Working Group, only 6 teachers among 25 teachers agreed with the current policy regarding teaching in English as shown in the box below.

Q: At the high school level, subjects like mathematics and science should be taught in English?

(a) Agree **6**
(b) Disagree**0**
(c) Only the terminology should be taught in English **14**
(d) Teaching in English should be introduced at the middle school level. **5**

Source: Joint school observation by the Study Team and the CESR Working Group, November 2012

[27] "Education for all: Access to and Quality of Education in Myanmar (Conference on Development Policy Options with Special Reference to Education and Health in Myanmar)", pp. 26, 13-16 Feb 2012, MOE

(4) Assessment System in School

The current student assessment system was introduced in 1998. The MoE distributes an official format sheet called the Monthly Report Card (MRC) for monthly assessment. MRC consists of score of Chapter End Test (CET) and assessment of school activities (Only CET is applied for G1 to 3) as shown in Table 3-32. School activities are reported by two grades, A or B. Teachers are mandated to record MRC and send it to parents every month.

Table 3-31: Structure of MRC

<table>
<tr><th rowspan="2"></th><th colspan="2">MRC</th></tr>
<tr><th>CET</th><th>School activities</th></tr>
<tr><td>G1-3</td><td rowspan="3">Average score of CET (7 times)</td><td>n/a</td></tr>
<tr><td>G3-5</td><td rowspan="3">Assessment of specific school activities (A or B)</td></tr>
<tr><td>G6-8</td></tr>
<tr><td>G9-11</td><td>Average score of CET (4 times in first term and once in second term)</td></tr>
</table>

Source: Created by the Study Team based on the information in "School Management Refresher Training for Basic Education (MoE)"

CET is organized for core subjects and life skills and is developed by the school teachers. CET consists of a paper-pencil test and an oral test for lower primary, whereas only paper-pencil tests are used from upper primary. The duration of CET is equivalent to the duration of one class, that is:

- Lower Primary 30 min
- Upper Primary 35 min
- Lower Secondary 45 min
- Upper Secondary 45 min

The duration of year-end tests for G9 to 11 is defined as follows;

- G9 1.5 hrs. (2subjects/day)
- G10 2 hrs. (2subjects/day)
- G11 3 hrs. (2subjects/day)

Comprehensive Personal Record (CPR) is another official format for student assessment. Every academic year end, teachers are also mandated to record each student's CET score, behavior and discipline to handover this information to the next teacher.

According to a series of interviews with school teacher conducted by the Study Team in November, teachers well understand this assessment system and it seemed to have been implemented according to MoE's expectations. Monthly assessment seems to support teachers in controlling the progress of school curriculum as scheduled. On the other hand, some teachers emphasized that the frequent assessment, CET in particular, push teachers to just cover the textbook contents rather than to teach contents carefully. In addition, some teachers pointed out that the actual teaching time has decreased due to the preparation and review of CET, and that teachers cannot provide quality lessons as a result.

3.10.5 Situation Analysis on Attained Curriculum

(1) Internal Efficiency

As shown in Figure 3-7 in the previous section, the repetition rate is low in general but the rate in G1 in primary is slightly higher;, also, the rate increases each year from G9 to G10 and G11, the final years of lower secondary and upper secondary education.

In terms of the drop-out rate, about 23% of students drop out in the 5th grade of primary school, which is the last year of primary school and shows the highest primary school drop-out rate as shown in Figure 3-8. The drop-out rate increases as the grade level becomes higher. In 8th and 9th grade the drop-out rate is more than 18%. In addition, a high drop-out rate is observed for the 1st grade of primary school which is the starting point of compulsory education.

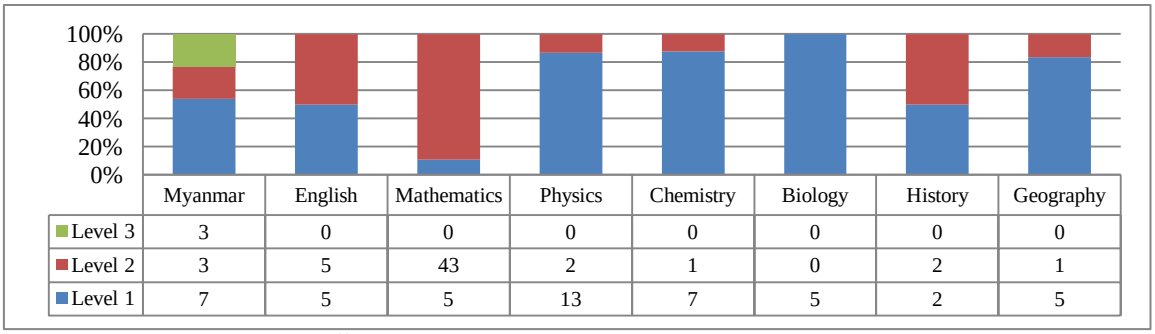
These figures imply that there are some problems with the school program at the G1, G5, G9, G10 and G11 levels. It is not clear, however, whether or not these problems are caused by the curriculum. Further study is needed to clarify this issue but some assumptions can be made; G5, G9 and G11 are the last grades in each level, thus the problem could be mainly caused by connection problems, rather than the curriculum. On the other hand, G1 and G10 are the first grades of each level, thus it is highly likely that the mismatch of curriculum is one of the main causes of students' withdrawal from school.

(2) Standardized Test and Matriculation Examination

Currently, matriculation is the only nationwide standardized test platform in Myanmar. It serves two purposes: as the graduation exam of high school and as the entrance examination to higher education institutions. Despite fulfilling these two important purposes, the matriculation examination only judges students on a pass/fail basis. No further analysis is made to clarify strength and weakness of achievement. Furthermore, because this is the only standardized test implemented throughout the country, curriculum analysis is very difficult.

Questions in Matriculation Examination

Figure 3-19 shows the result of analysis of the matriculation examination in 2012. The analysis was conducted by curriculum officers in the same workshop of textbook analysis described in the previous section. The same assessment standard was also applied to this analysis.



	Myanmar	English	Mathematics	Physics	Chemistry	Biology	History	Geography
Level 3	3	0	0	0	0	0	0	0
Level 2	3	5	43	2	1	0	2	1
Level 1	7	5	5	13	7	5	2	5

Source: Analyzed by curriculum officers in DEPT (November 2012)

Figure 3-18: Result of Matriculation Examination (2012) Analysis

Figures in above graph indicate the number of questions corresponding to each thinking level. Similar to the textbook analysis, this exercise was just organized as a practice; the result was not seriously examined and again the result may include some error. There was, for example, actually an argument regarding biology, where the biology team judged all questions in the biology matriculation examination to be categorized in level 1 though there were some questions that looked like level 2 or 3 at a glance but turned out to simply be statements copied from the textbook.

Myanmar language seems to exhibit good organization, whereas other subjects allocate more questions that require using lower level thinking skills.

Pass Rate

As mentioned above, the matriculation examination only reports overall pass rates and is not used for curriculum review. The Study Team together with the CESR Working Group visited schools to obtain matriculation examination results by subject to investigate problems of the curriculum. Table 3-33 shows the example.

Table 3-32: Pass Rate of Matriculation Examination by Subject in Certain School (%)

Year	Myanmar	English	Mathematics	Physics	Chemistry	Biology	Economics
2008	91.89	50.22	62.11	46.11	50.44	82.00	50.00
2009	94.54	62.07	66.86	51.37	53.87	87.31	63.25
2010	91.48	63.91	79.45	53.01	61.55	89.53	83.85
2011	94.21	75.48	67.16	61.90	60.42	87.60	73.26
2012	97.98	59.87	90.39	70.66	82.63	95.02	91.48

Source: Joint school observation the Study Team and the CESR Working Group, November 2012

Although it is quite difficult to discuss anything using these limited figures, Myanmar language shows the higher performance despite the test including level 3 question that require higher level thinking skills as described in the previous section. It means that the curriculum for Myanmar language works well. On the contrary, overall performance in English and Physics is not good, even though there are few higher level thinking questions. Biology apparently shows a good result, however this might be because the exam contained only level 1 question as mentioned in the previous section. Hence it is difficult to judge whether the quality of the curriculum is good or not from the point of view of curriculum review.

3.10.6 Issues and Challenges

(1) Curriculum Framework not Clearly Defined

Although Basic Education Law prescribes the definition of curriculum, syllabus and textbook, only textbooks are materialized as official curriculum documents. Curriculum should involve a holistic strategy put forth to achieve the nation's national human resource development goals. It has to prescribe not only contents but also rationale, goals, aims, principle, standards and, assessment and reporting polices for example. In fact, such curriculum related information exists, but is fragmented in various documents, as mentioned in the previous section. Thus far this has prevented a strategic curriculum reform. It is thus highly recommended that a regulatory curriculum framework be developed.

(2) Curriculum Review Mechanism not Regularized

The lack of regular curriculum review mechanism also impedes strategic reform. No laws and regulations regulates schedule and method of curriculum revision. Standardized test is not organized for curriculum review. Even matriculation examination results are not analyzed to reveal strengths and weaknesses of curriculum now in Myanmar.

As the matriculation examination is the only nationwide standardized test platform in Myanmar, utilizing matriculation examination results as a part of curriculum study is highly recommended to improve the curriculum in a logical and systematic fashion.

(3) Outdated Learning Contents in Textbook

Most textbooks have not been modified in 10 years. In addition, even in the past revision, textbooks were not fully revised, except for English. This makes it clear that textbook revision

is the top priority in Myanmar. In Japan, textbooks are totally changed every 10 years through a regular curriculum reform process (Table 3-33).

Table 3-33: Summary of Regular Textbook Revision in Japan

Type	Textbook Revision	Frequency
Major Curriculum Reform	Textbooks are totally changed (fully scrapped and re-written) based on new curriculum	Every 10 years
Curriculum Review	Textbooks are modified to reflect minor issues and corrections.	Every 5 years

Information must be updated immediately especially for natural sciences and social studies to accommodate new discoveries and changes of facts.

In addition, as mentioned before, the information in the textbook is not relevant to the development of higher level thinking skills. Current textbooks generally contain more learning contents that require the use of lower level thinking skills.

JICA has been supporting textbook analysis work for the Curriculum section in DEPT to improve the scope and sequence of textbook learning contents. It is expected that this will help to identify issues and gaps in textbooks for the up-coming textbook revision.

(4) Assessment Standard Reform

If contents in textbooks are revised to improve higher level thinking skills, assessment and examination standards should also be revised to properly measure student achievement. Currently, as also described before, questions in matriculation examination mainly assess lower level thinking skills. In general, tests used in schools like CET are supposed to align with the matriculation examination, thus revising the matriculation examination has strong potential to improve education quality nationwide.

(5) Less Emphasis on Co-Curricular Subjects

Though there are no major problems found with total teaching hours, the balance of teaching hours for core subjects/co-curricular subjects must be taken into consideration. Recent learning science theory promotes the involvement of various types of teaching and learning activities for comprehensive brain development. Even co-curricular subjects such as aesthetic education and physical education can help improve core subject performance effectively. However, the current curriculum in Myanmar heavily emphasizes core subjects. Teaching hours for co-curricular subjects are among the lowest among ASEAN countries.

Figure 3-20 shows the conceptual image of “all-round correct thinking” development that the national constitution aims to foster in ideal citizens.

Figure 3-19: Conceptual Image of "All-Round Correct Thinking" Development

Although there is no clear definition on "all-round correct thinking", it is assumed that this capacity can be developed from multiple directions as described in the well-known Bloom's idea shown in the above figure. In this context, co-curricular subjects play an important role in improving psychomotor and affective abilities. Hence the promotion of co-curricular subjects is recommended to help achieve the national human resource development goal.

(6) Teaching in English at High Schools

In fact, there is no data or evidence to support/oppose the policy of teaching specific subjects in English at upper secondary level. However, teachers in high school are struggling with this policy and suggesting alternative options. In addition, even a number of subjects are taught in English, the English subject pass rate is low as shown in Table 3-33. This implies that there must be a problem. Further study is recommended to identify the core issues around this policy.

(7) In-depth Study for G1 Curriculum

Myanmar starts primary schooling from age 5, one year earlier than other counties in general. Since other countries provide early childhood curriculum for this age, the curriculum G1 contains considerable issues that need to be discussed carefully. The drop-out rate at G1 is actually higher than other grades, and potential problems are suspected. Further study is also recommended.

(8) PTR and CCA

Although this may be out of the scope of study for curriculum revision, PTR is a critical to the provision of quality implemented curriculum like CCA. If a maximum capacity for one teacher or one class relevant to implement CCA is set officially, it is expected that this will impact implemented and attained curriculum – in turn leading to improved education quality.

3.11 Inclusive Education

3.11.1 Inclusive Education in Myanmar

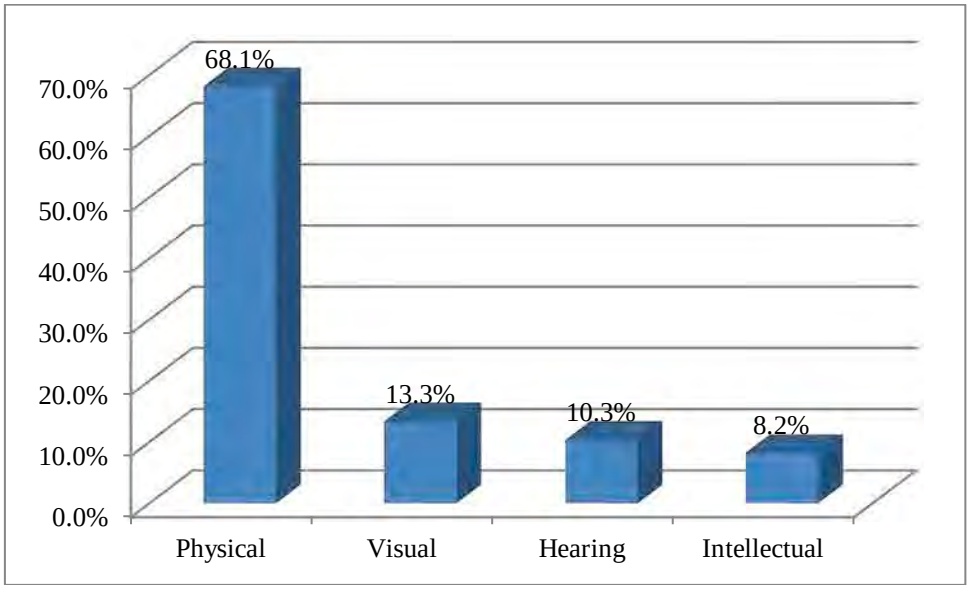
Inclusive education in Myanmar has been implemented to help individuals with disabilities as well as socially disadvantaged individuals, including ethnic minorities and people from poor households, to learn/study in a regular schooling. Currently, students with disabilities tend to study at public schools, while students with social disadvantages usually study at monastery schools.

3.11.2 Education Opportunities for the People with Disabilities

There are four classifications for people with disabilities in Myanmar:

(1) People with physical disabilities,
(2) People with visual impairment、
(3) People with hearing impairment,
(4) People with intellectual disabilities.

According to 'Myanmar National Disability Survey 2010' which was published by the MoSWRR, 2.32% of the population has a disability of some form, which could be caused by congenital factors (43.6%), by injury (36.2%) or by disease (20.2%). Figure 3-11 shows the proportion of disabled people by the type of disabilities. As can be seen, physically disabilities constitute the majority.



Source: Myanmar National Disability Survey 2010

Figure 3-20: Proportion of Disabled People by the Type of Disabilities

As there is currently no specific criteria to define the degree of disability- guidelines for schools regarding the education of children with disabilities do not exist- the professional staff[28] in resource centers decide if a pupil should be enrolled in regular classes or in a school for disabled children (Special Needs School) after he/she has been screened to have a disability by school teachers and school head teachers at the beginning of primary education.

[28] There are 37 resource centers for the people with disabilities.

There are eight schools (including primary and lower secondary levels) for students with disabilities. These are broadly divided into three subcategories: (i) schools for visually impaired students; (ii) schools for hearing impaired students (iii) training schools for disabled youths. Two schools in Yangon and Mandalay are managed by the government whilst other schools are managed by NGOs and receive various contributions[29].

Pupils who have mild disabilities attend regular classes in primary school; however, moderately or severely disabled children receive education in schools for disabled children. After completing primary education, students who are admitted to study in regular classes receive their education in regular schools as part of inclusive education from the middle school level.

According to the Disability Survey (2010), 37.1% of disabled students have received educational opportunities, implying that around two thirds of disabled individuals did not receive an education. Among individuals who received an education, 66% graduated from primary school, 22% graduated from middle school and only 2% graduated from university

Teachers in Special Needs schools graduate from Education Colleges (EC), and are provided with one year correspondence training by EC to receive knowledge about the education of children with disabilities, as well as regarding specific teaching methodology.

3.11.3 Current Situation of Inclusive Education

Students who are admitted to inclusive education enter one of the six government schools under the MoE which offer inclusive classes. However, the teaching/learning environment suffers the following shortcomings: (i) teaching materials are not developed according to specific disabilities; (ii) lack of barrier free facilities; (iii) too few support teachers and (iv) no development of individual study plans. On the other hand, there is a distinction in the level of service at NGO-run inclusive education schools and schools for disabled children. For example, these schools for disabled children accommodate students in their dormitory and provide tutoring after class when the formal class is not able to provide enough service to students with disabilities.

Table 3-34: Developed Teaching Materials for Inclusive Education

Teaching Material for Inclusive Education	Utility
Toolkit for Creating Inclusive Learning-Friendly Environment	Education College
Booklet "That All Flowers May Bloom"	Enlightening material
Sample lessons for the blind and the deaf students in audio and video formats.	Teachers engaging inclusive education

Source: Myanmar Country Report for 7th ASEAN & Japan High Level Officials Meeting on Caring Societies, 31 August-3 September 2009

Students with disabilities take examinations in almost the same conditions as regular class students. As a result, the rate at which students with disabilities pass the matriculation examination is very low compared to regular students[30].

3.11.4 Issues in Inclusive Education

The following issues are identified for Inclusive Education.

[29] Those schools which target to rehabilitate disabled children are under the Ministry of Social Affairs, Relief and Reconstruction. On the other hand, MOE provides inclusive education in regular classes at the middle school and high school levels.

[30] For example, Dagon high school in Yangon, only two students with disabilities have passed matriculation examination from 2009 to 2012 against 44 students have taken examination.

(1) Access

1. There is a limited number of schools that disabled students can attend.

(2) Quality

1. There is lack of consideration for each disabled student to study according to his/her degree of disability including support system and evaluation for individuals. It is important to establish individual learning achievement/targets according to an individual's degree of disability.
2. There is no specific course for training inclusive education teachers at EC.

(3) Management

1. Criteria for judging children with disabilities, including that for identifying the degree of disability, are not yet regulated. Therefore effective support levels for individual disabilities have not yet been achieved. It is also important to collect statistical data for capturing an overall picture of the current situation to help develop policies and plans to support inclusive education.
2.
3. There is a shortage of supporting legislation for people with disabilities, especially regarding their employment.

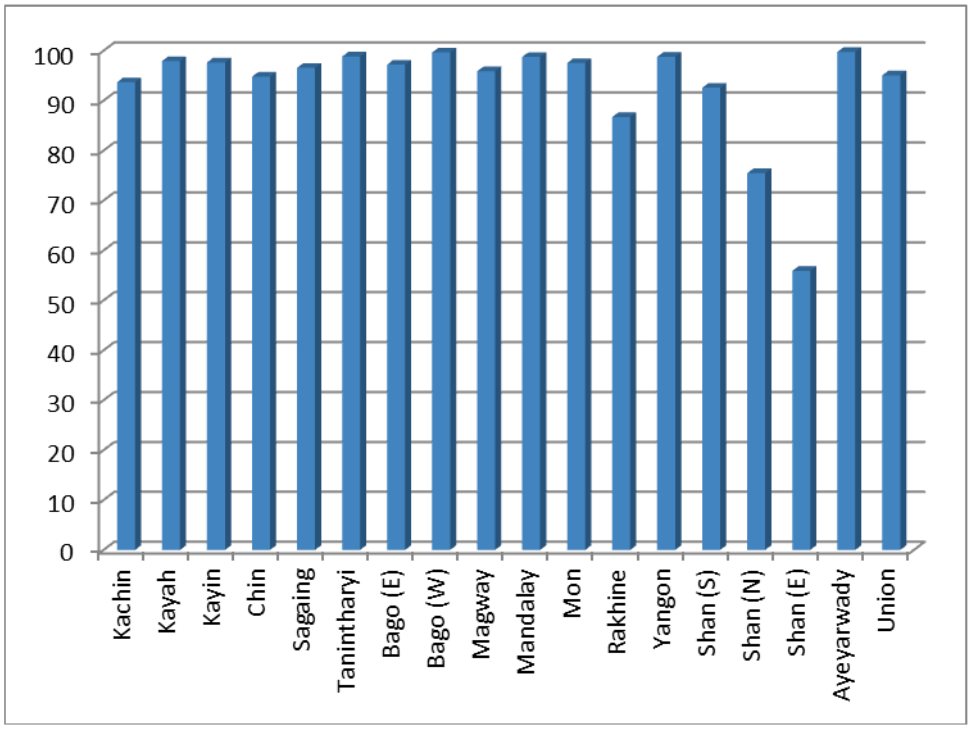
3.12 Non-formal Education (NFE)

Non-formal Education in Myanmar provides two programmes :(i) Basic literacy education under the Department of Myanmar Education Research Bureau (MoE), and (ii) Continuous education under Basic Literacy and continuous Education Division (MoE). These departments make plans and coordinate with related organizations such as NGOs for NFE. The NFE Committee implements and monitors NFE.

3.12.1 Basic Literacy Education Programme

The objective of the Basic Literacy Education (BLE) programme is to provide an opportunity to acquire basic skills: reading, writing and arithmetic (3Rs), for illiterate people. This programme originated from the literacy movement in the 1970's. Since then many teachers have been working voluntarily by taking time from their summer vacations to help out with the programme. Currently, the literacy rate in Myanmar has reached 95.8% but regional/state disparities still exist as shown in Figure 3-21. BLE programmes are provided regularly and work to eliminate these gaps, focusing on disadvantaged regions/states. BLE is a 70 day program with two hours of learning each day. As Table 3-35 shows, BLE programmes have been implemented 21,712 times with attendance by 877,560 people, according to 2012 data a. 70.6% of these participants have since been recognized as literate.

To disseminate basic literacy programs, literacy campaigns are conducted on a regular basis. In April 2013, the mobilization of university students is planned as part of the implementation of literacy education.



Source: Non-Formal Education Sector, 8 September 2012, MoE Unit: %

Figure 3-21: Adult Literacy Rate by Region/State/Union

Table 3-35: Participants and Recognition Rate by BLE Programme by Region/State/Union

Region/State	No. of BLE	Participants	Recognized Participants	Ratio of Recognized Participants(%)
Kachin	82	1,403	916	65
Kayah	148	2,125	2,062	97
Kayin	943	28,296	27,839	98
Chin	500	8,162	4,306	53
Sagaing	4,201	150,581	99,627	66
Tanintharyi	224	3,937	3,926	100
Bago (E)	2,235	62,634	61,450	98
Bago (W)	380	6,729	6,729	100
Magway	133	602	602	100
Mandalay	4,598	69,337	56,862	82
Mon	99	50,606	50,267	99
Rakhine	27	415,158	227,783	55
Yangon	7	114	74	65
Shan (S)	60	45,815	45,814	100
Shan (N)	130	17,828	17,828	100
Shan (E)	22	4,319	4,043	94
Ayeyarwady	328	9,914	9,815	99
Total	14,117	877,560	619,943	71

Source: Non-Formal Education Sector, 8 September 2012, MoE

3.12.2 Continuing Education

Continuing Education targets those who dropped out of the public education programme. CE aims to help these individuals to acquire the ability to live in society and complete equivalency programs to the primary education level. The following six programmes are currently being implemented.

(1) Post literacy programme (PLP)
(2) Income Generation Programme (IGP)
(3) Quality of Life Improvement Programme (QLIP)
(4) Individual Interest Improvement Program (IIIP)
(5) Future Oriented Programme (FOP)
(6) Equivalency Programme (EP) to primary education level

Among them, EP to primary education has been conducted since 1998, targeting drop-out students aged 10 to 14 years old in order to provide them with a second chance to re-enroll in formal schooling. This program is composed of two levels for a two year course: (i) Level 1 equivalent to Grade 3 level and (ii) Level 2 equivalent to Grade 5 level. While all successful attendants can proceed to middle school, only 22% enrolled to middle school among them in total. The MoE now plans to establish an EP program to middle school to improve access to secondary-level schooling.

3.12.3 Places for Implementing Non-Formal Education

There are 3,040 Community Learning Centers (CLCs) nation-wide. Other places open to the public- such as monastery schools- are also utilized when they can be easily accessed.

Table 3-36: Community Learning Centers

Region/State	No. of CLCs	Region/State	No. of CLCs
Kachin	57	Mandalay	217
Kayah	10	Mon	99
Kayin	27	Rakhine	27
Chin	43	Yangon	7
Sagaing	757	Shan (S)	60
Tanintharyi	186	Shan (N)	130
Bago (E)	226	Shan (E)	22
Bago (W)	156	Ayeyarwady	328
Magway	688	Total	3040

Source: DMERB, 2012

3.12.4 Issues in Non-Formal Education

(1) Access

1. Establishment of CLC is one strategy to expand literacy programmes nation-wide, however, some regions/states still have a shortage of CLC for full implementation.
2. Certified program at middle school level was established, but there are limitations of chances to get continuous TVET and jobs

(2) Quality

1. Quality of instructors is not equal as they are recruited on a voluntary basis.
2. There is a gap among the success rate of literacy programmes across the nation. It is necessary to identify its reasons and make CLC activities more effective.

(3) Management

1. There is a shortage of personnel at the MoE to manage NFE in an integrated fashion such as policy making, planning, implementation and monitoring.
2. Due to the limited government budget, external sources such as NGOs and UNICEF have been relied on for many activities.

4. Technical and Vocational Education and Training (TVET)

Before the Second World War, technicians and skilled workers in Myanmar were mainly brought from India and worked for the existing industries. After the Second World War, they went back to their countries and there was a shortage of skilled workers, craftsmen, mid-level technicians and engineers in the country. To address this shortage, the Department of Technical, Agricultural and Vocational Education was established under the MoE and has been involved in the provision of TVET for many years. Many high schools, colleges and universities were opened to provide agricultural, technical and vocation education. By the 1970's, many foreign students from neighboring countries had studied in Myanmar, which served as the best TVET institutions in the South East Asian region. The quality of education, however, has gradually decreased due to changes in the social environment.

Until 1996, the MoE administered the education sector including TVET. However, since the establishment of the Ministry of Science and Technology (MoST) in 1996, MoST has developed and promoted engineering related TVET sector by setting its own framework and system. At the same time, TVET in other fields was taken over by the respective ministries; this system has continued until recently. However, as a result of the drastic movement towards civil since 2011, TVET is facing an important phase for its renovation through changes such as legal reforms, policy initiatives, development plans, changes in the system of schooling years and degrees, joint education/research programs with ASEAN and other countries, and introduction of international skill standards.

This section provides an overview of the TVET sector and major government TVET institutions in the engineering field. In addition, institutions related to TVET include both institutions focused solely on TVET and higher education institutions which also provide education in technical and vocational field. These two types of institutions are explained in this section.

4.1 Policy Framework, Law and Development Plan Related to TVET

4.1.1 Agriculture, Technical and Vocational Education Law

The most important law related to the TVET sector is the Law Amending the 1974 Agriculture, Technical and Vocational Education Law (the State Law and Order Restoration Council Law No. 20/89). The Agriculture, Technical and Vocational Education Law was originally developed to contribute to the establishment of socialism in the country. It was, however, amended in 1989 due to the conversion to capitalism[31] and is still effective as of 2012. The law describes the objectives of Agriculture, Technical and Vocational Education as (a) to nurture technicians and specialists required for the establishment of industries, and (b) to nurture experts required for the effective utilization of sophisticated technology for the development of agriculture and livestock activities. It also defines the function and members of the Council for Agriculture, Technical and Vocational Education, and their sub-committees established to achieve the above objectives. It is noted that the Thein Sein administration has initiated education sector reform and this approach encourages concerned ministries to review the existing laws. During our interview period, the new university education law and laws related to TVET had been drafted and submitted to the parliament.

4.1.2 Science and Technology Development Law

The Science and Technology Development Law of 1994 has been promulgated by the Ministry of Industry with the aim of engendering technicians and specialists to fulfill the requirements of industrial sector development.

[31] This is followed by another amendment by a presidential decree in 1991.

4.1.3 The Basic Education Law

The Basic Education Law of 1973 (amended in 1989) describes one objective of basic education as laying the foundations necessary for branching off at an appropriate stage to appropriate vocational education and training.

4.1.4 National Development Plan

The 30-Year Long-Term Education Development Plan for Basic Education 2001-2030 of the MoE describes one objective as "To have equal access to learning in both urban and rural areas and having a multi-track system in vocational education". Implementation of the programmes in the plan also mentions "Providing Access to Pre-vocational Education and Vocational Education at Different Basic Education Levels", "Teaching pre-vocational subjects in secondary schools", and "Teaching vocational education relevant to local needs at different levels of basic education". Regarding these plans, the MoE selected 120 high schools in the nation as pre-vocational schools that offer agricultural, technical and vocational subjects in addition to the normal curriculum.

Parallel to the MoE's 30-Year Long-Term Plan, the MoST developed its own plan which is in-line with the policy and regulations laid down by the GoM. By the end of 2012, the MoST expects to have drafted a new education plan which could reflect the MoST's new education structure and the GoM's development strategies in technical, industrial and human resources development.

4.1.5 Recent Movement

In addition to the above mentioned policy framework, law and development plan, another important reform related to TVET is the development of national skill standards chaired by the Ministry of Labour (MoL) with the aim of implementing a unified skills recognition system. Moving towards building an ASEAN Community in 2015, Myanmar is planning to increase the capacity of its human resources by adopting the National Qualification Framework (NQF) and ASEAN Qualification Framework (AQF) established by the "Enhancing Skills Recognition in ASEAN" Project. This contextual background fosters MoL's progress in developing the framework to authorize TVET institutions and skilled persons to meet ASEAN standards. Consequently, MoL established National Skill Standard Agency (NSSA) and its sub-committees to facilitate this program. The Employment and Skills Development Law, which defines the functions of NSSA and sub-committees, was drafted and submitted to the national congress.

In addition, according to the speech of the Vice President in April 2012, in order to develop regional economies, plans are being made for community colleges in each region to provide TVET for adults in the community.

4.2 Overview of TVET Sector in Myanmar

4.2.1 Major TVET Institutions and Supervising Ministries in Myanmar

There is no Central Body or major institution which controls the whole TVET sector in Myanmar, and many ministries supervise TVET institutions in their respective fields. This is one of the important characteristics of the TVET sector in Myanmar. Major TVET institutions and supervising ministries are described in the table below. While the MoST supervises the largest number of TVET institutions and acts as the most important ministry, producing the required skilled laborers, technicians and specialists needed for the country, other ministries also manage their own TVET institutions in accordance with their management policies, rules and regulations. The types of institutions are varied. Some TVET institutions could be regarded

as Higher Education institutions and offer academic degrees. Other TVET institutions offer short-term training for skill development, targeting the capacity building of civil servants. The definition of TVET also varies among ministries. For example, HRD program which offers morning, evening and weekend courses at art and science universities for in-service people and employees from various organizations has been recognized by the MoE as a part of TVET. The MoST, on the other hand, regards TVET as full time study at engineering-related schools such as Government Technical High Schools (GTHS), Technological Universities (TUs) and so on. Some ministries offer similar types of training and education at different institutions such as institutions under the MoST, Skill Training Centers (STC) under the MoL, and Industrial Training Centers (ITC) under the MoI. In addition, the TVET team of CESR temporary defined the TVET institutions in Myanmar as "TVET institutions which do not provide degrees" and AGTI course at TUs, GTCs and GTIs.

Table 4-1: Major TVET Institutions and Supervising Ministries in Myanmar

Ministry	Field	TVET institutions	Total #
Ministry of Agriculture and Irrigation	Agricultural Science	Yesin Agricultural University (1) Agricultural Institute (10)	11
Ministry of Livestock and Fisheries	Veterinary Science	Yesin University of Veterinary Science(1), *Fisheries Science School(1), Breeding Training Centers (2)*	4
Ministry of Commerce	Trade	*Trade Training Institution in Yangon (Short Course)*	1
Ministry of Cooperatives	Arts, Business Management and Accounting	Cooperative Universities (2) Cooperative Colleges (2)	4
	Cottage Industries	Lacquer ware College (1), *The Saunders Waving School(2), Basic Weaving Schools (5), High-level Weaving Schools (8)*	16
Ministry of Science and Technology	Engineering	Technological Universities (27), University of Technology ICT (1), Government Technical Colleges (3), Government Technical Institutes (11), *Government Technical High School (36),* Aerospace Engineering University (1), Universities of Technology (4), Universities of Computer Studies (25)	108
Ministry of Education	Arts and Science (HRDP)	Arts and Science University (32)	32
	Teacher Training	*Education Colleges*	20
	Pre-vocational education	*Pre-vocational schools (attached to high schools)*	120
Ministry of Health	Health Science / Traditional Medicine	University of Medicine (4), University of Pharmacy (2), University of Paramedical Science (2), University of Dental Medicine (2), University of Nursing (2), University of Public Health (1), University of Community Health (1), *Nursing and Midwifery schools (46),* University of Traditional Medicine (1)	61
Ministry of Religious Affairs	Religious and Missionary Works	*International Theravada Buddhist Missionary University*	1
Ministry of Transport	Maritime	Myanmar Maritime University	2

Ministry	Field	TVET institutions	Total #
	Engineering etc	*Myanmar Mercantile Marine College*	
Ministry of Culture	Music, Sculptures, Drawing, etc	National University of Arts and Culture	1
Ministry of Environmental Conservation and Forestry	Forestry	*Forestry Training Centre, Central, Forestry Development Training Centre (2),* University of Forestry	4
Ministry of Defense	Military Training, Medical Science, Engineering etc	Defense Service Academy, Defense Service Medical Academy Defense Service Technological Academy Defense Service Institute of Nursing and Paramedical National Defense College	5
Union Civil Service Board	Civil Service	*Central Institute of Civil Service (Short course)*	2
Ministry of Border Affairs	Teacher Education Arts and Science	*University for the Development of the National Races of the Union (1)* *Nationalities Youth Resource Development Degree Colleges and Central Training Schools (2)*	3
	Vocational Education	*Vocational Training Schools of Domestic Science for Women (39)* *Training Schools for Development of Nationalities Youth from Border Areas (29)*	58
Ministry of Industry	Engineering	*Industrial Training Centers (1 year certificate course)*	6
Ministry of Labour	Engineering, Language, IT	*Skills Training Centers (Short Course)*	3
Ministry of Social Welfare, Relief and Resettlement	Non-Formal Education	*Youth Care Centers and Vocational Training Centers for Disabled Adults (10)* *Schools for Visual and Hearing Impairment and Students with Disability (4)*	14
Ministry of Sport	Sport Education	*Sport and Physical Science School (High school level)*	2
Ministry of Hotel and Tourism.	Tourism Education	*Tourism Training School*	1
Ministry of Rail Transportation	Rail Transportation	*Central Institute of Transport and Communications*	1

Black: Higher education institutions which provide undergraduate Diploma or higher degrees related to technical and vocational education
Red italic: TVET institutions which do not provide degrees
Italic with underline: Higher education institutions which provide both undergraduate Diploma or higher degrees and TVET without degree.
Source: Developed by the Study Team based on the interviews at respective ministries

The detailed information of each institution is described in Appendix 4-1. Various stakeholders conduct TVET in various fields for various targets in Myanmar. Thus it is difficult to collect information on all TVET institutions in Myanmar within a limited time frame. Hence this report mainly focuses on the TVET institutions in the engineering field under DTVE in MoST, which supervises the largest number of TVET institutions in Myanmar.

As mentioned above, the definition of TVET is different among ministries and the demarcation between higher education and TVET is very vague. TVET institutions under DTVE also include both higher education institutions which provide technical and vocational education, i.e., TU, GTC, GTI, and University of Technology (Yatanarpon Cyber City), and institutions devoted to

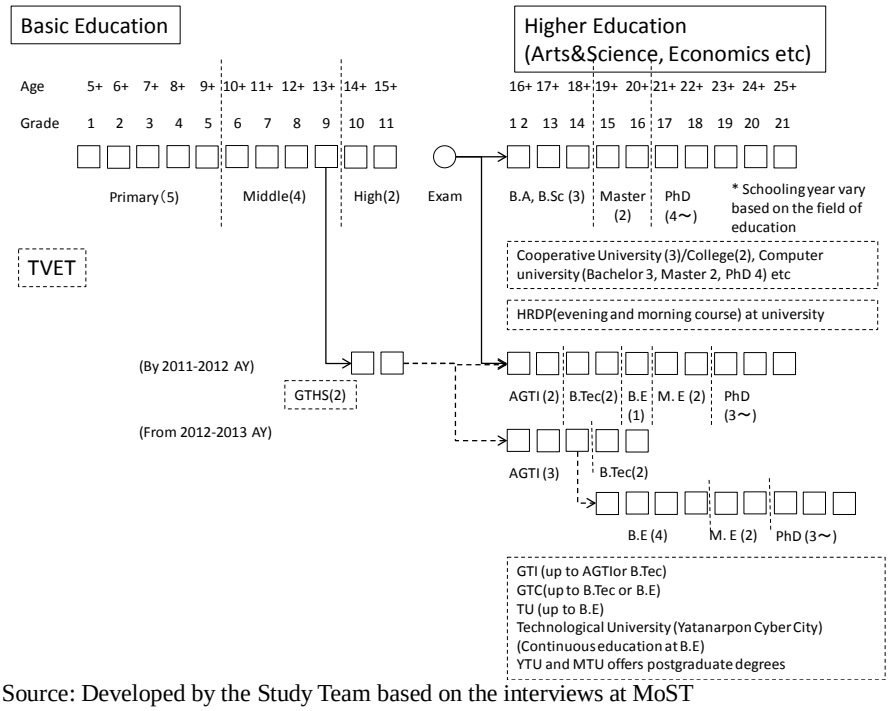
only TVET, i.e. GTHS. In addition, TUs under DTVE could not offer degree certifications for students on their own and their academic matters (such as developing curriculum and exam papers) are assisted by Yangon Technological University and Mandalay Technological University under the Department of Advanced Science and Technology (DAST). It is noted that 27 TUs, GTCs and GTIs under DTVE and West Yangon Technological University (WYTU) and Pyay Technological University are affiliated with YTU and MTU. The following section will explain information related to DTVE institutions. Institutions under DAST are described in the next section as higher education institutions.

4.2.2 Education Structure of Myanmar related to TVET in Engineering Field

The Education Structure of Myanmar related to TVET in engineering field is briefly summarized by the figure below.

At first, graduates of middle schools are able to enter Government Technical High Schools (GTHS) instead of entering ordinary high schools in the formal education system. Graduates of GTHS with good performance are eligible to attend AGTI Diploma courses at higher TVET institutions under DTVE such as Technological Universities (TU).

In the formal basic education track, students that pass the matriculation examination could have diverse options to study at both professional universities and non-professional universities. However, qualified GTHS students have to access AGTI courses and are not entitled to enter other higher education institutions. After the completion of AGTI, excellent students are able to enter higher degree courses which are Bachelor of Technology (B.Tec) to be a technician, and Bachelor of Engineering (B.E) to be an engineer. If higher degree courses are not offered at the same institution, students transfer to the other TUs in same region/state.



Source: Developed by the Study Team based on the interviews at MoST

Figure 4-1: Education Structure Related to TVET in Engineering Field

The recent reform in Higher Education structure of the MoST states that from the 2012-13 Academic Year, AGTI courses will be increased to three years, Bachelor of Technology

(B.Tech) courses will become two years and Bachelor of Engineering (B.E) courses will be four years. Therefore, B.Tech and B.E course will be completely separated. Following this change, there will be only one TU in each state/region that is able to offer the B.E course.

In addition, the TVET institutions under the Department of Advanced Science and Technology (DAST) of MoST are the four Universities of Technology, an Aerospace Engineering University, and 25 Universities of Computer Studies. DAST selected four universities as Centers of Excellence (CoE). CoEs that will offer six year B.E. degree programs to train students who passed the matriculation examination with 450 marks and above. The details are described in the section on Higher Education. Prior to this CoE program, since 2010 the University of Technology (Yatanarpon Cyber City) under DTVE offered a five year[32] B.E course emphasizing the ICT sector.

4.2.3 Financial Status and Source of Budget

In general, government TVET institutions charge very reasonable tuition fees. Therefore, these institutions receive almost their entire budget from their respective ministries. Employment and deployment of teachers are also budgeted and decided by the respective ministries, and TVET institutions are not left with much discretion about these matters. University Council Law, however, is prepared to enhance the autonomy of universities, and the situation may change after the effectuation of this law.

The following table shows the expenditure in the most recent five years in DTVE. The expenditure has gradually increased, but the percentage of GDP has been stable at about 0.1%. While it varies by year, generally speaking capital expenditures for facilities and equipment have been larger than current expenditures for personnel and maintenance. It is, however, observed during the survey at institutions that there is a shortage of the equipment used as teaching aids during hands-on training sessions, and the equipment that the TVET institutions have is out-dated. Therefore the budget should be increased to provide quality education for all students at present and in the future.

Table 4-2: Financial Status of DTVE in Recent 5 Years

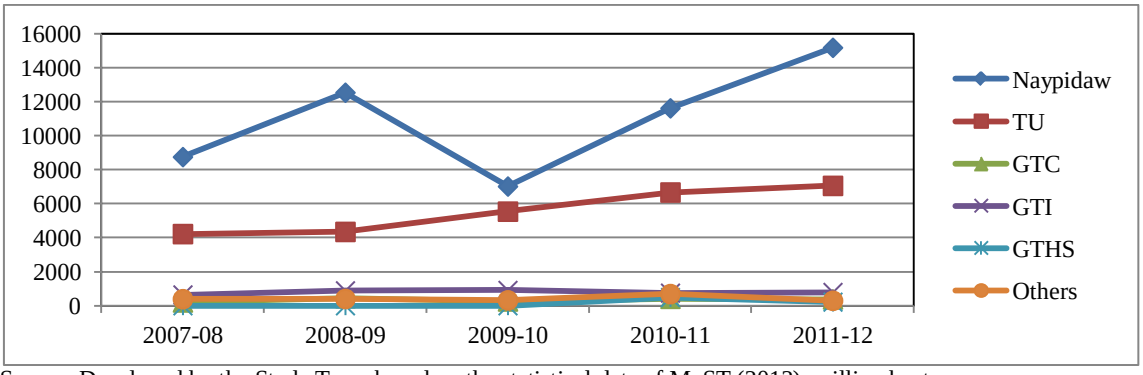
Unit: Million Kyat

Fiscal year	Current expense	Capital expense	Total	% of GDP
2011-12	15,762	8,179	23,941	-
2010-11	8,541	12,101	20,642	0.10%
2009-10	6,132	7,927	14,058	0.07%
2008-09	4,976	13,000	17,976	0.11%
2007-08	4,756	9,455	14,212	0.09%
Total	40,167	50,663	90,830	0.09%

Source: Developed by the Study Team based on the statistical data of MoST (2012) and Statistical Yearbook 2010

The following figure shows the distribution of DTVE's budget to individual TVET institutions. The expenditure of the Head of Office is the highest amount in each year, because in general procurement of equipment and building facilities are unified at the department level and the department distributes procured materials to each institution. The second largest amount is distributed to TUs as they have the highest number of students and teachers among TVET institutions. The expense to other institutions is considerably lower in comparison with the department in Naypyidaw and in TUs.

[32] It will be a six year course from the 2012-2013 AY.



Source: Developed by the Study Team based on the statistical data of MoST (2012): million kyat

Figure 4-2: Distribution of Budget to TVET Institutions under DTVE

4.2.4 Scholarship

There are only a few scholarship opportunities for TVET students under DTVE. The existing official scholarship supports less than 10 excellent students per year to study overseas. The donors such as Germany, Korea, ASEAN countries and Japan provide post-graduate scholarships, and the Foreign Economic Relations Department (FERD) recruits candidates for these scholarships. The number of scholarship is, however, not sufficient for the large number of students. The private sector offers an insignificant number of scholarships. Compared to other TVET institutions, candidates from a University of Computer Studies received more scholarships during the time of survey (In AY2011/2012, about 50 university students out of 3,500 received scholarships for both undergraduate and postgraduate degrees.) There are many institutions which have never received a scholarship (these figures include GTHS).

4.2.5 Geographical location

TVET institutions located in Yangon, Mandalay and the Central Dry Zone (CDZ) area tend to have few branches. On the other hand, TVET institutions under DTVE have many branches all over Myanmar following the policy to provide TVET to both rural and urban areas. TUs were established in all regions and states except Chin state. Areas which do not have TUs do have GTCs or GTIs, and TVET institutions are located in all region and states. GTHS are also being opened in all regions and states in Myanmar. These institutions are relatively concentrated in the CDZ where many industrial zones (Mandalay, Magway and Sagaing region) are located and in delta area (Ayeyawaddy region) as it is the biggest population center in Myanmar. The location of TVET institutions under DTVE is described in the Appendix 4-2.

On the other hand, there is a large scale gap of institutions between the border and central areas. The following table compares the scale of institutions in each state and region. There are few institutions located in states near the border and student enrollment is relatively small. GTHS especially have considerably fewer numbers of students at state institutions. On the other hand, the number of teachers is not very different between states and regions. Thus students in state institutions are in better condition regarding the student/teacher ratio.

Table 4-3: Scale of TVET Institutions in Each State and Region (2011–2012)

Type of institution[33]	# of institutions	# of students	Students/ Institution	Teacher/ institution
TU/GTC/GTI(State)	14	12,462	890.1	73.9
TU/GTC/GTI(Region)	28	65,949	2,355.3	100.6
GHTS(State)	14	752	53.7	25.3
GHTS(Region)	22	2,275	103.4	30.5

Source: Developed by the Study Team based on the statistical data of MoST (2012)

4.3 Overview of Students and Teachers

4.3.1 Number of Students

The following table shows the number of students in TVET institutions under DTVE in AY 2011/2012. There are many students in Civil Engineering, Electronic Engineering, Electrical Power Engineering, and Mechanical Engineering. TUs have the largest number of students.

Table 4-4: Number of Students in Each Study Field and Institution (2011/2012)

Study field	TU	GTC	GTI	GTHS	Total
Civil Engineering	20,915	1,611	1,782	0	2,4308
Electronic Engineering	11,208	966	377	0	1,2551
Electrical Power Engineering	11,126	1,050	1,432	0	1,3608
Mechanical Engineering	14,197	1,150	1,600	0	1,6947
IT/ICT	3,056	399	32	0	3,487
Mechatronic Engineering	2,466	0	28	0	2,494
Metallurgical Engineering	143	0	0	0	143
Chemical Engineering	683	0	0	0	683
Architectural Engineering	1,213	0	0	0	1,213
Petroleum Engineering	522	0	0	0	522
Textile Engineering	276	0	0	0	276
Mining Engineering	214	0	0	0	214
Biotechnology	197	0	0	0	197
Nuclear Technology	101	0	0	0	101
Electronic Technology	0	0	0	391	391
Machining Technology	0	0	0	339	339
Building Technology	0	0	0	1,048	1,048
Building Services Technology	0	0	0	36	36
Auto Mechanics Technology	0	0	0	695	695
Electrical Technology	0	0	0	448	448
Metal Process Technology	0	0	0	70	70
Total	66,317	5,176	5,251	3,027	79,771

Source: Developed by the Study Team based on the statistical data of MoST (2012)

4.3.2 Completion Rate

The following table shows the number of students that took examinations and the percentage that passed examinations at the TVET institutions under DTVE in the AY2010/2011. 40% of students that entered 1st year of AGTI could not proceed to the 2nd year as a result of dropping out or failing the examination. After the 2nd year of AGTI, the rate at which students pass the

[33] There are 7 regions in Myanmar (Yangon, Mandalay, Sagaing, Magway, Bago, Ayeyarwady and Tanintharyi). Regions are mainly located in central area of the country and Burmese people live in the regions. This institutions includes University of Technology in Yatanarpon Cyber City
There are 7 states in Myanmar (Kachin, Shan, Chin, Rhakine, Mon, Kayah, and Kayin). States are located near boarder area and many ethnic groups live there.

exams gradually increases. According to an interview at Thanlyin TU in Yangon division, the majority of students who dropped out are male students who change their career path to study at other universities or become employed. The 1st year students are at especially high risk of dropping out. Possible reasons are the difference between expectations of students and the reality of a university education, and that students enter the institution with an insufficient foundation of knowledge for university study.

Table 4-5: Number and Completion Rate of Students in Each Grade (2010/2011)

Institutions	AGTI(1st)		AGTI(2nd)		B.Tec(1st)		B.Tec(2nd)		B.E(1st)	
	Taken	Passed	Taken	Passed	Taken	Passed	Taken	Passed	Taken	Passed
TU	18812	58%	12515	75%	9459	79%	6986	86%	7641	63%
GTC	2386	64%	1667	75%	1097	88%	543	89%	654	57%
GTI	1832	68%	1147	74%	540	85%	436	91%	0	0%
Total	23030	60%	15329	75%	11096	81%	7965	87%	8295	62%

Source: Developed by the Study Team based on the statistic data of MoST (2012)

4.3.3 Number of Teachers

The following table shows the number of teachers at the TVET institutions under DTVE in AY2011/2012. As with the number of students, the MoST recruited a higher number of teaching staff in Civil engineering, Electronic Engineering, Electrical Power Engineering, and Mechanical Engineering. Convincingly, TUs have the greatest number of teachers among the institutions. On the other hand, less than half the teachers teach engineering subjects in GTHS. The majority of teaching staff in GTHS teach other disciplines such as English and Mathematics. At TU/GTC/GTI, one third of teachers teach academic subjects and these subjects are taught in one third of the schedule.

Table 4-6: Number of Teachers in TVET Institutions under DTVE (2011/2012)

	Special field of study[34]	Ordinary/Academic subject[35]	Total
TU	2,091	959	3,050
GTC	142	75	217
GTI	311	182	493
GTHS	464	531	995
Total	3,008	1,747	4,755

Source: Developed by the Study Team based on the statistic data of MoST (2012)

4.3.4 Employment, Training and Deployment of Teachers

The following table summarizes the number of teachers[36] under the DTVE by the type of qualifications. Only 7% of teachers hold a PhD but about 40% hold a Masters degree. There are only five professors and 220 associate professors. Basically, the MoST has recruited new teachers who are currently pursuing, will be pursuing or have completed post-graduate degree programs related to engineering subjects. The MoST has offered the opportunity of training after employment such as attending higher-level courses (such as Master and PhD programs) at a university of technology. Regarding the training for teachers of GTHS, a majority of them receive refresher training and are deployed to schools after the training. They also have the opportunity of participating in short in-service training courses which focus mainly on the

[34] Civil Engineering, Electronic Engineering, Electrical Power Engineering etc
[35] Myanmar, English, Mathematics, Physics, Chemistry and Economics
[36] This number includes all staff in institutions including administrative staff.

contents of the curriculum. The employment, training and deployment of teachers are managed in an integrated fashion by the respective ministries.

Table 4-7: Number of Teachers in Each Qualification (2011/2012)

Institution	PhD	Master (Engineering)	Bachelor (Engineering)	AGTI	Master (others)	Bachelor (others)	Diploma	Total
TU	332	513	1078	91	765	265	20	3064
GTC	12	46	77	5	124	87		351
GTI	28	49	197	131	124	87	3	619
GTHS	2	3	218	239	349	181	7	999
Total (%)	374 (7%)	611 (12%)	1570 (31%)	466 (9%)	1362 (27%)	620 (12%)	30 (1%)	5033 (100%)

Source: Developed by the Study Team based on the statistic data of MoST (2012)

4.4 Formulation of National Skill Standard Initiated by Ministry of Labour

The TVET institutions under MoST mainly target individuals who have not yet been employed. Regarding the TVET for post-employment personnel, the various TVET institutions under other Ministries such as Ministries of Labour, Industry and Commerce provide TVET in their respective fields. Among the activities of these ministries, the program of National Skill Standard Authority (NSSA), which was established by the initiative of the MoL based on the outcomes of "The project of Enhancing Skills Recognition System in ASEAN[37]", is remarkable. The NSSA is trying to formulate the National Skill Standards in Myanmar compatible to regional standards in line with the future ASEAN skill recognition framework through discussion with ASEAN Skill Standard Authority.

4.4.1 Composition of the NSSA

The NSSA was established in 2007, and is composed of 28 members who are Director Generals of 13 ministries and representatives of private institutions related to TVET. The Deputy Minister for the MoL is Chairman and Director General of Department of Labour is Secretary. The private sector representatives are from the Union of Myanmar Federation of Chamber of Commerce and Industry (UMFCCI), Myanmar Engineering Society (MES), and Myanmar Industrial Association (MIA). Almost all stakeholders of TVET in the nation are involved in the NSSA.

4.4.2 Functions of NSSA

1. Establishing Occupational Competency Standards for occupations on a priority basis.
2. Accrediting training providers & competency assessors including those in the private sector.
3. Overseeing assessment and certification of skilled workers at the National level.

4.4.3 Activities of NSSA

Regarding the establishment of occupational competency standards, 173 occupational competency standards were drafted by experts from both the respective ministries and the

[37] The project of Enhancing Skills Recognition System in ASEAN is implemented as the ASEAN Australian Collaboration Program. It was a regional level project and the MoL was involved as a representative of Myanmar. It was implemented from 2004 to 2008 and four levels of skill standards were formulated in five vocational areas referring to the skill standards of Australia.

private sector. The Employment and Skills Development Law was drafted and submitted to the national congress in order to officially approve the establishment of occupational competency standards. Further progress will continue after the law is enacted.

Regarding accreditation of training providers and competency assessors, training providers including those in the private sector develop their own training programs based on the competency standards, and the competency standard and training standard committees of the NSSA assess the providers' training programs. If the training program fulfills the standards, the training provider is accredited as a certified institution. As a result of promotion through state media, 32 training institutions were certified by September 2012. Regarding the assessment and certification of individual skilled workers, the assessment and certification organization is planned to be established.

In order to enhance the above activities, draft occupational competency standards are planned to be reviewed with support of GIZ, and the development of training curriculums based on the draft occupational competency standards are planned to be supported by polytechnic of Singapore.

4.5 Overview of Major TVET Institutions

An overview of major technological TVET institutions in Myanmar is provided in this section.

4.5.1 TVET Institutions under the Department of Technical and Vocational Education (DTVE), Ministry of Science and Technology (MoST)

As described above, there are four types of TVET institutions, TUs, GTCs, GTIs and GTHSs under the DTVE of MoST. In addition to the four institutions, the University of Technology (Yatanarpon Cyber City) was established recently as a new trial form of TVET institution at university level. An overview of each institution follows.

(1) Overview of Technological University

Name of institution	Technological University: TU
Number of institution	27 TUs throughout Myanmar except Chin state
Year established	2007 (Most were originally established from 1977 to 2007 and were upgraded from GTHS, GTI or GTC.)
Number of students	About 66,000, about2,400/TU (2011/2012)
Number of teachers	About 3,000, about110/TU (2011/2012)
Field of education / Courses offered	Almost all TUs offer Civil Engineering, Electronic Engineering, Electrical Power Engineering and Mechanical Engineering. Some TUs offer IT, Mechatronic Engineering, Metallurgical Engineering, Chemical Engineering, Architectural Engineering, Petroleum Engineering, Textile Engineering, Mining Engineering, Biotechnology and Nuclear Technology. The degrees offered are AGTI, B.Technology and B.E.
Curriculum / Teaching materials	Curriculum Development Committee under DTVE designed a standardized curriculum and textbooks for all TUs. After the examination at the end of academic year, students have to conduct one month on-the job training at private or public industries or factories (Industrial Attachment) or Project work.
Issues and remarks	Lack of equipment/ teaching materials for practice, fixed curriculum. Some TUs will not offer B.E from AY2012/2013.

Thousands of students study at large suburban campuses (Mandalay TU)

Machines for practical work are old and not in sufficient supply (Thanlyin TU)

(2) Overview of Government Technical College

Name of institution	Government Technological College: GTC
Number of institution	Three (3) GTCs at central dry zone
Year established	2007 (upgraded from GTI, established in 2004) and 2008
Number of students	About 5,000, about1,700/GTC (2011/2012)
Number of teachers	About 220, about70/GTC (2011/2012)
Field of education / Courses offered	GTCs offer Civil Engineering, Electronic Engineering, Electrical Power Engineering, Mechanical Engineering and IT. The degrees offered are AGTI and B.Tech. In addition two GTCs offer recently began offering B.E.
Curriculum / Teaching materials	Same as TU
Issues and remarks	Scale of institution is relatively small in compared with TUs. However there is no difference with TUs in educational content in recent years, because two GTCs offer B.E course.

Facility is smaller than TU (This is Sagaing TU which was GTC last year)

Teaching materials for Electronics. Some materials have been used since the location was a GTHS. (Sagaing TU)

(3) Overview of Government Technical Institute

Name of institution	Government Technical Institute: GTI
Number of institution	11 GTIs mainly located at central dry zone and states in upper Myanmar
Year established	1973- 2011 (6 GTIs were newly established after 2008, others were upgraded from GTHS)
Number of students	About 5,000, about 450/GTI (2011/2012)
Number of teachers	About 500, about 45/GTI (2011/2012)
Field of education / Courses offered	GTIs offer Civil Engineering, Electronic Engineering, Electrical Power Engineering, Mechanical Engineering, Mechatronic Engineering, and IT. The degree offered is only AGTI. (4 GTIs began offering B.Tech in recent years but this is planned to eliminated in AY2012/2013)
Curriculum / Teaching materials	Same as TU and GTC
Issues and remarks	There is no difference with GTCs in educational content at the 4 GTIs

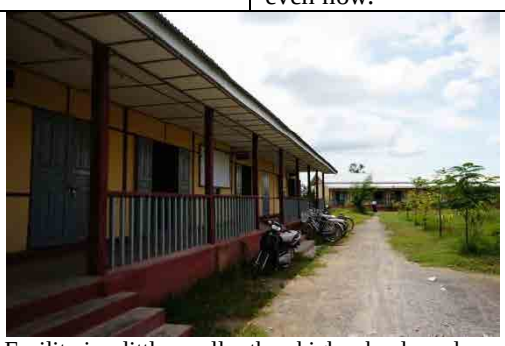
	because they all offer the B.Tech course. Some GTIs have less than 20 students enrolled / year.

Only 188 students learn in Wakema GTI. There is enough number of classrooms.

Same as TU and GTC, equipments and materials are in shortage. (Wakema GTI)

(4) Overview of Government Technical High School

Name of institution	Government Technical High School: GTHS
Number of institution	36 GTHSs throughout the nation
Year established	2009-10 (All old GTHS were upgraded as GTI or other institutions in the 1990's, and there was no GTHS for 10 years. All current GTHS are newly established.)
Number of students	About 3,000, about 80/GTHS (2011/2012)
Number of teachers	About 1,000, about 30/GTHS (2011/2012)
Field of education / Courses offered	Electronic Technology, Machining Technology, Building Technology, Building Services Technology, Auto Mechanics Technology, Electrical Technology and Metal Process Technology The course offered comprises of two years of education at the high school level (grades 10 and 11).
Curriculum / Teaching materials	Standardized curriculum is used in all GTHSs. Academic curriculum and textbooks are same as high schools under the MoE.
Issues and remarks	GHTS was abolished once because of unpopularity with students; it was later re-established. However there are very few students in the local area even now.



Facility is a little smaller than high schools under the MoE (Kyaukse GTHS)

It seems more opportunity of hands-on activities than TU/GTC/GTI, because of few students (Ywarama GTHS)

(5) Overview of University of Technology (Yatanarpon Cyber City)

University of Technology (Yatanarpon Cyber City) is a new university established in 2010. It is the only university in Myanmar that focuses on ICT. This university is different from other universities regarding its education system. Five years[38] of education are offered for the students in a B.E course. The system is similar in concept to the idea of CoE under DAST. This university also has an institute for teacher education, offering a PhD course targeting lecturers

[38] It will be 6 years continuous education from 2012/2013 AY.

and government officials of other TVET institutions such as TU, GT and GTI. The missions of the university are:

1) To Train Students to Become Skilful and Proficient Engineers,
2) To Become the Hub of Myanmar Cyber University Network in order to Share Educational and Research Materials, and
3) To Become a Global Intensive Research University.

This university is pursuing challenging and innovative activities such as joint degree programmes with Asian Institute of Technology in Thailand, and Asian Cyber University Networking with assistance from KOICA.

Name of institution	University of Technology, Yatanarpon Cyber City
Number of institution	One (1) university at Mandalay region
Year established	2010
Number of students	1,730 (2011/2012), increase to about 4,000 students planned in the future
Number of teachers	127 (2011/2012), planned to increase in future
Field of education / Courses offered	ICT, Electronic Engineering, Advanced Materials Engineering, and Precision Engineering Plans to offer B.E course (6 years), Masters course (2 years) and PhD course (3 years) in future. Half of students study ICT.
Curriculum / Teaching materials	Uses original curriculum and utilizes textbooks from overseas. However the curriculum is fixed by the department and it can be changed under authorization of the ministry.
Issues and remarks	Facilities of ICT department are well equipped under the assistance of KOICA, and offers e-learning courses with other universities in Korea and ASEAN countries as a member of Asian Cyber University Network. On the other hand, the facilities of other departments have the same problem as other TUs. Facilities and teachers' capacity should be improved.

Still building new facilities

ICT studio supported by KOICA

Well equipped computer room

Students taking practical examination

4.5.2 TVET Institutions under the Ministry of Labour

The Skill Training Centre (STC) is a TVET institution supervised by the MoL. STC offers training in engineering as well as overseas induction courses and Korean language courses.

(1) Overview of Skill Training Centre

Name of institution	Skill Training Centre: STC
Number of institution	Three (3) (Yankin at Yangon, Mandalay and Pathein)
Year established	Yankin (1972 supported by ILO and UNDP, Mandalay (2008), Pathein (2011)
Number of students	9,549 (2011/2012:Yankin): Vocational training (445), Korean language training (1,426), overseas induction (7,678) for both government officers and private industries
Number of teachers	Only 12 fulltime staff (Usually hire external part-time trainers when respective courses are started)
Field of education / Courses offered	Supervisor, Instructional Technique, Trade Skill Testing, Productivity Improvement, Basic Welding, Basic Electrical, Basic Machinist, Pipe Fitting, Basic Computer Application, Korean Language, Overseas Induction Courses (Durations are 2 weeks to 1.5 months)
Curriculum / Teaching materials	Curriculum and teaching materials from the MoL are used. A national certificate is provided after graduation.
Issues and remarks	There are few trainees at vocational training and their training facilities also seem out dated. However the role of STC is now shifting to language training and overseas induction courses, which seems to be a good development in terms of avoiding duplication of training courses offered by other ministries.

Facility is similar to GTHS. Both building and equipment are old. (Yankin STC)

Trainees learning metal processing. The content of vocational education is similar to GTHS. (Yankin STC)

4.5.3 TVET Institutions under the Ministry of Industry

Industrial Training Centers (ITC) supervised by Human Resources Development Department, Directorate of Industrial Planning in Ministry of Industry offer vocational training in the engineering field. Each ITC is supported by a specific country. China (Mandalay), Germany (Shinde), Korea (Thagaya and Magway) and India (Pakkoku and Myingyan) support ITCs. Most graduates are employed as technicians by the national factories run by the Ministry of Industry.

(1) Overview of Industrial Training Centre

Name of institution	Industrial Training Centre: ITC
Number of institution	Six (6) centers mainly located at central dry zone
Year established	Mandalay (2008), Shinde (1979), Thagaya (2009), Pakkoku (2010), Magway (2011), Myingyan (Under construction)
Number of students	120~216 (Target is youth that have completed grade 11: about 17-25 years old)
Number of teachers	24 trainers (at Mandalay ITC)
Field of education / Courses offered	Mechanical Draughtsman, Conventional Machine Tool Operator, CNC Machine Tool Operator, Electrical Fitter, Computer & CAD/CAM, Welding, Electro Plating & Surface Treatment, Tool and Die Making, Automobile Maintenance, Industrial Electrician, Electronic Mechanic, Sheet Metal, etc. (1 year certificate course)
Curriculum / Teaching materials	Curriculum and teaching materials vary in each ITC. Each respective country supports curriculum development. Graduates receive certificate from the Ministry of Industry.
Issues and remarks	Each ITC has different conditions depending on the supporting country. For example, support from Germany for Shinde ITC was completed more than 30 years ago, and facilities and equipment are outdated. The support from China for Mandalay ITC was completed in 2008 and it is difficult to expand the scale. On the other hand, Korea is continuing to support their respective ITCs like Thagaya and sent experts to ITCs it supports.

Hands on activities are better than in other TVET institutions thanks to newly introduced equipment and adequate number of trainees (Mandalay ITC)

There are vacant spaces in large workshops. More students can be trained when the facilities are well equipped. (Mandalay ITC)

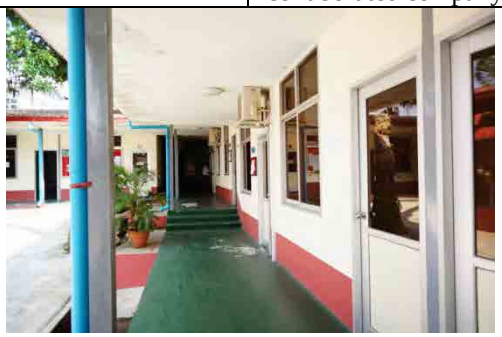
4.5.4 TVET Institutions in Private Sector

There are many private institutions providing TVET in Myanmar[39], but these institutions are not registered as TVET institutions under one responsible ministry. Some institutions are registered as divisions of a mother agency, service provider companies, Non Profit Organizations (NPO) and so on. Therefore there is no statistic data on these institutions. Some institutions collaborate with foreign universities and provide international academic degrees such as vocational qualifications of edexcel[40]. When a new law to establish private universities is adopted, these institutions seem to be registered as private colleges or universities under the MoE. Other institutions do not provide academic degrees but give practical training and certificates. Some of these institutions are qualified under international authority such as the Building & Construction Authority. They are also beginning to be registered under NSSA in Myanmar. When NSSA expands their field of competency standards, these institutions may be registered under the MoL. Some overviews of these institutions are provided below.

[39] About 400 institutions are listed in Myanmar training.com (http://myanmartraining.com/mt/default.asp)
[40] The UK's largest awarding body, offering academic and vocational qualifications and testing in the UK and in over 85 countries internationally. (www.edexcel.com)

(1) Overview of Myanmar Noble College (Academic Degree Provider)

Name of institution	Myanmar Noble College
Number of institution	One campus located in Yangon
Year established	2011
Number of students	About 150 full time students (14 of them are pre-foundation course: High school level)
Number of teachers	36 including 2 teachers from UK
Field of education / Courses offered	1)Engineering, 2)Business and 3)Computer field. (There are pre-foundation, half year foundation course and 2 years Higher National Diploma (HND)course. After completion of HND, graduates can transfer to undergraduate courses in foreign universities such as the University of Bradford, Taylor's University and the University of Nottingham)
Curriculum / Teaching materials	Curriculum and teaching materials are following the standards of Edexcel.
Issues and remarks	It is not registered as an educational institution but as a section of its mother company "Myat Myanmar Company". Hands on training relevant to the engineering field such as operation of CNC machines are conducted at collaborated company and skill training centers under the MoL.



The campus is big enough for 150 students.

PCs were well equipped, but engineering equipments are limited because of these cost.

(2) Overview of Kabar Services (Training Provider of Skilled Workers)

Name of institution	Kabar Services. Co. Ltd: KSC
Number of institution	One training centre located in Yangon
Year established	2008 (started to provide training as a section of construction company)
Number of students	60 -250 trainers (male adults) per year
Number of teachers	12 teachers who have working experience in Singapore
Field of education / Courses offered	Pipe Fitting, Structural Steel Fitting and Welding (2 months certificate course), 90% of them study pipe fitting due to demand of Singapore labor market
Curriculum / Teaching materials	Curriculum and teaching materials are following the standards of the Building & Construction Authority (BCA) in Singapore (3 courses), American Bureau of Shipping (ABS) and NSSA in Myanmar. Graduates can receive certificates from these authorities.
Issues and remarks	- Almost all graduates will work in Singapore. Thus the number of students depends on the labor market of Singapore. - Due to quality control system of engineering work in Myanmar, the certificates provided are not well evaluated in the labor market of Myanmar.

Equipment for hands on activities are well set out in the training centre.

Trainers supervise trainees for hands on activities well.

(3) Overview of Centre for Vocational Training (Non Profit Organization)

Name of institution	Centre for Vocational Training: CVT
Number of institution	Two academic campuses and one workshop located in Yangon
Year established	2002 founded by Swiss citizens as a Non Profit Organization Currently supported by the Swiss Government
Number of students	444 for Vocational Training[41] (17-22 years old)
Number of teachers	32 for Vocational Training (about 15 Swiss volunteers also often support them). The principal is a Swiss national.
Field of education / Courses offered	Vocational Training : Commercial Assistant, Cabinet Maker, Electrician, Hotel & Gastronomy Assistant, Metal Worker (3 years certificate course authorized by the MoL and the Ministry of Hotel and Tourism)
Curriculum / Teaching materials	Curriculum and teaching materials are based on the Swiss and German 'dual education form' of apprenticeship. Study one day and practice 4-5 days at work place in a week.
Issues and remarks	- About 25% of students drop out due to family issues or change in work place policies. However, this dual education form works well for their skill acquisition and employment. - A new campus is planned to be built in 2014-2015. - There is a plan to collaborate with donors such as UNDP and GIZ.

Study theory at school one day a week.

Practice at work place 4-5 days a week

4.6 Major Issues and Challenges in TVET Sector in Myanmar

4.6.1 Issues and Challenges in Management

(1) Collaboration among Respective Ministries and Organizations

Various ministries are related to TVET in Myanmar. There is, however, not much opportunity for the ministries to work cooperatively, resulting in different definitions of TVET among ministries. In particular, the division between Higher Education and TVET is blurred. Each ministry has its own strategy, policy and implementation plan to enhance TVET. In addition,

[41] 94 children also study at Education for Youth course, which provide 4 years basic education from 14 years old.

some ministries offer similar fields of TVET, but their mission and outlook differ and there is no direct or indirect linkage between them. For example, GTHS under MoST, STC under MoL and ITC under MoI provide training in engineering field but their direction and development plans reflect their respective institutional policies.

It is recommended to review the functions and aims of these institutions, and a strategy to improve the whole TVET sector should be developed by an inter-ministry decision making body that could be harmonized with the industrial sector development plan. Since November 2012, CESR team has been organizing a periodical meeting called "the CESR round table discussion on TVET". In the meeting, various ministries and private institutions related to TVET sector were called and began sharing about their TVET programs and discussing their definition of TVET. It is a great effort that will contribute to enhancing the collaboration among respective ministries and organizations in TVET.

(2) Consistency between Laws and Actual Conditions

The amendment of Agriculture, Technical and Vocational Education Law should be completed as soon as possible to solve the problem of inconsistency between the law and actual conditions. It must, however, be amended not only by the MoST but also in cooperation with other ministries that offer courses related to vocational education. To do so, the establishment of a decision making body for the development of new policy framework, law and development plan related to all TVET institutions in Myanmar should be considered. The CESR round table discussion on TVET may be a good opportunity to discuss this issue.

4.6.2 Issues and Challenges in Access

(1) Capacity gap between access opportunities and demand for TVET

About 23,000 students annually enter AGTI course at TU, GTC and GTI under MoST, which requires the certificate of matriculation examination pass. On the other hand, there are only few government TVET institutions which do not require the certificate of matriculation pass for entrance such as STC under MoL and ITC under MoI, and capacities of annual intake in these institutions are also limited. While there is no statistical data of private TVET institutions, their capacities of annual intake are estimated as not high based on the capacities of private institutions visited during the survey, which was a few dozen to a few hundred in each institution.

At the demand side of TVET, about 280,000 students exit[42] from high schools annually, and about a million youth exit from whole basic education. They have potential seeking access to TVET. According to the development indicators of MoL in 2009, the total labor force in Myanmar is estimated about 30 million people and 66% of them are employed. Among them about 12 million people, excluding elementary occupations and occupations that require higher education, may require some sort of skill-upgrading to cope with their job requirements. Due to this amount of huge potential needs on TVET, access opportunities to TVET for technical workers, which do not have the certificate of matriculation examination pass, are very limited at both pre- and post-employment, in comparison with the opportunity of TVET for engineers at TU, GTC and GTI.

(2) Opportunity of Financial Support for Students with Less Means

While tuition fees of government TVET institutions are of a reasonable amount, students and their family need to cope with the cost of accommodation, transport, materials for their project work and so on. It is not easy for poor families to afford this. There are also very few

[42] Dropout without passing examinations.

opportunities for students to receive scholarships. It is not easy to solve this financial issue immediately. However alternative measures can be discussed. For example, some private TVET institutions collaborate with private companies and introduce students as part-time employees.

(3) Gap among Geographical Location

Through tremendous efforts, remarkable progress has been made to establish TUs and GTHSs in all regions and states to provide TVET opportunities nationwide. However, from the view point of effective utilization of limited financial resources, expenditures for institutions with very few students can be reconsidered. Some TUs and GTHSs can be considered for closure or unification with other institutions. The budget saved could be used in more cost effective ways to improve access to TVET in rural areas, e.g. scholarship for students, provision of student accommodation at urban institutions and so on.

4.6.3 Issues and Challenges in Quality

(1) Practical Training to Students

Current expenditures of TVET institutions under DTVE are mainly used on teacher salaries. Capital budgets for facilities, equipment and teaching materials are constrained. Therefore it is difficult to provide practical training to students in many TVET institutions such as TUs because much of the equipment and apparatus in laboratories and workshops is outdated. As a result, teachers tend to teach by lecturing from the textbooks. This may affect the drop-out rate, which is 40% in the 1st year of AGTI. Improvement is required in these areas.

(2) Quality of Teachers

The qualifications of teachers in TUs, GTCs, and GTIs are still not very high and there are very few professors. One reason is limited opportunity for teachers receiving scholarships to study abroad. This may not be a significant problem for continuing the current operation of TUs, GTCs, and GTIs. However, if these institutions are required to change their functions to become providers of university level education, or provide a higher quality of education and become research institutes, the capacity development of teaching staff cannot be avoided.

(3) Fixed National Curriculum

TUs, GTCs, and GTIs in Myanmar train students using a fixed national curriculum so that they can become engineers or technicians with a certain degree of knowledge and skills. This is a very different style of education from engineering universities in developed countries. It also affects the learning outcome of students because it cannot provide the most suitable contents to students in each institution appropriate to the local situation and needs. However, the improvement of teacher quality is essential to avoid the confusion that will accompany the changing curriculum style.

5. Higher Education

This chapter illustrates the current situation of higher education sector in Myanmar. The chapter mainly focuses on the higher education system and HEIs under the MoE and the MoST, the ministries that administer the most number of HEIs. After reviewing the current situation, the chapter presents issues and challenges that the Study Team has preliminarily found, as well as recommendations to tackle them.

In Myanmar, the definition of HEI is not clear. Some publications count Technological Universities and Government Technical Colleges under DTVE of MoST as HEIs and some do not. In this Chapter, these institutions are counted as HEIs unless explicitly mentioned.

5.1 Overview of Higher Education Sector

In Myanmar, HEIs are governed by various ministries and coordination among various ministries in this sector seems to be carried out through the Universities' Central Council and the Council of Universities Academic Board whose chairman is the Minister of Education. However, collaboration and coordination among ministries are not extensive and there is no documented policy or development plan illustrating an overall strategy on higher education sector development. Instead, each ministry has developed its own policy or development plan for matters related to HEIs. Consequently, policy matters related to HEIs among ministries are not unified. The format of statistical data varies among the ministries, making it difficult to collect data across ministries and to analyze the higher education sector as a whole.

5.1.1 University Education Law

As described in 2.2.3.

5.1.2 Higher Education Administration Structure

As described in 2.2.3.

5.1.3 Trend of Number of Higher Education Institutions and Their Ministries

In 1964, there were only 17 HEIs under the MoE. By 1988 the number reached 32 in total, 27 under the MoE, 4 under the Ministry of Health, and 2 under the Ministry of Defense. In 2012, as shown in Table 5-1, there are 163 HEIs under 13 ministries, about 40% of which, 66 HEIs, are administered by the MoE and 40% of which, 61 HEIs, are administered by the MoST. Regarding HEIs of the MoST, 60 HEIs that offer at least undergraduate courses were established in the last ten years. To support this rapid expansion, it has been crucial for HEIs under the MoST to ensure a sufficient number of qualified and experienced teachers as well as the quality of the education they are providing.

Table 5-1: Number of HEIs under Each Ministry

No.	Ministry	1964	1988	2012
1	Education	17	27	66
2	Health	0	4	15
3	Science and Technology	0	0	61
4	Defense	0	1	5
5	Culture	0	0	2
6	Environmental Conservation and Forestry	0	0	1
7	Agriculture and Irrigation	0	0	1
8	Livestock Breeding and Fisheries	0	0	1
9	Co-operatives	0	0	5
10	Union Civil Services Board	0	0	1
11	Religious Affairs	0	0	1
12	Boarder Affairs	0	0	2
13	Transport	0	0	2
Total		7	32	163

Source: Compiled by the Study Team based on Mya Aye, 2009, University Governance in Myanmar, PowerPoint presentation at the 16th SEAMEO RIHED Governing Board Meeting and Department of Higher Education (Lower Myanmar), 2012, Panorama of Myanmar Higher Education

5.1.4 Location of HEIs

Aiming to improve access to HEIs, the GoM has increased the number of HEIs. As a result, currently at least one Arts and Sciences University, one Technological University and one Computer University exist in each State or Region. Table 5-2 shows the number of HEIs in each State or Region.

Table 5-2: The Number of HEIs at Each State or Region

State / Region	Number of HEIs
Kachin State	9
Kayah State	3
Kayin State	4
Chin State	3
Sagaing Region	13
Tanintharyi Region	7
Bago Region	9
Magway Region	11
Mandalay Region	36
Mon State	4
Rakhine State	5
Yangon Region	33
Shan State	14
Ayeyarwady Region	12
Total	163

Source: Compiled by the Study Team based on Department of Higher Education (Lower Myanmar), 2012, Panorama of Myanmar Higher Education

5.1.5 Higher Education Policy and Development Plan

(1) Ministry of Education (MoE)

One of the major policy documents for higher education is the 30-Year Long-Term Plan for Higher Education 2001-2031. It specifies six core areas and each core area defines a number of action programs.

1) Human resource development (2 Programmes)
2) Utilization of technology (6 Programmes)
3) Expansion of research (3 Programmes)
4) Development of a lifelong learning society (9 Programmes)
5) Promotion of the quality of education (15 Programmes)
6) Preservation of national identity and national values (1 Programme)

Moreover, as described in 2.1.2, following the president's instruction to prepare "A National Development Plan," the MoE has internally discussed and determined 12 priority activities. (See 2.1.2 for details)

(2) Ministry of Science and Technology (MoST)

The MoST also has the "30-Year Long-Term Plan for the Ministry of Science and Technology 2001-2031" including the policy related to HEIs under the MoST. However, due to the rapid change of political, economic, and social environments of the nation that may change the labor force demand for graduates from HEIs, measures and actions being taken by the MoST to adjust to this rapid change are not fully in line with this Long-Term Plan. Therefore, the MoST is currently revising this plan. The revised plan is expected to be released in 2013.

5.1.6 Higher Education Administration System and HEIs

(1) Ministry of Education (MoE)

Departments Administering HEIs

The Department of Higher Education (Lower Myanmar) (DHEL) located in Yangon and the Department of Higher Education (Upper Myanmar) (DHEU) located in Mandalay are two major departments that administer HEIs under the MoE. The former administers HEIs located in Lower Myanmar and the latter administers HEIs located in Upper Myanmar. DHEL is responsible for collecting and compiling statistics about all HEIs under the MoE and issuing "Summarized facts and figures of University and Degree Colleges under the Department of Higher Education, Ministry of Education" every year. There are 66 HEIs under the MoE, 46 of which are administered by these two departments. The other 20 HEIs, such as Education Colleges, are administered by DEPT of the MoE.

Budget

Every year, each HEI proposes its budget to the respective DHEs, Upper or Lower. DHEU and DHEL carefully examine these proposals, compile all the budgets and submit a combined budget proposal to the Minister. The Minister submits them to the Parliament for approval. Once they are approved by the Parliament, the Minister allocates the budget to DHEU and DHEL respectively. Distribution of allocated budgets to each HEI is then carried out by the two DHEs.

HEIs

DHEL and DHEU administer 46 HEIs. Out of these 46 institutions, 38 are Arts and Sciences Universities, Colleges and Degree Colleges. The remaining eight institutions are known as Universities of Foreign Languages (UFL), Institutes of Education, Institutes of Economics (IoE) and National Management Colleges. Table 5-3 shows the number of HEIs under DHEU and DHEL by field of study. It reveals that the number of HEIs offering arts and sciences account for a significant portion of the total number. Two HEIs in Upper Myanmar and one in Lower Myanmar offer Economics and related fields. There is one HEI offering Education and one offering language study in each of Upper and Lower Myanmar. Yangon University and Mandalay University only have post-graduate degree courses. Study fields related to political

science are offered by only Yangon University and Mandalay University. Yadanabon University offers an International Relations course.

Table 5-3: Number of HEIs under DHEU and DHEL of MoE by Field of Study

DHEU

Field of Study	Offering			# of HEIs
	Bachelor	Master	Ph. D.	
Arts and Sciences (Degree College)	*			3
Arts and Sciences (University)	*	*		16
		*	*	1
Arts and Sciences (University, Distance Education)	*			1
Language (Mandalay University of Foreign Languages)	*	*		1
Economics (Monywa University of Economics, Myeiktila University of Economics)	*	*	*	2
Education (Sagaing University of Education)	*	*		1
Total				25

DHEL

Field of Study	Offering Degree			# of HEIs
	Bachelor	Master	Ph. D.	
Arts and Sciences (College)				1
Arts and Sciences (Degree College)	*			0
Arts and Sciences (University)	*	*		12
		*	*	1
	*	*	*	2
Arts and Sciences (University , Distance Education)	*			1
Language (Yangon University of Foreign Languages)	*	*		1
Economics (Yangon Institutes of Economic)	*	*	*	1
Journalism, Business, and Business English (National Management College)				1
Education (Yangon Institute of Education)	*	*	*	1
Total				21

Source: Compiled by the Study Team based on Department of Higher Education (Lower Myanmar), 2012, Summarized facts and figures of University and Degree Colleges under Department of Higher Education, MoE

(2) Ministry of Science and Technology (MoST)

Departments Administering HEIs

The Department of Advanced Science and Technology (DAST) and the Department of Technical and Vocational Education (DTVE) located in Naypyidaw administer HEIs under the MoST. The former administers Technological Universities that can issue degrees and the latter administers GTCs and TUs that cannot issue degrees. TUs that cannot issue degrees were originally established as GTIs and later upgraded to TUs. These TUs in Lower Myanmar are affiliated with the Yangon Technological University and those in Upper Myanmar are affiliated with the Mandalay Technological University, and degrees are issued by these two institutions.

DAST administers Technological Universities that were originally established as universities, such as Yangon Technological University, Mandalay Technological University, West Yangon Technological University, and Pyay Technological University. In addition, DAST administers 25 Universities of Computer Studies and Myanmar Aerospace Engineering University. On the other hand, DTVE administers 27 Technological Universities, University of Technology, Yatanarpon Cyber City, and three GTCs.

Budget

Every year, each HEI under DAST proposes its budget to DAST. DAST carefully examines these proposals, compiles all the budgets and submits a combined budget proposal to the Minister. The Minister submits them to the Parliament for approval. Once they are approved by the Parliament, the Minister allocates the budget to DAST and DAST distribute allocated budget to each HEI under DAST.

HEIs

DTVE administers 27 TUs, University of Technology, Yatanarpon Cyber City, three Government Technological Colleges, while DAST administers four Technological Universities, 25 Universities of Computer Studies, and Myanmar Aerospace Engineering University.

Regarding TUs, as seen in Table 5-4, 17 of them offer Bachelors of Technology and Bachelors of Engineering and 14 of them offer up to a Masters degree. Only Yangon Technological University and Mandalay Technological University offer Ph.Ds. According to the interview with DAST, the MoST is planning to offer post-graduate courses only at YTU and MTU. In order to improve access to TUs, every state or region has at least one TU.

Table 5-4: Number of HEIs Offering Engineering Related Courses under MoST by Degrees Offered

(Yellow cells indicate HEIs administered by DTVE and orange cells indicate HEIs administered by DAST)

Name of Universities	Degrees Offered				# of HEIs
	Bachelor of Technology	Bachelor of Engineering	Masters	Ph. D.	
GTCs	*				3
Technological Universities	*	*			17
Technological Universities	*	*	*		9
Technological Universities		*	*		1
University of Technology, Yatanarpon Cyber City		*			1
Technological Universities	*	*	*		2
Technological Universities (YTU and MTU)		* COE	*	*	2
Myanmar Aerospace Engineering University		*			1

Source: Compiled by the Study Team based on data provided by DTVE and DAST of MoST

Regarding Universities of Computer Studies, at least one has been established in each state or region to improve access and there are 25 Computer Universities in total. Since AY2010/2011, only Universities of Computer Studies in Yangon and Mandalay have offered Master and Ph.D. degrees while the rest of 23 universities offer only Bachelor degrees.

Table 5-5: Number of University of Computer Studies by Degrees Offered

Name of Universities	Degrees Offered			# of HEIs
	B.C. Sc B.C. Tech	M.C. Sc M.C. Tech	Ph. D.	
University of Computer Studies	*			23
University of Computer Studies, Mandalay and Yangon	*	*	*	2

Source: Compiled by the Study Team based on data provided by DAST of MoST

5.1.7 Degree System

A complicated mix of degrees, entry requirements, and years of schooling exists among the different categories of HEIs and their respective ministries. This might be an issue or hindrance to collaborative activities with HEIs in foreign countries, such as credit transfers, student or faculty exchanges, etc. Compatibility of degrees with HEIs in foreign countries should also be carefully evaluated.

Students who passed the matriculation examination are eligible to apply for a relevant University, Degree College and College based on the marks they obtained and the major subject series they have chosen in the matriculation examination standard.

(1) Ministry of Education (MoE)

HEIs under the MoE offer their degrees mainly through regular programs where students who passed the matriculation examination usually directly enter, as well as human resource development programs aimed at lifelong or continuing education which mainly target working students. This part describes the degree system of each program.

Regular Programs: Regular and Distance Education track of Arts and Sciences Universities effective from AY 2012/2013

From the AY2012/2013, Arts and Sciences Universities, University of Distance Education and Institutes of Economics will adopt a new structure for higher education. This structure can be classified into three types: qualified path, ordinary path and distance education path.

Figure 5-1 illustrates the degree system of regular and distance education track of Arts and Sciences Universities under the MoE effective from AY 2012/2013. It is described as follows.

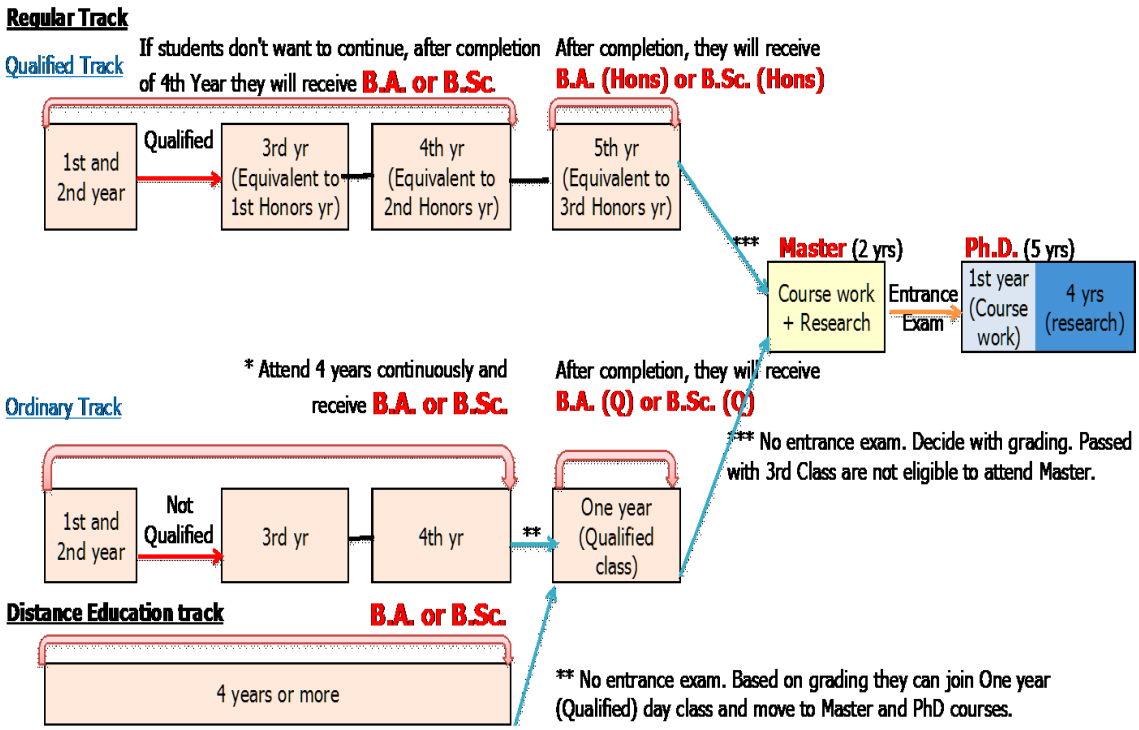
<Undergraduate degrees>
Students who passed the matriculation examination can apply for Arts, Sciences, Economics and other interdisciplinary subjects which are in line with major subject series chosen in matriculation examination(e.g., students enrolled in series that include Geography, History and Optional Myanmar are not eligible to apply for economics and science subjects).

Schooling years for under-graduate degree (Bachelor of Arts/Sciences) is four years for both regular and distance education students. The result of the second year final examination creates two paths, namely qualified and ordinary.

1) Qualified students are eligible to immediately join third year honors classes. The third and fourth years of the regular Bachelor program are regarded as the first and second years of the honors program. After completion of their fourth year, students receive a Bachelor of Arts (B.A) or Bachelor of Science (B.Sc). Students who attend one more year of honors class will achieve a B.A (Hons:) or B.Sc (Hons:).
2) Disqualified students are regarded as ordinary students and after studying four years for undergraduate courses, they receive a B.A or B.Sc degree. However, there is one option for them to join post-graduate degree courses. Students with good grades in the final year of undergraduate degree program can attend one year Qualified class and after completion, they will receive a B.A (Q) or B.Sc (Q). There is no entrance examination to join Honors or Qualified degree programs.
3) Students who choose correspondence education can attend respective Arts and Sciences institutions that provide distance education courses. The path for an undergraduate degree is similar to disqualified students. After studying four years of a B.A or B.Sc degree

program, qualified candidates could join regular day classes to attend qualified degree program and receive a B.A (Q) or B.Sc (Q).

<Post-graduate degrees>
With regards to post-graduate degrees, students who obtained B.A/B.Sc (Honors) or B.A/B.Sc (Qualified) degrees with good grades (passed with 1st and 2nd class) are able to attend a two year Masters degree program (including coursework and research) without entrance exams, and will be awarded a Master of Arts (M.A) or Master of Science (M.Sc). In the former system, DHE provided two types of Masters degrees, by coursework and by research (M.Res). At that time, the Master of Research course was offered for students who wanted to continue on to a doctoral degree program. From the upcoming academic year, the M.Res degree program will be abolished. Qualified Masters degree holders can enroll in a PhD program by passing an entrance examination.



Source: Created by the Study Team based on interview with the MoE

Figure 5-1: Degree System of Regular and Distance Education Track of Arts and Sciences Universities under MoE Effective from AY2012/2013

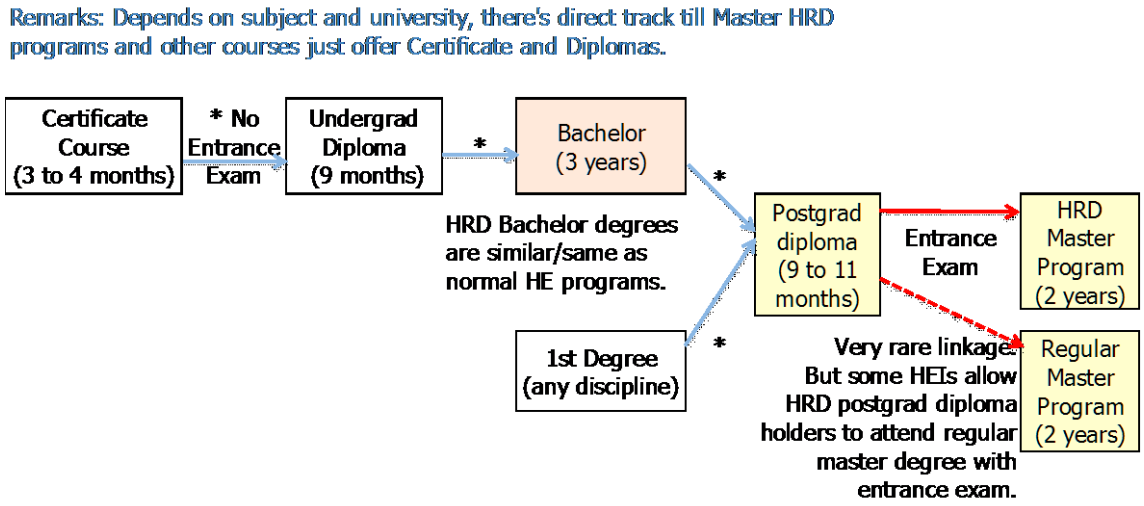
Human Resources Development Programmes

Figure 5-2 illustrates the degree system of the Human Resources Development Programmes conducted at some HEIs under the MoE.

In 1998, the Department of Higher Education initiated Human Resources Development (HRD) programs to facilitate student access to different types of training programs and higher education. Institutions that provide HRD programs offer three to four month certificate courses, 9 to 12 month undergraduate and postgraduate diploma programs, three year Bachelor degree programs, and two year HRD Master Degree programs. Except HRD Masters and regular Masters programs, there is no entrance exam for other courses.

In fact, HRD programs offer flexibility to learners and institutions. HRD courses are conducted based on demands made by the labor market and institutions receive more autonomy for opening courses. In recent years after the reopening of Arts and Sciences Universities, as regular programs offer undergraduate degrees, Undergraduate diploma and Bachelor courses of HRD programs have received less attention from the general public. However, some institutions are continuously operating HRD programs to produce qualified human resources needed for modernizing and developing the economy.

Under the HRD structure, students who pass the matriculation examination can apply for certificate courses, and applicants can afterwards continue to undergraduate diploma courses. To attend HRD post-graduate diploma courses, students must have a degree and take an entrance exam. It is noted that it is very rare for HRD post-graduate students to join the regular Masters programs.



Source: Created by the Study Team based on interview with the MoE

Figure 5-2: Degree System of HRD Programs under MoE

(2) Ministry of Science and Technology (MoST)

There is no Distance Education track or HRD program at the HEIs under the MoST.

Technical and Engineering Related Programs

Figure 5-3 illustrates the new degree system of technical and engineering related HEIs under the MoST effective from AY2012/2013. There are two paths for students to join technical and engineering related HEIs.

1) A Path by graduating from GTHS

After completion of middle schools (Grade 9), students can attend upper secondary education at Government Technical High Schools (GTHS) under DTVE. The first and second year of studies is equivalent to Grade 10 and Grade 11 in general education. GTHS allows qualified Grade 11 students to join Government Technical Institutes (GTIs) as an entry to higher education. However, these students are not entitled to apply to institutions under the MoE and other ministries.

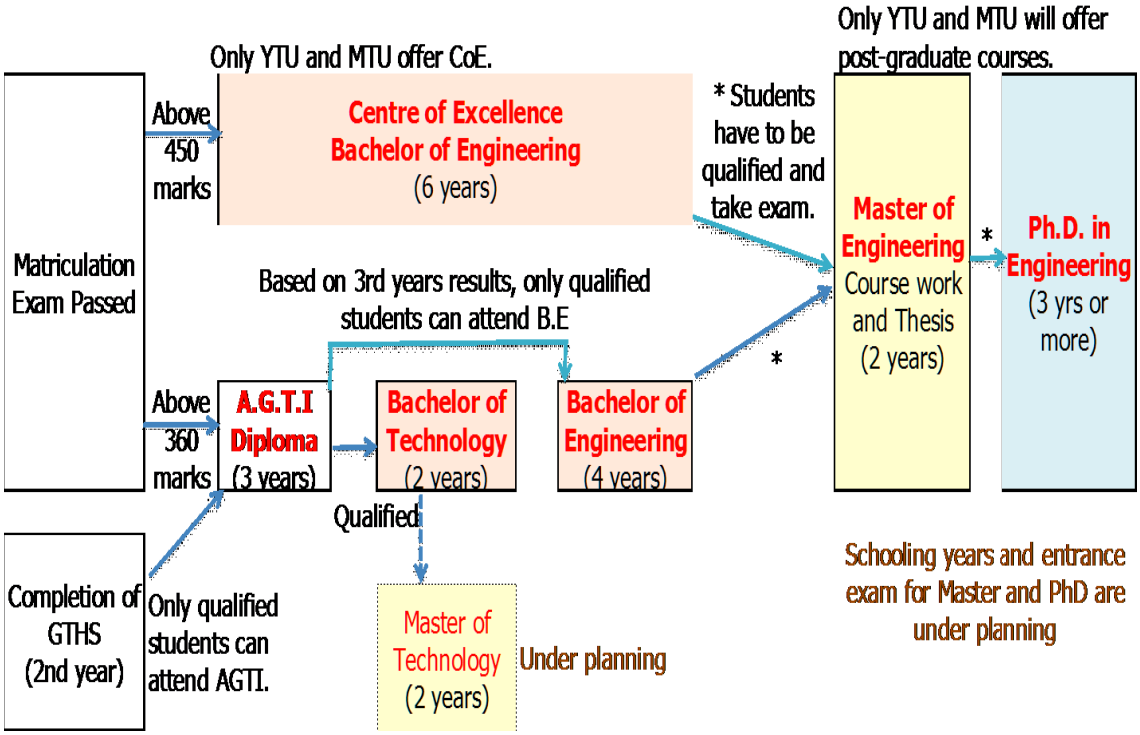
2) A Path by passing matriculation examination

Students who attained 450 marks and above on the matriculation examination could apply directly to the Center of Excellence (COE), Bachelor of Engineering degree courses conducted only at YTU and MTU. It takes six years to receive a degree in COE Bachelor of Engineering (B.E).

On the other hand, students who attained 360 marks and above can apply for either A.G.T.I Diploma in Government Technical Institutes (GTIs), Government Technical College (GTCs) or Technological Universities (TUs). The number of required years for AGTI courses has been increased to three years effective from AY2012/2013 and the third year results will determine whether students are qualified to take further steps. Qualified (first class) students are able to attend four year B.E courses at selected institutions (i.e., among 3 GTCs and 27 TUs under DTVE and 2 TUs under DAST). The MoST will select institutions in each region to offer B.E courses. Qualified (second class) students can also pursue a two year Bachelor of Technology (B.Tech) degree.

This new structure does not allow B.Tech holders to apply for B.E courses. Considering this limitation, DTVE plans to offer two year Master of Technology (M.Tech) courses for successful B.Tech applicants to enhance their knowledge and technical skills. However, the implementation of M.Tech courses is still under consideration and not yet officially announced.

For post-graduate degrees, from AY2012/2013, only YTU and MTU will serve them. Qualified B.E. candidates from respective institutions could attend a two year Master of Engineering (M.E.) degree program by passing an entrance exam. With respect to Doctoral studies, qualified M.E. students could be admitted by passing an entrance exam and do research work for three or more years to obtain a PhD in Engineering. At present, the required years of study for post-graduate degrees has not yet been confirmed by the MoST but is tentatively planned as stated above.



Source: Created by the Study Team based on interview with MoST

Figure 5-3: Degree System of Technical and Engineering Related HEIs under MoST

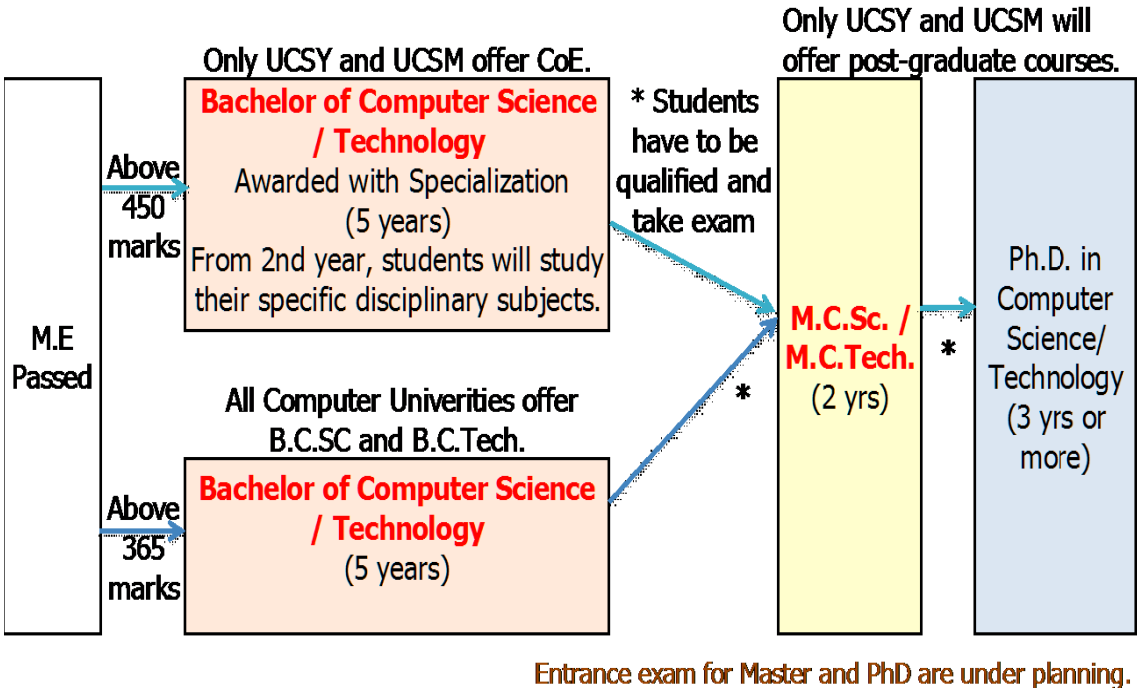
In addition, there is the University of Technology, Yatanarpon Cyber City administered by DTVE that was opened in 2010. It offers only a Bachelor of Engineering course which was originally a five year program. However, from AY2012/2013, the program will extend to six years in accordance with the years required for the COE Bachelor of Engineering course to be offered at YTU and MTU.

Universities of Computer Studies

Figure 5-4 illustrates the degree system of the University of Computer Studies under DAST of the MoST.

Under the MoST, students who want to specialize in computer science and technology can apply to the Universities of Computer Studies. Students who obtained 450 marks and above can study at COE Bachelor course at University of Computer Studies, Yangon or Mandalay. Students who received 365 marks and above can attend regular Bachelor course at 25 Computer Universities located throughout Myanmar. Computer universities will add two years to undergraduate degrees for both regular and CoE tracks starting from AY2012/2013. Therefore, to obtain a Bachelor of Computer Science (B.C.Sc) and a Bachelor of Computer Technology (B.C.Tech), students will have to study for five years. Regarding the CoE Bachelor course, the length of study is the same as the regular track but CoE students must choose their specialized subjects from seven prescribed disciplinary areas in the second year of study. After successful completion, CoE students will be awarded a B.C.Sc/B.C.Tech according to their area of specialization.

Regarding post-graduate studies, qualified CoE and regular students who passed an entrance examination can continue for a two year Masters Degree program at the University of Computer Studies, Yangon or Mandalay. Additionally, qualified Masters holders who passed an entrance exam can attend doctoral degree programs. The duration of doctoral programs is determined by the individual's research plan and activities.



Source: Created by the Study Team based on interviews with MoST

Figure 5-4: Degree System of Universities of Computer Studies under MoST

5.1.8 Curriculum Development System

HEIs are not allowed to determine their curriculum, syllabus and textbooks. All departments of the same study field, even at different HEIs, must use the same curriculum, syllabus, and textbooks authorized by Council of University Academic Bodies.

(1) Ministry of Education (MoE)

Curriculum and syllabus revision procedures

If HEIs want to make revisions, they have to discuss the revisions in the University Academic Body at each HEI. With its approval, they can submit the proposal to the Council of Academic Bodies. The Council of Academic Bodies has sub-technical working groups called Boards of Studies for each department, consisting of one representative from each HEI that contains the department in question. Each Board of Studies discusses the revision and submits its recommendations to the Council of University Academic Bodies for final authorization at the Council's annual meeting.

Human Resources Development Programmes under HEIs of the MoE can determine their curriculum, syllabus and textbook without authorization from other bodies.

(2) Ministry of Science and Technology (MoST)

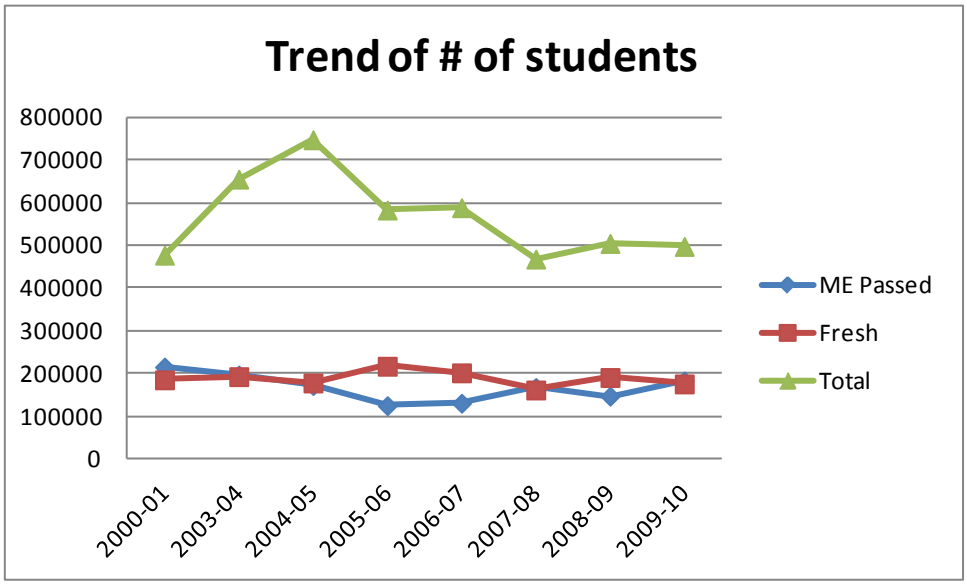
Curriculum and syllabus revision procedures

MoST has two curriculum committees. One of them is in charge of computer related fields and the other is in charge of other academic fields except computer related fields. Under each curriculum committee, there are 14 working groups for each academic field consisting of about 10 experts. Firstly the revisions of curriculum or syllabus are discussed by working group and then the revision draft is examined by the respective curriculum committee. After going through the process under MoST, the final version is submitted to the Council of University Academic Bodies for approval at the Council's annual meeting. In the case of revising curriculum or syllabus of Yangon Technological University and Mandalay Technological University, one additional step is needed. The Academic Board of the University of YTU and MTU reviews the revision draft after the examination by the curriculum committee of MoST.

5.1.9 Student Enrollment

Figure 5-5 shows the trend of the number of students who passed the matriculation examination, freshmen enrollment and total student enrollment at HEIs[43].

[43] This number is excluded the student enrollments at TUs and GTCs administered by DTVE of the MoST.

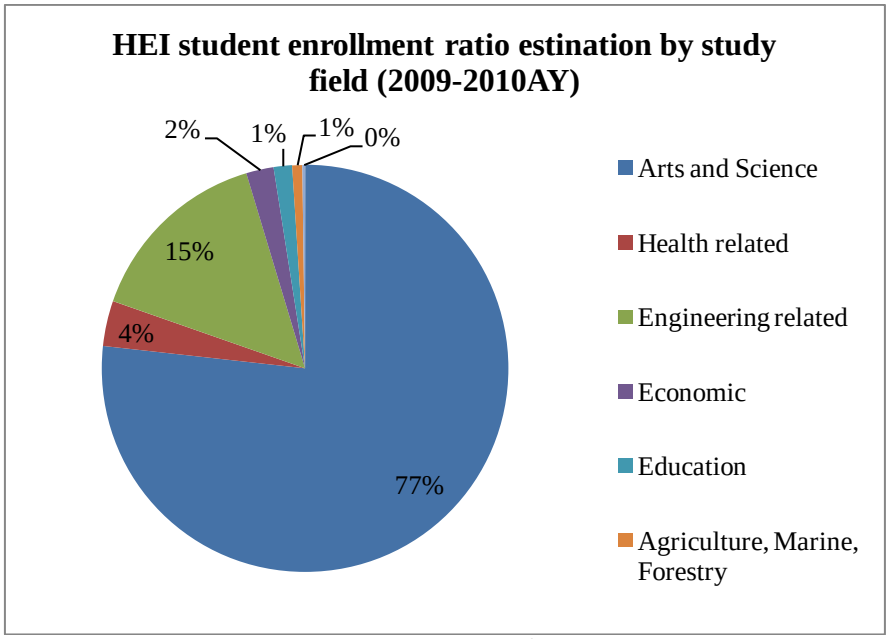


Source Created by the Study Team based on Statistical Year Book 2010

Figure 5-5: Trend of the Number of Students

The larger number of student enrollments at the beginning of 21st century was caused by the reopening of Arts and Sciences Universities that had been closed from 1996 to 2000. In recent years the total number of students and new freshmen is at a stable level of around 500,000 and 200,000 students respectively. The number of students who passed the matriculation examination is more or less the same as the number of new freshmen. This might indicate that almost 100% of students who pass the matriculation examination go on to HEIs; in this sense the matriculation examination can be considered as an entrance examination to HEIs.

Figure 5-6 shows HEI student enrollment by study field roughly estimated using data from the Statistical Year Book 2010 and data provided by the MoST shown in Table 4-4. More than three quarters of students at HEIs major in Arts and Sciences. More than 60% of students who major in Arts and Sciences participate in the distance education track. Students enrolling in distance education occupy about half of total HEI enrollment. The proportion of students who major in economics, agriculture, marine, or forestry is very low.



Source: Compiled by the Study Team based on data of Statistical Year Book 2010 and data provided by DTVE of MoST

Figure 5-6: HEI student Enrollment Ratio Estimation by Study Field

5.1.10 Teaching Staff Management

Job Hierarchy of Teaching Staff and Its Qualification

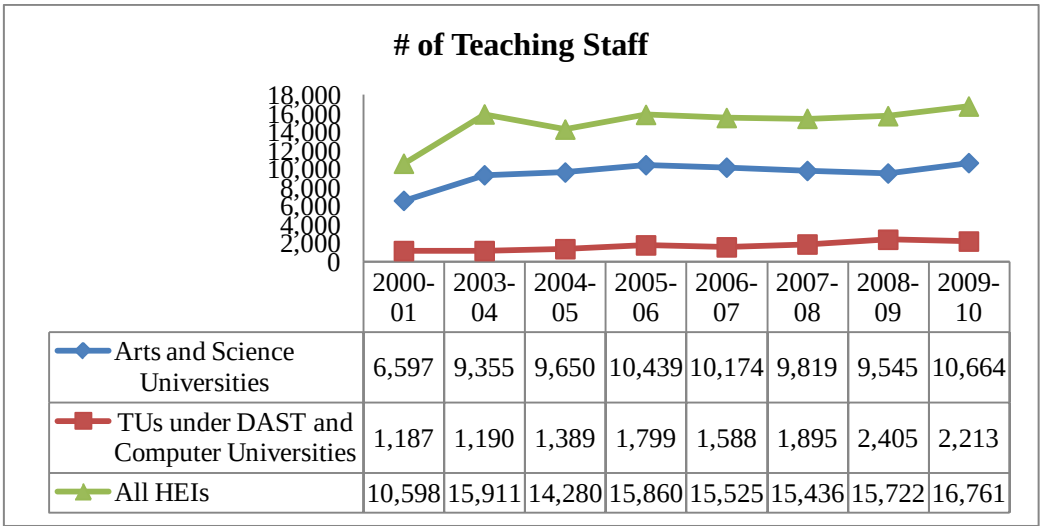
The job hierarchy of teaching staff starts from lab assistant and goes up to demonstrator/tutor, assistant lecturer, lecturer, associate professor, and professor. Lab assistants are responsible for providing assistance during lab activities at laboratories and maintaining lab equipment and facilities. Demonstrators/tutors assist students in practical work at workshops and laboratories. Only assistant lecturers and above are allowed to give lectures to students. At least a Masters degree is required to become an assistant lecturer and a Ph.D. is required to become an associate professor or above. A Bachelor's degree is the minimum requirement to become a demonstrator/tutor, but nowadays there are many Masters degree candidates for demonstrator/tutor and hence the majority of them have Masters degrees.

Age limitation also affects the recruitment process of teaching staff for the MoE and MoST. To become a permanent teaching staff, a candidate must be below 35 years old to work for the MoE and below 28 years old for the MoST. Therefore, there is almost no career path to become a permanent teacher at HEIs for those who have obtained the required degrees and worked in the private sector for a long time.

Number of Teaching Staff

Figure 5-7 shows the trend in the number of teachers at HEIs[44]. Due to the reopening of HEIs in 2000, the number of teachers increased dramatically in AY2003/2004. Afterwards, the number of staff became quite stable at around 15,500 but it increased again in AY2009/2010. Meanwhile, the number of students was stable, so the student teacher ratio could be improved.

[44] This number does not include # of teaching staff of GTCs and TUs administered by DTVE of MoST.

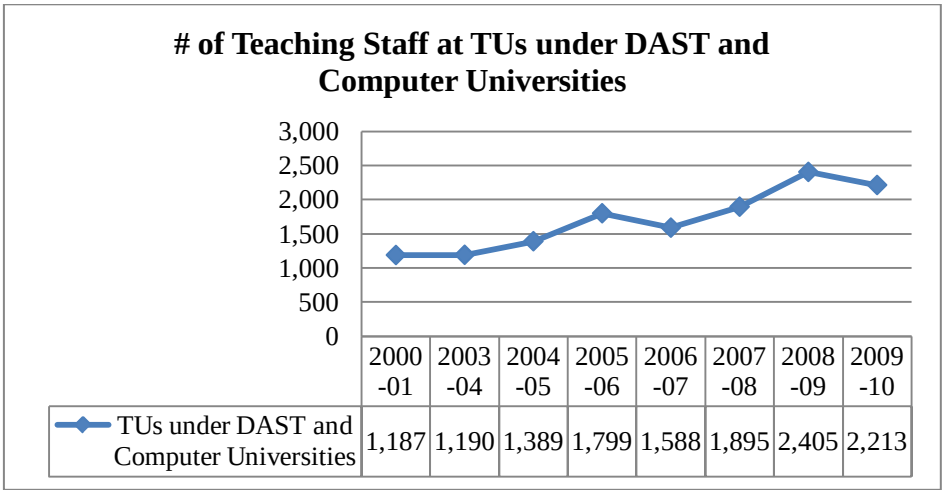


	2000-01	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
Arts and Science Universities	6,597	9,355	9,650	10,439	10,174	9,819	9,545	10,664
TUs under DAST and Computer Universities	1,187	1,190	1,389	1,799	1,588	1,895	2,405	2,213
All HEIs	10,598	15,911	14,280	15,860	15,525	15,436	15,722	16,761

Source: Compiled by the Study Team based on Statistical Year Book 2010

Figure 5-7: Number of Teaching Staff of HEIs

Figure 5-8 shows the trend of the number of teachers at HEIs[45] administered by DAST of the MoST. From AY2000/2001 to the AY2009/2010, the number of teachers almost doubled. As written in the previous section, because of the age limitation set for new teacher employment, there is almost no opportunity for those who have worked for a long time in the private sector to become permanent teaching staff at HEIs. In this context, it seems that there might be quite a number of younger and less experienced teaching staff at HEIs under DAST of the MoST.



	2000-01	2003-04	2004-05	2005-06	2006-07	2007-08	2008-09	2009-10
TUs under DAST and Computer Universities	1,187	1,190	1,389	1,799	1,588	1,895	2,405	2,213

Source: Compiled by the Study Team based on Statistical Year Book 2010

Figure 5-8 Trend of Number of Teaching Staff at TUs under DAST and Computer Universities

Student Teacher Ratio (STR)

When the STR is calculated based on data from the Statistical Year Book 2010, which does not include the number of students and teaching staff of TUs and GTCs under DTVE of the MoST but includes the number of students enrolled in distance education of the MoE, the ratio is about 30:1 in AY2009/2010.

[45] YTU, MTU, WYTU, Technological University (Paya) and 25 University of Computer Studies

Table 5-6 shows the STR of selected HEIs and its average among the same category of HEIs under the MoST in AY2011/2012. It is found that the STR varies widely among HEIs. The reason why that of YTU and MTU is low is that they offered only post-graduate programs until AY2011/2012. The average STR of Computer Universities is quite low. Three out of 25 have less than 100 students. Thirteen out of 25 have their STR at less than five, which can be interpreted as an issue from an efficiency point of view.

Table 5-6: STR of Selected HEIs and Some of Its Average among the Same Category of HEIs under MoST in AY2011/2012

Name of HEI	STR
West Yangon Technological University	29.4
Yangon Technological University	5.1
Mandalay Technological University	5.9
Technological Universities under DTVE (Average)	21.7
University of Computer Studies, Yangon (Highest among CUs)	27.0
Computer University (Pinlone) (Lowest among CUs)	1.8
Computer Universities (Average)	7.4

Source: Compiled by the Study Team based on data provided by DTVE and DAST of MoST

Systematic data that enable an analysis of the STR disparity by department of HEIs nationwide has not been available; however, the data obtained from the HEIs where the Study Team visited implies that there exists a huge disparity of STR by department. Table 5-7 shows the highest and lowest STR by department of the selected HEIs, two Technological Universities located in urban and rural and two Arts and Sciences Universities located in urban and rural, to highlight their disparity.

Table 5-7: Highest and Lowest STR by Department of the Selected HEIs in AY2011/2012

Name of department of the university		**STR**
Civil Engineering of Technological University A	in Urban Area	96.7
Textile Engineering of Technological University A	in Urban Area	4.5
Civil Engineering of Technological University B	in Rural Area	29.5
Electronic Engineering of Technological University B	in Rural Area	13.8
Physics of Arts and Science University A	in Urban Area	40.2
Oriental Studies of Arts and Science University A	in Urban Area	1.38
Mathematics of Arts and Science University B	in Rural Area	22.5
Oriental Studies of Arts and Science University B	in Rural Area	0[46]

Source: Compiled by the Study Team based on data provided by the HEIs that the Study Team visited

Teaching Staff Allocation System

The allocation or rotation of teaching staff amongst HEIs is determined by the ministry that administers the HEIs. Teaching staff are periodically rotated nationwide among the same kinds of HEIs under the same ministry. For example, teaching staff of TUs rotate among TUs and teaching staff of Arts and Sciences Universities rotate among Arts and Sciences Universities.

Teaching Staff Evaluation System

Evaluation of teaching staff is mainly determined by two factors, length of service and academic degrees held. Research achievements are basically not included as an evaluation criterion. Compared to the private sector, salary and additional allowance of teaching staff is not very

[46] No student with 6 teaching staff

high, especially in the science and technology related fields. Hence, it has been difficult to keep a sufficient number of well-qualified and experienced teaching staff in Technological Universities, since they can obtain relevant jobs in the private sector with better salary more easily than teaching staff in the Arts and Sciences Universities.

5.1.11 Quality Assurance System

There is no third party or independent organization to ensure the quality of HEIs. Top management of the HEIs as well as the ministry departments concerned with HEIs have been aware of the necessity of a quality assurance system; however, the system has not yet been established.

5.1.12 Achievements of Researches

Research under HEIs has not been actively conducted. According to interviews as well as site observations at several HEIs, the Study Team presumes some of the reasons: 1) the lack of research experience because most Ph.D. holders have graduated from HEIs in Myanmar that have not provided enough research opportunities and experience; 2) the lack of a research environment, such as sufficient research funding, equipment, research societies and journals; 3) the lack of motivation of teaching staff for research because research achievements are not considered as an evaluation criterion.

(1) Ministry of Education (MoE)

The document "Summarized facts and figures of University and Degree Colleges under Department of Higher Education, Ministry of Education" annually issued by DHEL reports the number of research papers published in domestic journals. The MoE encourages teaching staff and HEIs to do research by requesting each HEI to report the number of research studies published in the Journal of Myanmar Academy of Arts and Sciences, University Research Journal, and research journals published by each HEI.

Table 5-8 shows the trend of Research/Current/Capital Expenditures of DHEU and DHEL of the MoE. It obviously indicates that the budget allocated for research is limited. The research budget of DHEU is increasing little by little, while the proportion of the research budget of DHEL is decreasing.

Table 5-8: Trend of Research/Current/Capital Expenditure of DHEU and DHEL of MoE

(Unit: Million Kyats)

Types of Expenditure \ Financial Year		2005/06	2006/07	2007/08	2008/09	2009/10
Upper Myanmar	Research Expenditure	4.48	5.80	8.44	11.17	14.25
	Current Expenditure	1850.00	2420.00	8100.00	7970.00	8192.69
	Capital Expenditure	3486.55	3348.62	5534.56	3459.00	1898.27
Lower Myanmar	Research Expenditure	8.83	10.05	8.60	10.80	9.92
	Current Expenditure	3200.00	4150.00	11859.00	11311.60	12062.49
	Capital Expenditure	4937.82	4091.05	6656.19	7790.40	2900.65

Source: Presentation power point entitled "Some STI Statistics in Myanmar", Dr. Soe Win Director General, DHEU, MoE and Aung Than, Tutor, Department of Statistics, Meiktila Institute of Economics, MoE downloaded from www.uis.unesco.org/.../STI-Myanmar.pptx

(2) Ministry of Science and Technology (MoST)

The MoST considers that Technological Universities except YTU and MTU are education-oriented universities and plans for only YTU and MTU to offer graduate programs in the near future and become more research oriented universities. Under these circumstances, among Technological Universities, only YTU has a prominent number of research papers published in both domestic and international journals, and MTU follows with almost one quarter of the numbers of YTU. The respective numbers of published papers from the other two Technological Universities are far few than those of YTU and MTU[47].

The main journals where researchers or teaching staff under the MoST publish their research outcomes are the Science and Technology Journal published by the MoST and the Myanmar Engineering Society Journal.

Under the MoST, there are several departments that are designed to conduct research such as the Myanmar Scientific and Technological Research Department (MSTRD), the Department of Atomic Energy (DAE), the Department of Technology Promotion and Coordination (DTPC), as well as the Materials Science and Materials Engineering Research Department. As far as the Study Team observed at the oldest research department, MSTRD, is concerned, research is not implemented very actively. However, researchers under this department sometimes teach at HEIs under the MoST and provide some advice on students' Masters or Ph.D. theses or dissertations.

Generally, the research fund for research activities at HEIs is obtained through each HEI's annual budget. A research budget proposal is embedded into each HEI's annual budget proposal. Thus, the selection of research projects whose budgets will be inserted into the HEI's annual budget proposal is determined by the respective HEIs. Finally, the MoST department that administers HEIs will decide which research projects to support and the respective budget amounts they are to be provided with; the research budget is then allocated through HEI's annual budget. Under this research fund provision system, the following problems have been identified[48]. 1) Teaching staff at HEIs often intentionally avoid research that would take more than one year and tend to focus only on research that would take a shorter amount of time because research budget allocation is determined annually. 2) Relatively expensive equipment for research cannot be procured because the maximum amount of research budget per research is set quite low[49]. 3) Research projects cannot often start on time because the research budget is allocated through HEI's annual budget and takes time to be actually distributed to the research project.

5.2 Issues and Challenges of Higher Education Sector and Recommendations

The issues and challenges of higher education sector that the Study Team has preliminarily found are listed here, followed by recommendations to tackle these identified issues and challenges.

[47] According to data provided by DAST of MoST, the number of published research papers from the 2007-2008AY to the 2011-2012AY is: YTU(Domestic:658, International:268); MTU(Domestic:31, International:219); West Yangon Technological University(Domestic: 21, International:77); and Pyay Technological University (Domestic:32, International:16).

[48] These were pointed out during a group interview with representatives from each department of YTU that has the largest number of research papers published in Journals among Technological Universities under DAST of the MoST.

[49] According to YTU, the maximum amount per research might be more or less USD2500 in the FY2013/2014.

5.2.1 Access

(1) Issues and Challenges

1) More than three quarters of the total students at HEIs enroll at Arts and Sciences Universities. One of the reasons might come from the fact that no limitation is set for enrollment in the distance education track of the MoE. Assuming that HEI graduates try to work in fields similar to what they studied at HEIs, there seems to be a quantity gap between demands of the labor markets and supply from HEIs. However, the demand and supply gap needs to be explored further with more systematic statistics.
2) There are very few HEIs that offer courses related to political science, business and economics.

(2) Recommendations

1) It is recommended to conduct an analysis of the demand and supply gap in the labor force market, and to identify fields of study where the number of potential graduates will be far lower than employment prospects. Based on the results, it some measures should be taken to increase the number of graduates who study in the identified fields. Measures might include, but are not limited to, establishing new departments offering the identified academic fields at existing universities and providing some kind of financial incentives to students who study in the identified academic fields.

5.2.2 Quality of Education and Research

(1) Issues and Challenges

1) All of the same departments- even at different HEIs must use the same curriculum, syllabus, and textbooks authorized by the Council of University Academic Bodies, and each HEI is not allowed to modify them. Any modifications must be authorized by the Council of University Academic Bodies at the Council's annual meeting. Hence, it is difficult to make courses fit with each HEI's local society or labor market needs, or to conduct timely revisions.
2) Research projects and activities at HEIs do not seem to be that active as a result of a lack of research experience and a research environment; there is currently insufficient research funding, equipment/facilities, research societies and journals, and incentives for teaching staff. At the current stage, promotional prospects of teaching staff of HEIs are highly dependent upon service years, and considerably little attention seems to be paid to other criteria including the highest degrees obtained and further achievement in research .
3) Age limitations have been set to join permanent teaching staff of HEIs. Thus, those who have long work experience in the practical world cannot work as government permanent teaching staff.
4) The number of HEIs under the MoST has rapidly increased within a decade; as a result, the number of senior and experienced teaching staff is limited. In this regard, it might be important to enhance the capacity of younger teaching staff to provide high quality education and research to correspond to this rapid expansion.
5) Teaching and learning seems to be more dominated by memorizing and rote learning. Although the curriculum includes sessions for practical work, due to a lack of equipment and other reasons, lab activities at HEIs seem to be limited. Consequently it would be quite difficult for graduates to attain enough knowledge or skills directly applicable to the workplace even though internship programs have been integrated into a curriculum of some study fields to compensate for this gap.
6) According to the interview with some industries, there seems a tendency that certificates of practical skills provided by private institutions are valued more than degrees issued by HEIs. Generally, in big cities like Yangon or Mandalay, graduates from HEIs often attend

private institutions, if affordable, to obtain certificates that show their competency and level of practical skills valued by labor markets. Analysis on the gap between demand of the labor markets and supply from HEIs from a perspective of graduates' quality is encouraged to be explored further.

7) According to an interview with the top management of several HEIs, teaching staff have considerably few chances to make connections outside of HEIs and to find out about industry and labor market trends.

(2) Recommendations

1) It is recommended to provide teaching staff with opportunities to experience study or research at foreign HEIs to know other countries' education and research activities at HEIs and enhance their education and research capability.
2) To attain high quality teaching staff, new evaluation criteria that focus more on their performance could be considered, in addition to length of service and degrees held. Also, it is recommended to examine the possibility of providing more opportunities to individuals with plenty of practical experience in the private sector or teaching experience in foreign countries to become permanent teaching staff at HEIs .

   The following two recommendations could be implemented firstly at a few selected strong HEIs as a pilot program. It is recommended that the rotation of teaching staff of those selected HEIs be suspended in the meantime.

3) It is recommended to create an environment that encourages researches at HEIs. Measures might include greater budget allocation to research, introduction of competitive research grants to which teaching staff can directly apply, incentives for teaching staff to publish papers or present them at conferences, provision of research environment such as access to academic resources or equipment, etc.
4) It is recommended to introduce institutional autonomy to provide more flexibility for education and research that fit with local society or labor market needs at selected HEIs. Capacity development for teaching staff as well as admin staff of those selected HEIs and staff of the department under the ministry that administers selected HEIs is also necessary.

5.2.3 Management

(1) Issues and Challenges

1) There seems to be no documented policy or development plan illustrating an overall strategy on higher education sector as a whole. HEIs are administered by 13 ministries and it seems that each ministry, for example, the MoE and the MoST, has its individual policy including a development plan of its education and training institutions. There is an organization to coordinate these 13 ministries; however, coordination and harmonization to develop higher education sector as a whole needs to be further explored.
2) There is no clear definition of HEIs. Institutions regarded as HEIs vary among government publications and papers. Various views of what constitutes a HEI exist; for example, whether GTIs, GTCs or TUs administered by DTVE of MoST, which provide undergraduate diploma level of courses called A.G.T.I. Diploma, should be regarded as TVET institutions or HEIs has not been clearly determined.
3) Statistic formats also vary among ministries and statistics seem to be mainly utilized inside each ministry. Therefore, it is difficult to integrate and combine data collected from different ministries and analyze the entire higher education sector. It is recommended to develop some kind of standardized statistical formats across relevant ministries administering HEIs and make use of statistics for making policy decisions.

4) The MoST has made significant efforts to adjust its higher education system or degree structure to respond to the rapid change in labor market trends. This adjustment might have caused a frequent change of schooling years for degrees, for example, the Bachelor of Engineering program at University of Technology, Yatanarpon Cyber City. It is recommended to develop an overall development policy or master plan of the higher education system in the engineering related fields, including a clear demarcation between the TVET and higher education tracks.
5) Types of degrees, entry requirements, and required years of schooling vary among HEIs under different ministries, and their structure is rather complicated. This might raise problems or cause hindrances to implementing collaborative activities with HEIs in foreign countries, such as credit transfers, student or faculty exchanges, etc. Compatibility of degrees with HEIs in foreign countries also needs to be carefully evaluated.
6) Some courses, for example, the regular track of Technological Universities under the MoST and the distance education track of the MoE, do not set a maximum number of students. Therefore, it might be difficult to plan and allocate the appropriate number of teaching staff in accordance with the number of students.
7) The governance system is centralized and each HEI has less autonomy. For example, to exchange MOU with foreign HEIs, permission from the ministry is required.

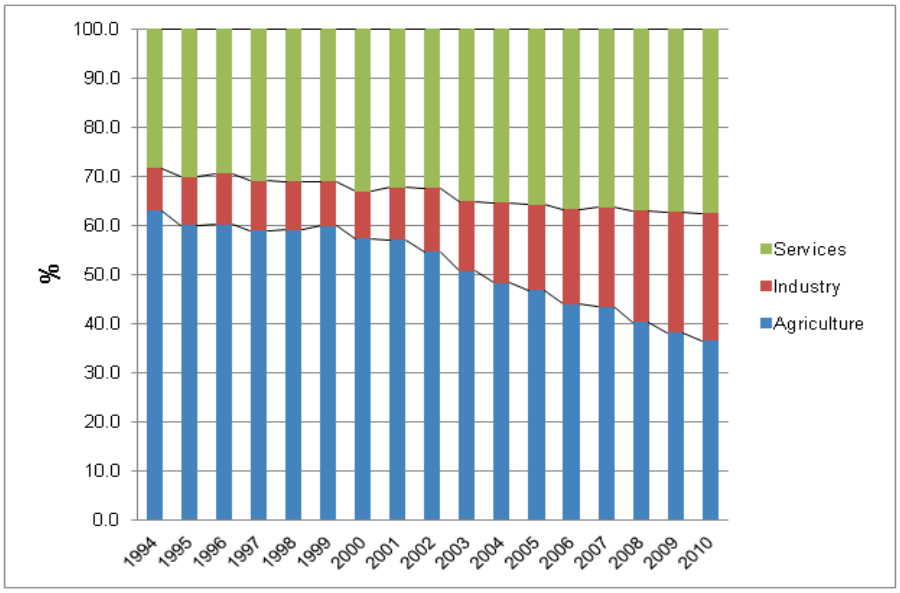
(2) Recommendations

1) It is recommended to develop a mechanism to collect statistical data systematically across all HEIs even if they are under different ministries, and to analyze this data in order to make policy decisions, for example, decisions regarding admission policy, finance-related intervention policy for disadvantaged students, teacher recruitment, allocation and promotion policy, staffs' capacity development policy, etc. The introduction of a Higher Educational Management Information System could also be considered.
2) It is recommended to establish a national accreditation board that is preferably independent from the government to guarantee the quality of education and research at HEIs across the different Ministries. Also, a quality assurance system needs to be developed.
3) It is recommended to strengthen existing organization, such as Universities' Central Council and Council of University Academic Bodies, or establish a new one that actually functions to coordinate between different ministries. The above-mentioned accreditation board could take this role, too.
4) A new higher education law that includes, but is not limited to, the definition of HEIs, privatization of HEIs, and institutional autonomy, etc is expected to be enacted. It is recommended that policy documents showing the degree system of HEIs are developed and opened to the public.

6. An Analysis of the Demand-Supply Gap in Industrial Labor Force

6.1 The Trend and the Needs for Human Resources of the Labor Market for the Companies including Japanese-Affiliated Ones

Due to Myanmar's democratization over recent years, the structure of industries has changed especially in the secondary and tertiary industries. Figure 6-1 indicates the change of sector shares in Myanmar's GDP between 1994 and 2010. This figure shows that in the last decade the share of the agricultural sector has decreased remarkably from 60% in 2000 to 36 % in 2010. On the other hand, the shares of the industrial and service sectors have increased, especially the industrial sector, whose share has tripled from 10% in 2000 to 30% in 2010.

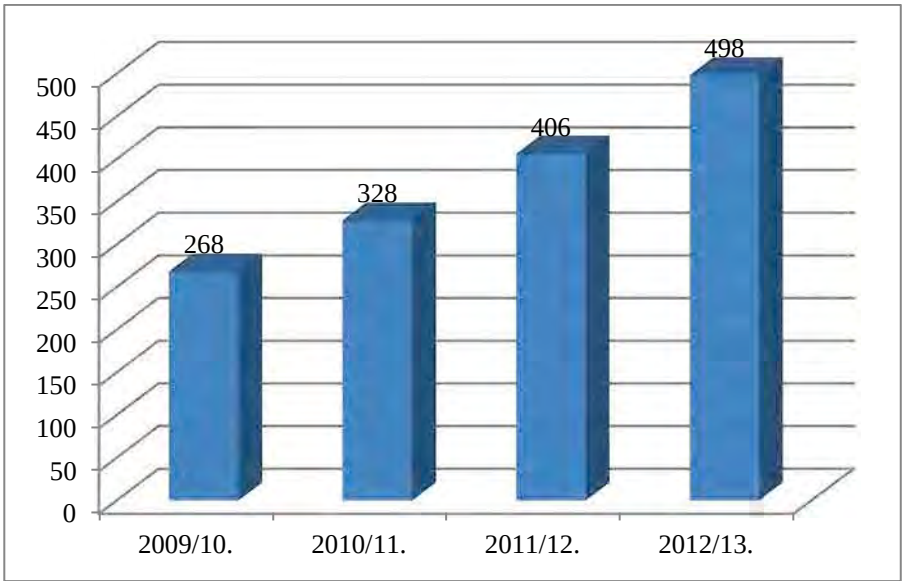


Source: ADB-SDBS (2012)

Figure 6-1: Sector Shares in Myanmar's GDP, 1994–2010 (%)

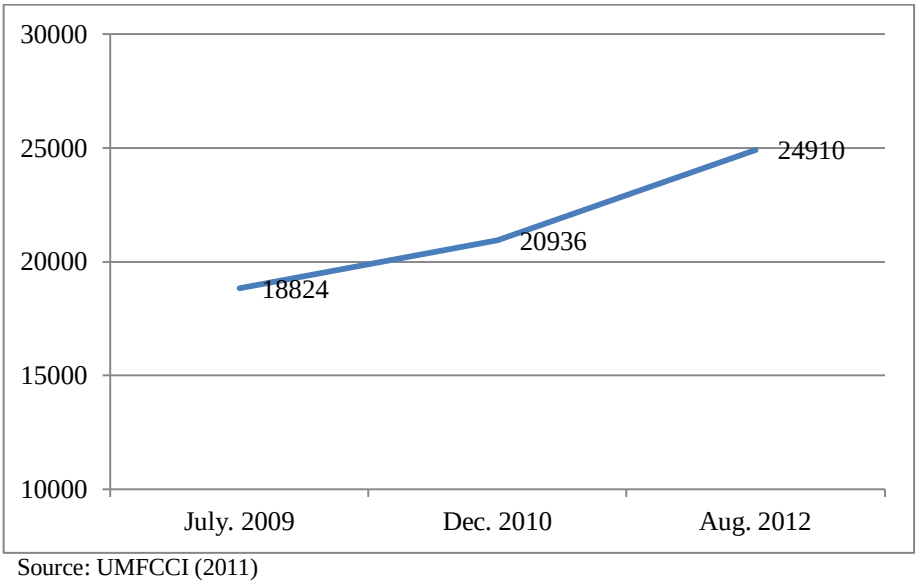
Under the service sector, tourism is the priority area according to the interview conducted by the International Labour Organization and the MoL. Figure 6-2 shows that the number of tourism-related companies has nearly doubled, from 268 companies in 2009/2010 to 498 companies in 2012/13. Not all of the tourism-related companies are members of the Myanmar Tourism Board so there are likely to be more companies serving tourism in Myanmar. As seen from Figure 6-2, tourism is booming in Myanmar.

Figure 6-3 presents the number of companies registered in the Union of Myanmar Federation Chamber of Commerce Industry, which has increased by 32 percent in the past three years from 18,824 in 2009 to 24,910 in 2012. However, only 809 companies are foreign companies, and the share is only 3 percent of the total membership pool.



Source: Myanmar Tourism Board (2011)
Note: The data of 2012/13 is as of October 2012

Figure 6-2: Numbers of the Registered Companies in Myanmar Tourism Board, 2009/10-2012/13



Source: UMFCCI (2011)

Figure 6-3: Numbers of Registered Companies in UMFCCI, 2009-2012

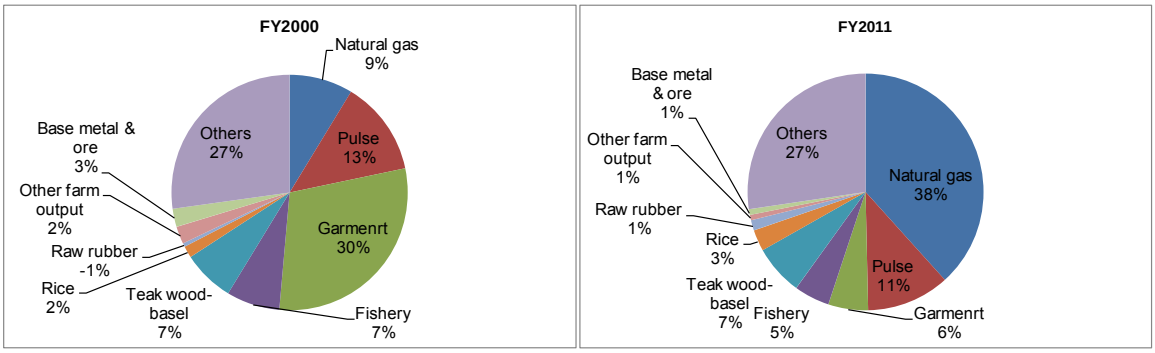
The FDI inflows by sector show that FDI for secondary and tertiary industries has been increasing rapidly compared with FDI for primary industries (see Table 6-1). For instance, the accumulation of FDI from 2005 to 2010 in livestock and fisheries is US$2.4 million. This rate of FDI inflows is only 0.063% of all sectors. This industrial structural change implies that demand for excellent skilled human resources from tertiary industry has been increasing rapidly in Myanmar's labor market.

Table 6-1: FDI Inflows by Sector (US$ million)

	Fiscal Year						
Sector	2005/06	2006/07	2007/08	2008/09	2009/10	2010/11	2005-2010
Oil and Gas	229.9	417.2	478.4	743.2	750	287.9	2906.6
Mining	2.2	2.6	3.2	46.6	200.1	160.3	415
Power	0	0	220	170	0	0	390
Manufacturing	1.1	1.6	13.2	14.2	11.6	1.5	43.2
Hotel and Tourism	2.7	6.3	0.1	1	0	0.3	10.4
Livestock and Fisheries	0	0	0	0.6	1.6	0.2	2.4
Total	235.9	427.7	714.9	975.6	963.3	450.2	3767.6

Source: ADB (2012).

Figure 6-4 shows staple exports in 2000 and 2011. This figure indicates that apparel products held the largest share in 2000. However, natural gas constituted the largest share (about 40%) of staple exports in 2011. According to the Asian Development Bank (2012), this change has been recognized as the effect of the lifting of economic sanctions carried out by the US and other western countries which are regarded as the main markets. After the relaxation of such sanctions, it is hoped that the apparel industry, a basic industry that has been growing from the 1990s, will help to create job opportunities in Myanmar's labor market (ADB 2012: 28). Overseas enterprises draw attention to labor-intensive businesses such as apparel industry because it is known that 90% of CMP (Cutting, Marking and Packing) businesses[50] are in the apparel industry in Myanmar. For this reason, it could be pointed out that more attention would be given to identify the needs of the labor force in the apparel industry (JICA 2012: 128-9).



Source: Created by the author based on Thein (2012) and MNPED (2012)

Figure 6-4: Changing Structure of Myanmar's Exports (%)

It is said that when overseas enterprises enter Myanmar, almost all conventional small and medium-sized companies[51] need to modernize and develop human resources with high skills who can seek employment in various sectors, in order to maintain the management of 92% of small and medium-sized private enterprises in Myanmar. Within this context, the Ministry of Industry is trying to prepare a system of governance including human resource development for resolving the main issues which small and medium-sized enterprises face: (1) financial access; (2) technology transfer; and (3) market development (JICA 2012: 139-40). On the other hand, the MoL reported that not only energy, power and mining sectors have potential, but also primary sectors such as livestock and fisheries.

[50] In Myanmar, the business in which the factory receives a commission by processing raw materials imported from foreign buyers and exporting them back to the foreign buyers is called CMP business (JICA 2012: 130).

[51] In Myanmar, small and medium-sized companies are divided into three categories; SNE (Small & Medium Enterprises) which has been modernized, SMI (Small & Medium Industries) which is aimed at domestic market, and traditional small companies (JICA 2012: 139).

6.2 The Trend of the Sectors Related to Engineering and the Labor Markets

Myanmar is at a stage of changeover of industrial structure from agricultural farming to industrialization (see Figure 6-1). With this background, what is the status of FDI in the industrial sector? The investment to resource and energy is the largest in the industrial sector (see Table 6-1). Investment in oil and gas is the highest cumulative investment [more than US$29 million], followed by Mining [US$4.15 million] and Electricity [US$3.9 million] in the most recent five years. For these reasons, the demand for human resources specializing in electrical engineering and mechanical engineering need to be increased.

Natural resources and energy sectors should be given priority in Myanmar (ADB 2012). By developing renewable energy like hydropower, Myanmar would benefit from: (1) increased finance to promote research and development and private investment; (2) accelerated infrastructure development; (3) enhanced human resource capacity; and (4) applied market-based power and petroleum prices. Green growth strategy plays an important role in the country's sustainable development and lasting economic growth. If Myanmar can succeed in making use of renewable energy, it could become a regional supplier of clean and reasonably priced energy. For these reasons, the intensity of demand for human resources specialized in resource and energy sector will increase.

ADB (2012) reported that the impediments in Myanmar are the lagging physical and social infrastructure, especially low connectivity both within and beyond the national border. Investment in infrastructure could expand growth and attract private investment, integrated into the regional economy, and stimulate economic activity and investment in Myanmar. With this background, the development of infrastructure and connectivity must be accelerated. For these reasons, the demand for the human resources specialized in civil engineering will increase.

Regarding the demand for human resources from Japanese companies which found the market in Myanmar, the local staff is composed of workers, supervisors and managers. As for workers in the factory, Japanese companies employ inexperienced recruits over 18 years old from the communities nearby the factories or from rural areas. On the other hand, for the managerial level, they employ experienced workers who have been well trained as managers or supervisors. In apparel manufacturing, the employers often have to hire inexperienced workers since it is difficult to find workers experienced in the field. Therefore, the companies often provide in-house orientation and training to those inexperienced staff while such training is not usually provided to experienced workers. In other manufacturing industries, companies do not emphasize the employment of experienced workers. Training for workers tends to be on the job training. In addition, some companies provide external seminars and overseas training. IT, auto-repair and engineering companies hire new graduates.

According to JICA (2012), Japanese companies evaluate engineers' abilities through an employment examination. Some companies tend to hire new graduates because new graduates get used to Japanese culture faster than experienced workers. Regarding the IT sector, companies do not require graduates to come from relevant departments; however, they measure new graduates' ability as programmes through administering employment examinations. In auto-repair companies, due to the low level of new graduates, companies employ new graduates temporarily by carrying out employment examinations which evaluates knowledge and English language skill.

According to a survey conducted by JICA (2012), local companies except apparel companies do not require experienced workers. Some companies said that they regard communication skills and personality as important things instead of technical qualifications. They carry out basic

training and on the job training for employees because these companies recognize that university education tends to provide theory and knowledge rather than skills. Local IT companies require System Engineers who have 2-3 years working experience. In fact, it is difficult to employ experienced workers. For this reason, companies try to employ people who were trained in external training center after graduation. However, the number of people who trained in external training centers is limited. As a result, some companies hiring excellent new graduates temporarily, and after that, employ the new graduates who meet the requirements. Normally, it is difficult for new graduates who are not given external training to meet the requirements of the companies.

As this chapter explained, due to the lack of knowledge and application of the skills of lecturers in college of engineering, as well as the shortage of laboratories, the graduates from engineering universities cannot integrate well into the labor market because their applied ability is insufficient. For this reason, each company gives, on average, one to three years of training to new graduates. Because of the shortage of job opportunities corresponding to the number of university graduates, there are some cases where graduates get jobs overseas. For instance, 20% of graduates from Yangon Technological University find jobs overseas. The lecturers in technological universities pointed out that qualified graduates get jobs in ASEAN countries. In addition, some graduates study in vocational schools overseas due to the lack of vocational schools in Myanmar.

6.3 An Analysis of the Demand-Supply Gap in Industrial Labor Force

If we look at the number of human resources, it can be said that there is excess supply in Myanmar's industrial labor force due to the fact that the growth of the number of new college graduates is larger than the growth of employment. Table 6-2 shows the latest data on student enrollment by major in the educational and training institutions under the jurisdiction of the Department of Technical and Vocational Education (DTVE) in the MoST. Statistics indicate that the number of students who enrolled in civil engineering was the highest; when we consider all the courses, 29,819 students (31% of the total) enrolled in civil engineering in FY2011/2012, 20,705 students (22% of the total) were in mechanical engineering, 16,778 students (18% of the total) were in electrical engineering, and 15,780 students (16% of the total) were in electronics. Thus, at first glance, it seems that human resources were supplied in the correct proportion to the highest-need areas such as civil engineering or electrical and mechanical engineering.

Table 6-2: Student Enrollment by Major in the Educational and Training Institutions

	Master	Bachelor	Buchelor		Diploma		Total
	M.E.	B.E.	B. Tech Year 2	B. Tech Year 1	AGT I Year 2	AGTI Year 2	
Civil	578	2,275	4,150	4,604	8,946	9,266	29,819
Electronic	350	1,727	2,047	2,469	2,775	6,412	15,780
Electrical Power	274	1,801	1,801	1,935	3,320	7,647	16,778
Mechanical Power	253	2,695	2,308	2,740	3,461	9,249	20,706
Mining		49	32	33	32	261	407
IT (Information Technology)	170	847	515	408	655	2,017	4,612
Mechatronics	98	622	367	257	287	1,723	3,354
Chemical	34	208	70	123	69	478	982
Textile	3	46	27	10	46	240	372
Petroleum	10	79	99	67	117	341	713
Metallurgy	14	35	26	20	30	209	334
Bio-Tech	15		38	31	52	102	238
Nuclear Technology		11	17	7	8	71	114
Architecture	36	140	231	310	354	494	1,565
Total	1,835	10,535	11,728	13,014	20,152	38,510	95,774

Source: JICA (2012)

If we consider quality of human resources in the analyses, however, JICA (2012) indicated that the supply is insufficient to meet the demand in many types of industries or jobs at present. There is another report which states that some companies are supposed to advertise job openings frequently and conduct interviews once every one or two weeks. The result of the analyses of the industrial labor force's demand-supply gap in each type of industry is as follows:

First of all, when we look at a manufacturing industry, for example the sewing industry-one of the key industries in Myanmar-we find that it is now short of human resource supply to meet the existing demand. This is due to the fact that there are few vocational training schools where students can obtain sewing skills, so that most people are trained after they are employed by the companies. In general, the short supply of human resources which are of sufficient quality to meet the demand is an issue in most types of manufacturing industries. This is caused by the shortage or poor location of vocational education and training institutions, and the fact that little importance is attached to the curriculum of institutions for vocational education and training or higher education to practical abilities which are required by companies. Hence, Myanmar's local companies in manufacturing industries tend to consider that in-company training for new employees is essential.

Meanwhile, when we look at a nonmanufacturing industry, we can also find a short supply of human resources in information and technology areas where new graduates are not ready to work. The drain of excellent human resources who have a lot of work experience to foreign countries makes this shortage of supply more serious; it appears to be the reality that many talented people leave for countries like Singapore and Malaysia where they can earn much higher salaries. It becomes virtually impossible to take measures to stop this drain because it is impossible for local companies to pay higher salaries. Even in the car repair industry, where companies are actively trying to hire new graduates, it is noted that there is the issue of short supply of people of sufficient quality to meet the needs from the demand side, caused by the low quality of existing vocational education and training institutions.

Finally, the growing demand for workers who have management skills both in manufacturing and nonmanufacturing industries, along with the need to modernize small and medium-sized enterprises in advance of foreign affiliated companies (including Japanese-affiliated companies) entering Myanmar has brought labor supply shortage issues to the fore. There are few human resources who can meet the needs for this area, which include a high level of English communication skills, sufficient knowledge of marketing, as well as wide experience in foreign markets. Because of this, it is urgent to increase the training opportunities for obtaining these skills in Myanmar. It is also said that the demand for this type of human resources from foreign affiliated companies can be high because they want to cut their labor costs by reducing the number of employees from their countries living in Myanmar or win in business by blending into local society. Furthermore, there is an increasing call for the expansion of the opportunity to receive foreign language education because the demand for people who have the ability to speak English as a business language is also high, particularly in the tourist industry.

7. Development of Partner Cooperation in the Education Sector in Myanmar

7.1 Overview of Development Partner Engagement in the Education Sector in Myanmar

7.1.1 Changes in Development Partner Engagement in Response to the Country's Reform Process since 2011

Since the formal launch of Myanmar's reform process in March 2011, remarkable changes have been observed in the ways Development Partners (DPs) engage with the country. In recognition of the swift reform initiatives taken by the newly elected GoM, major Western donor countries either eased or suspended various sanctions imposed on Myanmar and decided to resume and expand formal engagement with the new government. This led to successive announcements of resumption or expansion of in-country operations by numerous bilateral/multilateral aid organizations as well as by international non-governmental organizations in Myanmar, followed by the opening of their respective country offices and hiring of new personnel.

Accordingly, commitments of support in the education sector by various DPs have significantly increased[52]. As of January 2013, a number of bilateral agencies (including AusAID, British Council, DFID, Danish Embassy, GIZ, Japanese Embassy, JICA, and Norwegian Embassy), multilateral agencies (including ADB, EU, UNESCO, UNICEF, and World Bank) and NGOs (including Nippon Foundation, Open Society Foundations, Save the Children and many others) have shown interest or committed to support education or human resource development in Myanmar.

7.1.2 Support to CESR by Development Partners

From the preparation stage of CESR in early 2012, the MoE has invited all interested DPs to assist CESR processes for its successful implementation. Many DPs took this opportunity to formally engage with the MoE by offering technical and/or financial assistance to CESR, the details of which are summarized in the following table.

[52] The Partnership Group for Aid Effectiveness (2012) Myanmar Donor Profiles

Table 7-1: DP's Support to CESR (Phase 1)

Focal Area		DP	Support to be provided
Overall Management and Technical Support		MDEF-UNICEF	• Hiring of required personnel (1 International Coordinator, 1 Chief Technical Adviser, 1 National Coordinator, 2 National Officers, 2 National Translators) • Office equipment • Internal travel cost • Stationary and Consumables
A.	Quantitative Analysis	UNESCO	• Technical Assistance (TA) in data analysis and identification of data gaps
		MDEF-UNICEF	• TA in EMIS database design and development
B.	Assessment of Legislation, Policy and Management Issues (Overarching & Basic Education)	MDEF-UNICEF	• Legislative review across all Focal Areas (by CESR CTA) • Fielding of 1 International Consultant for Policy Analysis, 1 International Consultant for ECD, and 1 International Consultant for Teacher Education • Hiring of 1 National Consultant for Non-Formal Education
		UNESCO	• TA in assessment of system-wide issues with a focus on legislation, policy and management capacity and basic education structures • TA in regional comparative analytical work and regional benchmarking in policy, legislation and management;
		ADB-AusAID	• Fielding of 1 International Consultant for Secondary Education Subsector
		JICA	• TA in Curriculum/Assessment and Teacher Education • Hiring of 1 National Consultant for Teacher Education
C.	Assessment of Legislation, Policy and Management Issues (TVET & Higher)	GIZ	• Fielding of 1 International Consultant for TVET Policy
		UNESCO	• Hiring of 1 National Consultant for TVET and 1 National Consultant for Higher Education
		ADB-AusAID	• Fielding of 1 International Consultant for Post-Primary Education Areas, 1 International Consultant for TVET Service Delivery, 1 International Consultant for Labour Market Analysis, 1 International Consultant for Higher Education Policy, and 1 International Consultant for Higher Education Service Delivery
D.	Financing to the Education Sector	WB-AusAID	• TA in Public Expenditure Review in the Education Sector
E.	Stakeholder Analysis/ Mapping of DP Partnership Structures and Mechanisms	MDEF-UNICEF	• TA in identification and mapping of stakeholders (by International Coordinator)
F.	Special Study on Textbook Supply	MDEF-UNICEF	• Fielding of 1 International Consultant for Textbook Review

Source: Compiled based on the information made available to the Study Team as of November 2012

As of January 2013, there are ongoing discussions on DP's support to Phase 2 of CESR. It is expected that most of the DPs already supporting CESR from Phase 1 will continue their support to Phase 2 with a possibility of new DPs joining.

7.1.3 On-going and Planned Support to the Education Sector by Development Partners

As of January 2013, major DPs have started or are planning to support the following areas in the Education Sector in Myanmar as shown in the table below.

Table 7-2: Support to the Education Sector by Major DPs 1 (By Subsector)

Subsector	DP	Support to be provided
ECD	MDEF-UNICEF	• ECD expansion • ECD policy development
	Save the Children	• ECD expansion
Basic Education	JICA	• Review of Primary Curriculum (Under consideration)
	MDEF-UNICEF	• Support to Child Friendly School • Development of Life Skills curriculum • School construction • Support for WASH (water, sanitation and hygiene)
	DFID-Save the Children	• Support to transition from pre-school to primary school in disadvantaged areas
	British Council	• Review of English Curriculum (Under consideration)
	WFP	• Provision of food for school children
	Nippon Foundation[53]	• School Construction in ethnic minority areas
Secondary Education	ADB	(Under consideration)
Teacher Education	JICA	• Child-Centered Approach Training • Upgrading of Teacher Training Colleges (Under preparation) • Support to Primary Teacher Education (Under consideration)
	MDEF-UNICEF	• Assessment of Pre-service Teacher Training Institutions • Pilot School-based In-service Teacher Training • Training for Returnee Teachers
	British Council	• English Teacher Training • Support to conferences/seminars on teaching
TVET	KOICA	• Support to Industrial Training Centre under the Ministry of Industry
	GIZ	• Support to Industrial Training Centre under the Ministry of Industry • TA in TVET planning under the Ministry of Industry
	ADB	(Under consideration)
	UNESCO	(Under consideration)
	ILO	• Mapping of Apprenticeship Opportunities
Higher Education	JICA	• Provision of scholarships to Japan • Support to AUN/SEED-Net (A network of engineering higher education institutions among ASEAN and Japanese universities) • Support in the field of engineering mainly through Yangon Technological University (Under consideration)
	ADB	• ASEAN-AUN（under a regional program）
	KOICA	• Support to Asian Cyber University Network
	UNESCO	(Under consideration)
	British Council	• Training of English Tutors

[53] Ministry of Foreign Affairs of Japan (2012) Three Main Pillars of The Nippon Foundation's Projects

Subsector	DP	Support to be provided
	Norway	• Provision of scholarship
	USA	• Higher Education Partnerships to Support the U.S.-Burma Commitment to Democracy, Peace and Prosperity
	AusAID	• Provision of scholarships
	Open Society[54]	• Support to visiting scholar programs • Support to the e-library network
Literacy/Non-formal Education	MDEF-UNICEF	• Primary-level equivalency program • Support to emergency-affected areas
	UNESCO	• Secondary-level equivalency program
	AusAID-DFID	• Establishment of Myanmar Education Consortium (MEC[55]), an umbrella coordination body for NGOs supporting education in Myanmar)
	INGOs/NGOs[56]	• Support to Monastic Schools • Literacy programs • Disaster Risk Reduction Education • Support to education in conflict-affected areas
Education Administration and Finance	MDEF-UNICEF	• Support to decentralized education administration (training of education administrators, support to EMIS)
	World Bank-AusAID	• Assessment of education finance
	UNESCO	• Capacity development in planning and management • Support to EMIS (Under consideration)

Source: Compiled based on the information made available to the Study Team as of January 2013

[54] The New Light of Myanmar, Thursday, 22 March 2012, *"Union Education Minister receives officials of Johns Hopkins University, New York-based HESP"*

[55] Myanmar Education Consortium (2012) Description of Action

[56] For details, see Directory of International Non-governmental Organizations in Myanmar 2012 and Local NGO Directory 2012 published by Local Resource Center Myanmar.

Table 7-3: Support to the Education Sector by Major DPs 2 (By Agency)

Multi-donor Fund

Multi-donor Education Fund (MDEF)

- Funding donors: AusAID, Denmark, DFID, EU and Norway
- **Phase 1 (2006-2011) completed**:
  - Total funding: approximately 38 million USD
  - UNICEF was entrusted to manage the fund and to implement the education support programme activities.
  - Target Subsectors: 1. ECD, 2. Basis Education, and 3. Non-formal Education
- **Phase 2 (2012-2015) Quality Basic Education Programme (QBEP)[57] on-going** :
  - Total funding: approximately 83 million USD
  - UNICEF continues to manage the fund and overall programme implementation in collaboration with other implementation partners
  - Target Subsectors: 1. ECD, 2. Basis Education (Review of Pre-service/In-service Teacher Training, Provision of materials to schools, and Support to Life Skills education at the secondary-level), and 3. Education Planning and Administration（Strengthening School Management, Support to EMIS, Capacity development for educational planning and monitoring), 4. Non-formal Education
  - Target Areas: 28 disadvantaged townships (80 townships for ECD intervention and nationwide for secondary Life Skills component)

Multilateral Agencies[58]

UNICEF

- **Overview** : UNICEF has been one of the leading UN agencies to implement in-country interventions[59] in Myanmar through funding from many donors (including MDEF) and has been playing a key role in collaborating with the GoM, other aid agencies, and International/Local NGOs.
- **Education Sector Support** : Under UN's Strategic Framework for Myanmar (2012-2015)[60], UNICEF is designated as a convening agency for the education component and is designated as co-chair representing DPs at JESWG. UNICEF has been one of the leading agencies to support and advise the MoE on CESR processes and continues to be the lead implementation agency for QBEP funded by MDEF to support sustainable improvements in access, equity, quality and management in Myanmar's basic education sector.
- **Implementation Modality** : Direct in-country programme implementation in partnership with government/aid agencies, and International/Local NGOs

UNESCO

- **Overview**: UNESCO established its antenna office in Myanmar in 2009 to implement post-Nargis Disaster Risk Reduction programme. It is currently preparing a Country Planning Document for Myanmar (2012-2015).
- **Education Sector Support**: In parallel with technical support to CESR, UNESCO is preparing its programme in education planning capacity development under CapEFA (Capacity for EFA Fund)[61] as well as in TVET and higher education Subsectors.
- **Implementation Modality** : Direct in-country programme implementation and through technical support from HQs or Bangkok Regional Office

[57] UNICEF Myanmar and Myanmar Multi-donor Education Fund (2012) Myanmar Quality Basic Education Programme: Programme Design Document

[58] Other cooperation through multilateral agencies includes regional cooperation programmes under Southeast Asian Ministers of Education Organization (SEAMEO), of which Myanmar is a member.

[59] UNICEF (2010) Myanmar Country Programme Document 2011-2015

[60] United Nations Country Team in Myanmar (2012) United Nations Strategic Framework 2012-2015

[61] UNESCO (2011) Capacity Development for Education for All : Translating theory into practice; the CapEFA Programme

EU

- **Overview**: After the decision to suspend sanctions imposed on Myanmar in April, 2012, the EU has opened a country office in Myanmar and significantly increased aid commitments for the country's democratic reform and inclusive development initiatives[62], becoming one of the largest donors for Myanmar.
- **Education Sector Support**: Along with health, basic education is the key focus area for EU assistance in Myanmar[63]. The EU's assistance to education is channeled through MDEF.
- **Implementation Modality**: Mainly through funding to MDEF, UN agencies and International/Local NGOs

ADB

- **Overview**: In the first half of 2012, ADB started preparatory analytical work and country dialogue discussions with the GoM and in October 2012, developed its interim partnership strategy for Myanmar[64], which provides the framework for reengagement activities in support of sustainable and inclusive economic development and job creation.
- **Education Sector Support**: In parallel with technical support to CESR in secondary, TVET or higher education, ADB will formulate its future programming most likely in post-primary subsectors including secondary, TVET or higher education. Other on-going ADB collaboration under Greater Mekong Subregion (GMS) Human Resource Development programme includes support to university QA capacity with ASEAN-AUN and exploration of a credit transfer system.
- **Implementation Modality**: (For the time being) Technical support through HQs and regional offices and fielding of international consultants

World Bank

- **Overview**: From early 2012 the World Bank resumed discussions with the GoM and announced a new interim strategy for Myanmar[65] in November 2012 to re-engage with the country in order to support political and economic transitions. It has already initiated technical assistance for a multi-sectoral Public Expenditure Review and approved the launch of a 6-year National Community Driven Development Project[66] (in the amount of 80 million USD equivalent), the first World Bank Group project in Myanmar in over 25 years, to support rural infrastructure development through community participation.
- **Education Sector Support**: As part of its support to CESR, the World Bank is providing technical assistance for an analysis of education finance together with AusAID. Under the National Community Driven Development Project, Community Block Grants could be utilized for educational purposes such as school construction/rehabilitation based on community needs.
- **Implementation Modality**: Provision of project grant, technical support through HQs and regional offices and fielding of international consultants

Bilateral Agencies[67]

Australia-AusAID

- **Overview**: Since 2010, Australia has significantly increased its aid to Myanmar, shifting its focus from humanitarian assistance to mid-to-long-term development[68].
- **Education Sector Support**: Basic education, together with health, is the priority sector for AusAID's assistance in Myanmar[69]. AusAID has earmarked about 80 to 100 million USD for the education sector support in the next 3 years and is the largest contributor to MDEF Phase 2. AusAID has been actively engaged in CESR as well as in collaboration with other DPs (such as support to PER with the World Bank, support to MEC with DFID, and co-funding of TA for CESR with ADB) and is designated as co-chair together with UNICEF to represent DPs at JESWG. Other education support includes provision of scholarships to Myanmar students.
- **Implementation Modality**: Mainly through funding to MDEF, UN/multilateral agencies and International/Local NGOs

[62] Council of the European Union (2012) Council conclusions on Burma/Myanmar
[63] European Commission (2007) The EC-Burma/Myanmar Strategy Paper 2007-2013
[64] ADB (2012) Myanmar Interim Country Partnership Strategy 2012-2014
[65] World Bank (2012) Myanmar Interim Strategy Note for the Period FY13-14
[66] World Bank (2012) Myanmar National Community Driven Development Project
[67] Several countries not listed below (such as China and Singapore) are offering scholarships eligible for students from Myanmar.
[68] AusAID (2010) Australia's Strategic Approach to Aid in Burma
[69] AusAID (2012) Burma Annual Program Performance Report 2011

Denmark

- **Overview** : From 2012 Denmark has increased its development assistance to Myanmar from around 8.5 million USD to around 17 million USD per year[70].
- **Education Sector Support** : Denmark has significantly increased its education assistance in Myanmar since 2011 mainly through the contribution to MDEF.
- **Implementation Modality** : Mainly through funding to MDEF, UN agencies and International/Local NGOs

Germany-GIZ

- **Overview**: Germany's assistance around EUR 10 million each year to Myanmar[71] so far has been largely confined to humanitarian aid projects and the awarding of scholarships. But in 2012 it pledged a further EUR 6.2 million to expand ongoing projects and is planning new cooperation projects
- **Education Sector Support** : GIZ's support will mainly focus on TVET such as technical support in TVET to CESR, resumption of support to the Industrial Training Center in Sinde under the Ministry if Industry. Other support under consideration includes support to the Ministry of Industry in TVET planning and support to the National Skill Standard Authority under the Ministry of Labour.
- **Implementation Modality** : Mainly through fielding of experts/advisors, and funding to non-governmental organizations and the UN agencies.

Japan-JICA

- **Overview** : Japan has been a key bilateral partner to Myanmar and JICA remained as one of the few bilateral agencies continuing to engage with the GoM to implement in-country cooperation programmes[72] until 2011. In 2012, Japan announced a provision of a concessional yen loan with the size of approximately 50 billion JPY and will launch projects to support economic and infrastructure developments of Myanmar[73].
- **Education Sector Support** : JICA has implemented a number of bilateral cooperation schemes since 1997 (such as the fielding of advisors, a sector study, and two technical cooperation projects) in partnership with the MoE focusing on quality improvement of teaching and learning in basic education. Teacher training on Child-Centered Approach (CCA) developed through JICA's assistance has now been taken over by the MoE for nationwide expansion. Current and planned support to education includes technical support to CESR through a sector Study Team, upgrading/expansion of education colleges (under preparation), support to primary curriculum review and teacher education (under consideration), on-going support to AUN/SEED-Net (networking of key engineering universities in ASEAN and Japan) and provision of scholarships to Myanmar students.
- **Implementation Modality**: Direct in-country programme implementation and through technical support from HQs.

Norway

- **Overview**: While Norway's earlier assistance funds have mainly gone to voluntary organizations, it is now planning to initiate state-to-state bilateral assistance from 2013.[74]
- **Education Sector Support**: Norway's support includes the contribution to MDEF as well as co-funding with Sweden of Master-level scholarships to study at Asian Institute of Technology (AIT) in Thailand[75].
- **Implementation Modality**: Mainly through funding to MDEF, UN agencies and International/Local NGOs

[70] Ministry of Foreign Affairs of Denmark, "Danida in Burma (Myanmar)" (Retrieved on 11 January 2013, http://thailand.um.dk/en/danida-en/danida-in-burma/)

[71] German Federal Foreign Office, "Myanmar: Development cooperation and humanitarian assistance" (Retrieved on 11 January 2013, http://www.auswaertiges-amt.de/EN/Aussenpolitik/Laender/Laenderinfos/01-Laender/Myanmar.html#doc474102bodyText3)

[72] Japan International Cooperation Agency, "Activities in Myanmar" (Retrieved on 11 January 2013, http://www.jica.go.jp/myanmar/english/activities/index.html)

[73] Ministry of Foreign Affairs of Japan, "Myanmar Summit Meeting" (Retrieved on 11 January 2013, http://www.mofa.go.jp/region/asia-paci/myanmar/meeting1211.html)

[74] Norwegian Agency for Development Cooperation, "Myanmar: Aid trends" (Retrieved on 11 January 2013, http://www.norad.no/en/countries/asia-and-oceania/myanmar#)

[75] The Norwegian Ministry of Foreign Affairs (2012) About NMFA Scholarships for Myanmar

South Korea-KOICA

- **Overview:** South Korea will strengthen cooperation with Myanmar mainly focused on sharing Korea's own accumulated experience and know-how on development; it announced several bi-lateral economic development projects[76].
- **Education Sector Support** : Mainly targeting TVET and human resource development in technical fields, KOICA is supporting the Industrial Training Center under the Ministry of Industry, as well as capacity building /training of personnel in various sectors such as environment, health, disaster relief, agriculture, rural development, fishery, and forestry. In higher education, KOICA is also supporting the Asian Cyber University Network, an e-learning platform linking Korean and other ASEAN universities.
- **Implementation Modality** : Direct project implementation, funding to NGOs, dispatch of volunteers, and invitation of trainees for capacity building.

UK-DFID/British Council

- **Overview** : The UK announced its plan to scale up assistance in Myanmar in 2010 and significantly increased aid commitments to the country. UK has been actively engaged in aid coordination efforts including Partnership Group on Aid Effectiveness (PGAE), a principal donor coordination mechanism in Myanmar and other multi-stakeholder working groups.
- **Education Sector Support** : Under the 4-year plan (2011 to 2014)[77], DFID earmarked around 15 million USD for the education sector support including contribution to MDEF. Focusing on access to primary education in hard-to-reach disadvantaged areas, DFID is supporting the transition programme from pre-school to primary school (implemented by Save the Children) and the establishment of MEC in collaboration with AusAID. The British Council has been supporting non-formal English language education in Myanmar for decades and plans to extend its support to the MoE with its expertise on English language education in the areas of teacher training and curriculum revision.
- **Implementation Modality:** Mainly through funding to MDEF, UN agencies and International/Local NGOs

USA-USAID

- **Overview**: After the historic visit of President Thein Sein and Ms. Aung San Suu Kyi to the US in September 2012, the US committed to support Myanmar's development focusing on the areas of democracy, peace, and prosperity[78].
- **Education Sector Support**: The US has announced several initiatives to support Myanmar's higher education mainly through partnerships among local/US higher education institutions and the private sector, including the International Academic Partnership Program (IAPP)[79] coordinated by the Institute for International Education (IIE) and a partnership program by USAID[80].
- **Implementation Modality**: Mainly through funding to higher education institutions and the private sector partners.

NGOs

Save the Children

- **Overview**: As one of the largest NGOs working in the country, Save the Children has been one of the key INGOs to deliver post-Nargis humanitarian assistance since 2008.[81]
- **Education Sector Support**: Save the Children has been supporting ECD, transition programmes (from pre-school to primary) and non-formal education in remote and disadvantaged areas as well as education assistance in emergency situations. Together with Burnet Institute, Save the Children is designated as the lead agency to establish MEC.
- **Implementation Modality**: Direct in-country programme implementation

Source: Compiled based on the information made available to the Study Team as of January 2013

[76] The Ministry of Strategy and Finance, South Korea (2012) Press Release: Korea-Myanmar Economic Cooperation Invigoration

[77] DFID (2012) DFID Burma Operational Plan 2011-2015

[78] USAID (2012) Burma Framework Fact Sheet

[79] Institute for International Education (2012) 2012-2013 International Academic Partnerships Program

[80] USAID (2012) Higher Education Partnerships to Support the US-Burma Commitment to Democracy, Peace and Prosperity

[81] Save the Children, "Myanmar" (Retrieved on 11 January 2013, http://www.savethechildren.org/site/c.8rLIXMGIpI4E /b.6150543/k.D615/Myanmar.htm)

7.2 Development Partner Coordination in the Education Sector in Myanmar

With the ever greater level of engagement between the MoE and a diverse group of DPs in the recent months, there are emerging opportunities as well as challenges in establishing an effective coordination mechanism for the education sector development in Myanmar.

While it is anticipated that outcomes of stakeholder analysis/DP mapping in Rapid Assessment (CESR Phase 1) will provide a more detailed and comprehensive basis for the roadmap for establishing an appropriate coordination mechanism, below are some of the observations about the evolving dynamics of education development partner coordination in Myanmar.

7.2.1 Existence of a Wide and Diverse Range of Stakeholders Engaged in the Education Sector

A wide range of ministries have a role in administering education in Myanmar. In basic education, the Ministry of Religious Affairs oversees monastic schools and schooling in border regions are under the administration of the Ministry of Border Affairs. In TVET and higher education subsectors, over 10 ministries are running programmes for their own institutes/universities. Outside of the government sector, local communities and individual households have traditionally held a crucial role in contributing to children's education in Myanmar. It has been a common practice for families, individuals/or a group of well-wishers, community-based organizations, and faith-based organizations to provide financial and in-kind contribution to education, ranging from school construction to recruitment/salary support for teachers. Such a diverse and wide range of stakeholders in education presents a challenge for inclusive and comprehensive coordination.

7.2.2 CESR as a Catalytic Platform for DP Coordination

In this context, CESR is currently best positioned to offer a platform for coordination and dialogue among wider stakeholders in education at an unprecedented level across ministries as well as between public and private sectors. From the onset of the process, the MoE has sought ways to make CESR as inclusive and comprehensive as possible. As for coordination among DPs, many DPs who showed interest in supporting CESR came together to form the "Education Development Partner Coordination Group," a regular coordination meeting which has been co-chaired by AusAID and UNICEF to discuss and agree on relevant issues. The collaboration across government ministries has been also initiated by CESR, especially in the TVET subsector for which two roundtable discussions organized by the CESR Team were able to bring together representatives from more than 10 ministries administering TVET programmes; similar roundtable discussions are under consideration for the higher education subsector. Efforts are also under way among CESR Team together with some DPs to reach out to civil society actors (including political parties, NGOS, faith-based groups and ethnic organizations) who have had limited formal communication channels with the MoE, in order to encourage their participation into CESR dialogue to ensure their perspectives as well as expertise from the grassroots levels are taken into account. With the formation of the Joint Education Sector Working Group (JESWG), whose first meeting was convened on December 13, 2012, policy dialogue among government counterparts and DPs is expected to become more regular and streamlined. These sector coordination efforts within the framework of CESR provide an excellent foundation for long-term education sector planning and development management as well as a model for other sectors in Myanmar. The GoM plans to organize its first Myanmar Development Cooperation Forum in late January 2013 to consider an appropriate framework of development coordination and aid effectiveness.

7.2.3 Support in Capacity Building for DP Coordination

Prior to the commencement of CESR, the MoE has been working with only a small number of DPs directly engaged in the formal education sector, namely JICA and UNICEF. However, the sudden increase in the number of DPs and types of assistance modalities to support the education sector in recent months has put significant pressure and work load on the side of the MoE to respond to an ever more complex scenario of aid dynamics. In order to ensure the strong ownership of the MoE in establishing and managing an aid coordination mechanism as well as the anticipated Education Sector Plan, further support in capacity building of the MoE counterparts for DP engagement and coordination needs to be prioritized and integrated within the support to CESR (especially during Phase 2) as well as in other assistance programmes proposed by DPs.

8. Critical Issues and Recommendations for the Education Sector in Myanmar

For the purpose of increasing access to education, a number of measures (including opening a variety of types of schools with varying statuses and establishing multiple systems of teacher training) have been taken by the GoM over the past decades. Such measures, while having contributed to an increased access to education to some extent, have made educational processes more complex and resulted in compound barriers for extending school life expectancy as well as an increased reliance on unqualified/untrained teachers in Myanmar. For Myanmar to overcome current challenges and to make a new step forward in the education reform, it is imperative to first identify fundamental constraints and weaknesses.

Based on the information gathering and analyses by subsector in the preceding chapters, this chapter summarizes the critical issues and recommendations, classified in relation to access, quality and management of the education sector in Myanmar. It begins with the analysis of each subsector, followed by an identification of common issues and their causes. The critical issues presented in this chapter are priorities areas linked to the human resources needs in response to the imminent ASEAN integration and the current labor market. Finally, it draws up recommended actions for each critical issue.

8.1 Critical Issues and Recommendations by Subsector

This section recapitulates the analysis in the preceding chapters and presents the critical issues, causes and recommendations for each subsector.

8.1.1 Education Administration and Finance

Though education in Myanmar is entering a major transition period, the current MoE's organizational structure is not conducive to accelerate the education reform. In addition, though District Education Offices (DEOs) are being created between State/Regional Education Offices (SEO/REO) and TEOs according to the decentralization policy of the GoM, the current decentralization measures（e.g. establishment of DEO） are not accompanied by review and delegation of authorities among SEO/REO, TEO and schools. Therefore, it causes difficulty to cope with local educational needs and specific issues in rural, urban and disadvantaged areas, which makes it difficult for schools to manage efficiently and effectively.

And for education finance, the existing education budget structure makes it difficult to clearly identify the actual spending and necessary budget for improvement at each level of education.

It is suggested to re-examine the roles and authorities of education administration and budget system to get better management of schools. Simultaneously, it is highly recommended to look into the education budget to achieve goals of education reform.

Table 8-1 Critical Issues and Recommendations in Education Administration and Finance

Critical Issues	Causes	Recommendations
✓ The current MoE's organizational structure is not conducive to accelerate the education reform.	✓ The current MoE's organizational structure does not allow the ministry to address important education challenges in a responsive manner. ✓ Human resource development of the MoE is not adequate.	✓ To redesign the MoE's organizational structure by redefining the roles of each sub-divisions to respond to the needs of the education reform. ✓ To support human resources development of the MoE.
✓ Unclear demarcation of roles among different government bodies and schools is leading to inefficiency and ineffectiveness in education administration. ✓ The existing education administration structure does not allow each locality to respond to their local needs.	✓ The current decentralization measures（e.g. establishment of DEO）are not accompanied by review and delegation of authorities among REO, TEO and schools. ✓ Capacity of education administration bodies at each level is inadequate.	✓ To consider a certain degree of delegation of authority to the State/Region-level to allow flexibility based on local needs. ✓ To delegate more authority on school management to the school level and restructure education administration accordingly. For example: ・ To identify roles/authorities to be delegated to the school level and then to develop a plan to implement such change, followed by school head teacher training. ・ To add a school inspection role to TEO to support school management. ・ To enable DEO to have coordinating and problem solving functions based on the new education laws and policies. ✓ To support capacity development and human resource development of each body according to their roles and responsibilities.

Critical Issues	Causes	Recommendations
✓ The existing education budget structure makes it difficult to clearly identify how much is actually spent and how much is needed for improvement at each level of education. (It is not divided into each education level, and is not based on planning on the basis of a unit cost required for each level of education.)	✓ The current education budget is not itemized according to the objective of the expenditure at each school level (divided by primary, lower secondary, and upper secondary levels) For example: 1) the current figure itemized as the primary education budget includes teacher salaries for post-primary schools, and 2) the current figure itemized as the upper secondary education budget includes budgets for primary and middle schools which are attached to a high school.	✓ To establish a reliable information management system to capture actual expenditures ✓ To establish a budgeting system based on school levels, in connection with the measures to streamline different types of schools ✓ To analyze a unit cost required for each level of education and to identify bottlenecks and measures to respond to them.
✓ Budget and financial resources to achieve long/mid-term educational policies are not clear.	✓ Concrete target value and financial plan are not indicated in the 30-Year Long-Term Plan and five-year medium-term plans	✓ Conduct a gap analysis and establish a financial plan to achieve goals (Identify the budget which the GoM can finance, and to what extend the GoM needs to get external assistance)

8.1.2 Basic Education

Access to education in primary level had made successful progress due to the efforts of the GoM to mobilize various resources to establish primary schools in nation-wide. However, enrolment rates decrease and dropout rates increase towards the upper grades, especially among disadvantaged students who live in poor household, rural areas and ethnic groups. There are several reasons such as: (i) students enrolled in monastery school have limited opportunities to complete basic education and to advance to the next level of education; (ii) secondary education is not free though primary education is provided as free of charge and (iii) there is a lack of support for them to continue education (e.g. scholarship). In addition, there are also some regions which do not have any Teacher Training Institutions (TTIs), and in which qualified teachers are not fully assigned, especially in disadvantaged areas. It is recommended for the MoE to take necessary measures to secure further educational access and provision of alternative schooling to disadvantaged, disabled and dropout students.

There are some areas of improvement for quality of basic education as well. The classroom teaching practice is still dominated by rote-learning and difficult to introduce teaching-learning to improve thinking ability. In addition, there is no curriculum framework and no regular revision of textbooks based on the framework. Furthermore, existing teacher promotion and training system do not based on professional competency of teachers and difficult to foster continuous professional development (CPD) of them. At the same time, there are no adequate standards for school establishment to improve quality of teaching. To ensure the quality of basic education, it is recommended to develop curriculum framework for regular revision of textbooks; conduct INSET for CPD of teachers after establishing their professional competency; and introduce CCA upon at least minimum quality standards of school establishment.

Regarding management of basic education, the school inspection system based on KaSaSa form has been widely introduced in nation-wide, however, existing system has become a formality without meaningful feedbacks for quality improvement. In addition, the head teachers, especially in primary schools, do not have a clearly defined role and any support system for better school management. Therefore, it is recommended to revise the existing school evaluation form to support improvement of both school management and teaching, as well as clearly re-define and decentralize authorities of head teachers along with DEO establishment, and develop capacity of the responsible people.

Table 8-2 Critical Issues and Recommendations in Basic Education

Access			
Category	**Critical Issues**	**Causes**	**Recommendations**
Disadvantaged Children	There is a pattern in which enrolment rates decrease and dropout rates increase towards the upper grades	✓ There is a lack of access to middle/high schools in rural areas ✓ Students enrolled in monastery school have limited opportunities to complete basic education and to advance to the next level of education. ✓ There is a lack of incentives for schooling without appropriate job opportunities especially in rural areas. There is also an economic pressure to drop out from school to engage in work at a young age. ✓ Though primary education is provided free of charge, secondary education is not free with more fees being charged as grades progress. ✓ Students need to pass the matriculation examination to graduate high schools, which is hard for them	✓ To establish schools and accommodation facilities based on needs ✓ To ensure equivalency at each level of education for students enrolled in monastery schools so that these students can complete each level of education (Such support includes assistance to poor students, extension of grades at monastery schools to ensure completion of each level of education, accreditation of monastery school teacher by the MoE, introduction of a transfer system to regular MoE schools) ✓ To promote awareness on the merits of education. ✓ To increase financial support (such as scholarships or waiver of school fees) for disadvantaged students. ✓ To consider the conditionality of high school graduation
	Access to educational opportunities for disadvantaged children (such as children from poor families and minority groups, and children with disabilities) is limited.	✓ There is a lack of support to accommodate them (waiver of school fees, scholarships, considerations for special instructions) ✓ There is a shortage of schools offering inclusive education ✓ There is a shortage of schools and teachers in ethnic minority areas.	✓ To ensure that all schools can offer inclusive education. ✓ To encourage mainstream classes to introduce inclusive education/ Provide a course at EC for inclusive education ✓ To increase the number of schools and teachers in ethnic minority areas.

Access			
Category	**Critical Issues**	**Causes**	**Recommendations**
	There is a shortage of opportunities for dropped out children to continue education.	✓ NFE equivalency programmes are limited at the primary level ✓ The provision of NFE programmes is constrained due to its dependency on NGOs and private donations	✓ To increase equivalency programmes at the secondary level/ and provide ways to get TVET and jobs ✓ To establish a system to implement NFE with government budget allocation
Teacher Development and Deployment	Some regions do not have TTIs in their localities	✓ There is a lack of prospective teachers in rural agricultural areas due to the low education level in such areas ✓ There is a shortage of ECs to supply primary and secondary teachers (Only 20 ECs exist in the whole country) ✓ There is a shortage of IOEs offering BoE to supply high school teachers (Only 2 IOEs exist in the whole country)	✓ To establish an EC in every State/Region ✓ To lesson admission requirements for students from rural agricultural areas to enter TTIs
	Only limited training opportunities exist for minority students to become teachers	✓ It is difficult for minority students to qualify in Myanmar language to enter TTIs ✓ The capacity of UDNR under the Ministry of Border Affaires is limited.	✓ To establish a course focusing on border region education at each EC ✓ To expand the capacity (facilities and teaching staff) of UDNR
	There is a shortage of teachers deployed to remote areas.	✓ There is a lack of incentives for qualified teachers to work in remote areas.	✓ To revise and improve the incentives and conditions for teachers who are assigned in remote areas.

Quality			
Category	**Critical Issues**	**Causes**	**Recommendations**
Varying/Uneven School Quality	The school quality varies significantly across different types of schools (such as branch schools, affiliated schools and monastery schools), especially due to the reliance on unqualified and untrained teachers.	✓ The actions taken for the purpose of increasing access to education for disadvantaged groups do not pay enough attention to ensure quality and promotion to higher grades	✓ To develop a plan to phase out branch schools, affiliated schools and monastery schools, which do not offer classes to complete the basic education level.
Curriculum and Teaching	The contents of textbooks have not been revised for a long time.	✓ There is no curriculum framework to ensure consistent textbook revisions. ✓ There is no curriculum review system to regularly and strategically update and improve the curriculum. ✓ There are not enough human resources who have knowledge and experiences of curriculum reform	✓ To develop a curriculum framework and to revise textbooks based on the framework ✓ To develop regulations to conduct regular curriculum reviews ✓ To implement regular curriculum reviews ✓ To train personnel who can involve in curriculum reform
	The classroom teaching practice is still dominated by rote-learning.	✓ The class size is too large (especially in urban areas) to enable CCA practice. ✓ Most of the current examination questions are heavily focused on knowledge acquisition. ✓ Teachers are still practicing a teacher-centered approach in classroom teaching. ✓ High schools use English, resulting in difficulty for teachers	✓ To increase the number of classes and teachers ✓ To diversify contents and levels of questions used in examinations ✓ To further promote CCA through INSET ✓ To consider the appropriate teaching language at high schools (e.g. use English only for specific terms)

Quality			
Category	**Critical Issues**	**Causes**	**Recommendations**
Classroom environments	There is a lack of quality assurance mechanism for classroom environments (such as class sizes).	✓ The existing criteria for approving school establishment do not include adequate standards on quality.	✓ To include standards concerning quality into the criteria for approving school establishment.
Issues concerning teacher quality	Professional competencies among teachers need to be strengthened.	✓ The existing promotion system of teachers does not promote teachers within the same education level but transfer them towards the upper level schools (such as promotion from a primary school to a secondary school) ✓ There is no regular provision of INSET. ✓ There is a absence of teacher development policy ✓ Teacher training and evaluation are not based on professional competency ✓ There is a lack of personnel specialized in professional teacher education curriculum development	✓ To establish a promotion system based on professional competencies to ensure teacher quality at each level of education ✓ To establish a dedicated section/organization for INSET ✓ To develop a teacher development policy ✓ To establish professional competencies for teachers ✓ To develop teacher education curriculum ✓ To develop human resources specialized in professional teacher education
	Teachers have difficulty upgrading their professional competencies.	✓ Due to the absence of teacher development policy, there is no budget allocated for regular INSET and CPD ✓ There is a lack of opportunities and facilities for teacher training especially in rural areas ✓ The period of teacher training is relatively shorter among ASEAN countries	✓ To develop a policy on INSET and a framework of CPD as part of a teacher development policy ✓ To allocate appropriate budget for INSET/CPD based on the above policy ✓ To establish a teacher training center at each region/state level ✓ To examine the period of teacher training

Quality			
Category	**Critical Issues**	**Causes**	**Recommendations**
	Teachers are not equipped with skills needed to deal with the realities in the classroom/school.	✓ There is a gap between the existing PRESET curriculum (at IOEs and ECs) and the realities at school ✓ The existing PRESET curriculum is heavily focused on knowledge acquisition ✓ It has been 15 years since the last revision of the PRESET curriculum ✓ The teaching stuff of TTIs lack practical teaching experience.	✓ To revise the existing PRESET curriculum at IOEs and ECs based on the real classroom/school situations. ✓ To retrain the teaching stuff of TTIs according to the international standards (such as overseas training)

Management			
Category	**Critical Issues**	**Causes**	**Recommendations**
Laws and Policies	The existing laws and policies have become outdated and do not reflect the realities of basic education today, and no unified policy and guideline	✓ The existing laws have not been revised for a long time. ✓ There is a lack of coordination across ministries (such as different policy of pre-primary education between the MoE and the MoSWRR) ✓ Each ministry and institutions decide each policy and standard (establishment of schools, decision criterion of disadvantage, etc) ✓ Statistics/data from different ministries and institutions are not compatible or unified	✓ To revise and update the existing laws ✓ To establish decision making body to coordinate ministries, and set a clear vision ✓ To unify information/ data
School Inspection	The existing school inspection system has become a formality without meaningful feedbacks for quality improvement (For example, any official school	✓ There is a shortage of staff specialized in school inspection ✓ Different ministries which administer schools to not coordinated well with the MoE	✓ To develop school inspectors specialized in this function ✓ To reach an agreement across different ministries on conducting school inspection ✓ To establish a system to follow up on the

Management			
Category	**Critical Issues**	**Causes**	**Recommendations**
	inspection is not conducted at monastery schools)	✓ The existing school inspection only serves to monitor schools without any feedback to support school management and instructional improvement	results of school inspection ✓ To revise the existing school evaluation form
School-Based Management (SBM)	The head teachers do not have a clearly defined role and any support system on school management	✓ The role and authority of newly established DEOs are not clear, leading to confusions in administrative practices. ✓ Primary head teachers do not have adequately delegated authority	✓ To clearly redefine and decentralize authorities of head teachers, DEOs, and TEOs to support SBM

8.1.3 Technical and Vocational Education and Training (TVET)

Various ministries and private institutions are providing TVET in Myanmar, but it does not sufficiently meet the demand and has some gaps of access opportunity. Though remarkable progress has been made to establish TUs and GTHSs in all regions/states, some of those institutions have very few students, which indicates ineffective use of limited financial resources. Additionally, there are only limited numbers of TVET institutions which do not require the certificate of matriculation examination pass for entrance and capacities of annual intake in these institutions are also limited, though there are huge potential needs among technical workers. Furthermore, though it is not easy for poor students/family to bear required costs (such as accommodation, transport, materials for their assignment, etc); there are very few scholarships or supports for them.

Quality of TVET also needs some improvements. Most of TVET institutions are not providing practical training to students, due to the shortage/aging of equipments and teaching materials. As a result, teaching tends to focus more on knowledge than skills. In addition, TUs, GTCs, and GTIs are using a fixed national curriculum, which makes it difficult for students to meet the local requirements and needs. Furthermore, the qualifications of teachers in TUs, GTCs, and GTIs are still not very high and there are very few professors.

There are two main issues of management for TVET. Firstly, there are limited opportunities for the ministries to work cooperatively, resulting in different definitions of TVET. Each ministry has its own strategy, policy and implementation plan. It is recommended to review the functions and aims of the institutions, and a strategy to improve the whole TVET sector should be developed by an inter-ministry decision making body that could be harmonized with the industrial sector development plan. Since November 2012, CESR team has been organizing a periodical meeting called “the CESR round table discussion on TVET,” and various ministries and private institutions have begun sharing information and discussing the definition of TVET. Additionally, the amendment of Agriculture, Technical and Vocational Education Law should be completed as soon as possible to solve the problem of inconsistency between the law and actual conditions, by collaborative discussion among respective ministries. To do so, establishment of a decision making body for the development of new policy framework, law and development plan related to all TVET institutions need to be considered. The CESR round table discussion on TVET can be a good opportunity to discuss this issue.

Table 8-3 Critical Issues and Recommendations in TVET

Access			
Category	**Critical Issues**	**Causes**	**Recommendations**
Regional access gap	There is a significant TVET enrolment gap across regions.	✓ The number of students qualified to enter TUs in remote regions are limited. ✓ The number and location of TVET institutions in each region/state do not match the needs based on prospective student enrollments	✓ To analyze a unit cost per student at each TVET institution, and to consider merging institutions with higher costs by comparing the costs for building accommodation facilities, providing scholarships, etc
Lack of access to TVET	There is a gap between supplies of TVET programs and demands for middle-level technical workers.	✓ There is an acute shortage of governmental TVET institutions except for institutions under the MoST ✓ The existing private TVET institutions are small-scale.	✓ To expand TVET institutions targeting youth who exit from basic education ✓ To provide institutional support for enhancing private TVET institutions
Economically Disadvantaged Students	There is a lack of financial support for economically disadvantaged students.	✓ Only limited scholarships are offered ✓ Dormitories at some TVET institutions such as TUs have been closed. ✓ There is a limited number of institutions offering TVET courses targeting economically disadvantaged students	✓ To strengthen scholarship system ✓ To establish accommodation facilities for students coming from remote areas ✓ To support NPOs/NGOs to offer TVET courses targeting economically disadvantaged students (e.g. CVT is sending students to private companies to get practical experiences & some income)

Quality			
Category	**Critical Issues**	**Causes**	**Recommendations**
Curriculum	There is a lack of opportunities for students to gain practical skills and experience	✓ While the existing equipment has become outdated, there is a lack of budget to purchase new equipment ✓ Only limited opportunities exist to collaborate with local private companies.	✓ To increase equipment and facilities to ensure that students can acquire practical skills and experience ✓ To increase opportunities to collaborate with local private companies to offer OJT
	Teaching and learning is centered on rote learning of the fixed national curriculum	✓ The current examination questions are heavily focused on knowledge acquisition. ✓ There is a lack of capacity building support for the teaching staff and the institutions.	✓ To diversify types of examination questions ✓ To consider the introduction of flexible curricula based on the local needs, accompanied by measures to strengthen teacher capacity
Teacher Quality	The capacity of teaching staff needs to be strengthened.	✓ There is a lack of opportunities for the teaching staff to upgrade their skills (such as scholarships to study aboard) ✓ There is a lack of resources (such as new publications, internet) to keep up with new information ✓ The recent rapid increase of the number of TUs was not accompanied with adequate measures to ensure the quality of the teaching staff.	✓ To increase scholarships for the teaching staff to upgrade their skills ✓ To allocate more recourses (such as libraries and access to the Internet) to enable more access to new information
Reputation of graduates from TVET institutions	The private companies have low confidence and trust in TVET institutions.	✓ Due to the lack of appropriate skills and capacity of graduates from government TVET institutions, the private companies need to retrain them after they were hired. ✓ There is a shortage of accreditation bodies (such as NSSA) which can issue official certifications	✓ To increase the quality of TVET based though the recommended measures mentioned above ✓ To strengthen accreditation bodies (such as NSSA)

Management			
Category	**Critical Issues**	**Causes**	**Recommendations**
Coordination across relevant ministries and institutions	The levels and contents of TVET programs vary significantly due to the lack of coordination across relevant ministries and institutions.	✓ The definition of TVET is not commonly shared ✓ There is a lack of coordination across ministries on policy, strategy, and planning.	✓ To define and share a common definition of TVET across relevant ministries and institutions ✓ To establish a coordination mechanism across ministries on policy, strategy, and planning.
Laws and Policies	The existing laws and policies have become outdated and do not reflect the realities of TVET today.	✓ The existing laws have not been revised for a long time.	✓ To revise and update the existing laws with enough involvement of ministries ✓ To establish a decision making body

8.1.4 Higher Education

Aiming to improve access to Higher Education Institutions (HEIs), the GoM has increased the number of HEIs. As a result, currently at least one Arts and Science University, one Technological University and one Computer University exist at every State/Region. Recently, the number of students who pass the matriculation examination is more or less the same as the number of new freshmen every year. It might indicate that almost 100% of students who pass the matriculation examination and who are willing to continue to higher education can enter HEIs including Distance Education track. Under these circumstances, the GoM is planning to shift the focus of higher education sub-sector reform from access to quality. However, more than three quarters of students at HEIs enroll in Arts and Science Universities, which might have a gap between supply and demand of labor market. To analyze issues regarding access more thoroughly and consider their measures, first of all, it is strongly necessary to collect more reliable and comprehensive educational statistics, which covers a whole higher education sub-sector.

As for quality of higher education, teaching and learning is dominated by memorizing and rote learning and the current curriculum does not encourage application of knowledge into practice. The same standardized curriculum, syllabus, and textbooks authorized by the GoM are used across the country; therefore, they do not always match with the needs of local communities and labor market. Regarding research, a lack of teaching staff's research experience is revealed. This issue might be caused by inadequate research resources and opportunities, such as budget, equipment, academic conferences and journals, to support research activities, as well as teaching staff's low incentives to engage research activity. In addition, Quality Assurance System (QAS) that will assure quality of education and research of HEIs has not yet been established. To tackle these issues related to quality, it is recommended to establish QAS and implement various measures to be mentioned in the table below to enhance quality of education and research at firstly selected HEIs as a model case.

With respect to management, a lack of coordination across ministries administering HEIs on policy, strategy, and planning is a big issue. As a consequence, there is no documented policy or development plan illustrating an overall strategy on higher education sub-sector as a whole. HE statistics from different ministries are not comparable and fragmented. Each ministry administering HEIs seems not always to make policy decision based on evidence or statistical analysis. Concerning HEIs, they do not have autonomy; therefore, they have less experience of developing and implementing their autonomous strategy, planning and management. The delegation of autonomy to HEIs is currently under discussion for the new higher education law development. Considering these, it is recommended to start with delegating autonomy to a selected few HEIs on a pilot basis and train the management staff at the pilot HEIs in order to realize autonomous operations.

Table 8-4 Critical Issues and Recommendations in Higher Education

Access			
Category	**Critical Issues**	**Causes**	**Recommendations**
Demand-supply gap in courses offered by HEIs	There are very few HEIs that offer highly demanded courses and thus limiting access to these courses. (There is a gap between demands from the labor markets and supplies of courses by HEIs)	✓ There has been no analysis on the demand and supply gap in the labor market to identify appropriate fields of study that match with the employment prospects of the graduates. ✓ Lack of integrated statistics on higher education across ministries makes it difficult to analyze the entire higher education sector and to identify an appropriate balance of fields of study, and numbers of HEIs/students. ✓ Private universities which can readily respond to the labor market needs are not allowed to open in the country. ✓ Some fields of study have been deliberately discouraged by the government.	✓ To conduct an analysis on the demand and supply gap in the labor market and to identify appropriate fields of study, and the appropriate numbers of HEIs and students to match with market demands ✓ To establish accurate and integrated statistics on the entire higher education sector ✓ To consider allowing to open private universities with a proper legal framework.

Quality			
Category	**Critical Issues**	**Causes**	**Recommendations**
Curriculum	Graduates from HEIs do not attain enough knowledge or skills directly applicable to the workplace	✓ Teaching and learning is dominated by memorizing and rote learning. ✓ The existing curriculum does not encourage application of knowledge into practice ✓ Teaching staff have considerably few chances to know about industry and labor market trends due to a lack of opportunities to make connections outside of HEIs; therefore it is quite difficult to reflect those trends to the teaching contents. ✓ The learning environment lacks resources (such as laboratories) to support application of knowledge ✓ Teaching staff are not proficient enough in English to utilize textbooks written in English ✓ The same standardized curriculum, syllabus, and textbooks authorized by the government are in use across the country, and difficult to align with local needs	✓ To revise the existing curriculum, syllabus, and textbooks to encourage application of knowledge into practice ✓ To allocate appropriate resources (budget and HR) to strengthen the learning environment to support application of knowledge ✓ To introduce mechanisms to obtain practical experiences outside of HEIs ✓ To increase opportunities to do collaborative activities with outside of HEIs, for example, a private sector by establishing an external relation office and a job placement office at HEI
Teaching Staff	The capacity of teaching staff needs to be strengthened.	✓ The teaching staff do not have the capacity to develop curriculum, syllabus, and textbooks, because the same standardized curriculum, syllabus, and textbooks authorized by the government are in use across the country. ✓ The teaching staff has limited opportunities for professional development. ✓ The teaching staff has limited real work	✓ To increase opportunities for the teaching staff to study at HEIs or research instates abroad. ✓ To strengthen academic resources (access to latest journals and publications, more human resources) ✓ To increase teaching staff with real work experience ✓ To ease age limit restrictions to become a permanent teaching staff

Quality			
Category	**Critical Issues**	**Causes**	**Recommendations**
		experience to apply knowledge into practice. ✓ Due to the lower salary levels of the teaching staff than in the private sector, it is difficult to get highly qualified personnel. ✓ Teaching staff are not proficient enough in English to utilize textbooks written in English ✓ Teaching staff promotion is mainly determined by length of service and academic degrees held ✓ The number of HEIs under the MoST has rapidly increased within a decade; as a result, the number of senior and experienced teaching staff is limited	✓ To increase opportunities to do collaborative activities with outside of HEIs, for example, a private sector by establishing an external relation office and a job placement office at HEI ✓ To add various factors, such as research achievements or assessment by students to the performance evaluation criteria of teaching staff
Research	Research functions at HEIs need to be strengthened.	✓ Teaching staff do not have enough research experience. ✓ Resources and opportunities to support research activities (amount of budget as well as disburse system of budget, equipment, academic conferences and journals, etc.) are not adequate. ✓ Teaching staff are not given incentives to engage in research.	✓ To increase opportunities for the teaching staff to study at HEIs or research instates abroad. ✓ To strengthen academic resources (access to latest journals and publications, more human resources) ✓ To allocate more budget for research, to streamline the research budget proposal process and to establish competitive research fund ✓ To reflect achievements in research activities in the performance evaluation of the teaching staff

Quality			
Category	**Critical Issues**	**Causes**	**Recommendations**
Quality Assurance	There is no quality assurance system for HEIs, creating a hurdle for credit transfers among different HEIs within and outside of the country.	✓ Though the need for a QA system has been recognized, no organizational arrangements (for human resources and budget) have been taken to establish a QA system.	✓ To establish a QA system through necessary organizational arrangements.

Management			
Category	**Critical Issues**	**Causes**	**Recommendations**
Coordination across Ministries administering HEIs	There is a lack of coordination across ministries administering HEIs	✓ There is a lack of clear demarcation of roles across ministries on policy, strategy, and planning. ✓ There is no comprehensive development strategy and plan in the HE sector. ✓ HE statistics from different ministries are not compatible and fragmented ✓ There is no established Quality Assurance system ✓ The existing law governing HE has become obsolete to reflect the current realities of the country	✓ To establish a coordination mechanism with clear demarcation of roles across ministries on policy, strategy, and planning. ✓ To establish accurate and integrated statistics on the entire higher education sector ✓ To establish a QA system ✓ To enact a new Higher Education Law and manage HEIs accordingly
Laws and Policies	The existing laws and policies have become outdated and do not reflect the realities of higher education today.		
Management capacity of Ministries administering HEIs	The policies need to be established based on evidences	✓ The capacity of policy making at ministries is not adequate ✓ HE statistics is not very accurate and integrated, resulting in policy decisions not based on statistical analysis.	✓ To increase opportunities for the relevant ministry staff to develop capacity on policy making and planning, through domestic/ oversea training ✓ To establish accurate and integrated statistics

Management			
Category	**Critical Issues**	**Causes**	**Recommendations**
Management Capacity of HEIs	The management capacity of HEIs needs to be strengthened.	✓ HEIs do not have autonomy. ✓ A regular nation-wide rotation of the teaching staff prevents the accumulation of institutional knowledge at each HEI.	✓ To delegate autonomy to a selected few HEIs on a pilot basis. ✓ To train the management staff at the pilot HEIs on development of autonomous strategy, planning, and management and to implement such strategy, planning and management on a pilot basis.
Degree system	Degree system and structure vary among HEIs under different ministries and are complicated	✓ Coordination on degree system and structure among different ministries administering HEIs is not adequate	✓ To coordinate degree system and structure among ministries and compile official documents describing the system and structure

8.2 Common Issues across All Subsectors

Through examining the overview of each subsector in the previous sections, the following set of constraints is found as common to all subsectors.

Issues concerning access : There is a lack of access to educational opportunities for disadvantaged groups (such as children and youth from poor or minority families), and thus, limiting their chances for continuing education.

Issues concerning quality : School curricula and teachers competencies have not been adequately upgraded to respond to the changing needs of the labor market.

Issues concerning management : 1) The relevant ministries, administrative bodies and schools are not fully serving their intended functions without appropriate coordination and demarcation of roles to serve for a unified and coordinated purpose; and 2) The existing laws and policies have become outdated and do not reflect the realities of the education sector today.

8.3 Core Issues to be addressed in the Education Sector of Myanmar

What, then, are the causes of these common issues identified above? The main causes can be narrowed down to the following five points:

1. The existing education laws (e.g. Basic Education Law of 1973, Agriculture, Technical and Vocational Education Law, and the University Education Law of 1973) have become outdated and do not reflect the realities of education today and do not adequately serve as a basis for policy decisions.

2. The past directives and measures implemented in the education sector are fragmented and uncoordinated (not based on a unified principle with linkages to different subsector issues).

3. The past educational policy decisions have not been based on evidence or analysis due to the lack of reliable and comprehensive statistics.

4. The current education system does not have a mechanism to continuously upgrade itself to respond to the needs of the world of work.

5. The relevant ministries, administrative bodies and schools are not fully serving their intended functions without appropriate coordination and demarcation of roles to contribute to a unified purpose.

These core overarching issues above need to be addressed as priority areas for the education reform in Myanmar.

8.4 Recommendations for the Education Reform in Myanmar

Finally, this section presents the set of recommendations for the education reform in Myanmar, specifically to address the core issues identified in the previous section.

Core Issues	Recommendations
1. The existing education laws have become outdated and do not reflect the realities of education today and do not adequately serve as a basis for policy decisions.	✓ To revise Basic Education Law, Agriculture, Technical and Vocational Education Law and University Education Law at the earliest opportunity ✓ To review systemic, policy issues in a comprehensive manner in the process of CESR, especially urgent attention should be paid to the school system reform (e.g. a comparative analysis of 6+3+3 and others systems） ✓ To establish reliable and comprehensive education statistics to analyse and capture actual needs.
2. The past directives and measures implemented in the education sector are fragmented and uncoordinated (not based on a unified principle with linkages to different subsector issues).	
3. The past educational policy decisions have not been based on evidence or analysis due to the lack of reliable and comprehensive statistics.	✓ To review existing plans and policy documents to ensure no policy gaps exist ✓ Based on the above, to prepare a comprehensive government policy framework as the basis for the costed education sector plan, which is to be developed through CESR ✓ To ensure that the above costed education sector plan is consistent with the government policy framework
4. The current education system does not have a mechanism to continuously upgrade itself to respond to the needs of the world of work.	✓ To upgrade the existing curricula and examinations by shifting the focus from knowledge acquisition to critical thinking and problem-solving skills in order to better respond to the needs of today's labor market. ✓ To upgrade the existing TVET and higher education programs by increasing opportunities for practical experiences through collaboration with private companies to make them more relevant to the world of work. ✓ To develop and implement a continuous capacity development program for teachers/teaching staff to enable them to teach upgraded curricula and programs.
5. The relevant ministries, administrative bodies and schools are not fully serving their intended functions without appropriate coordination and demarcation of roles to contribute to a unified purpose.	✓ To consolidate a unified education policy and guideline in Myanmar. ✓ To redefine roles and responsibilities of different government bodies base on the unified policy and to reorganize the administrative structure accordingly. ✓ To develop and implement a continuous capacity development program for each staff according to their roles and responsibilities and to assess their performance against a set of quality standards.

In summary, for Myanmar to overcome current challenges and to proceed with the education reform, the important key is to formulate evidence-based policy decisions while ensuring coherence in major reform agenda (including a school system reform, a curriculum reform as well as decentralization).

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APPENDICES

APPENDICES

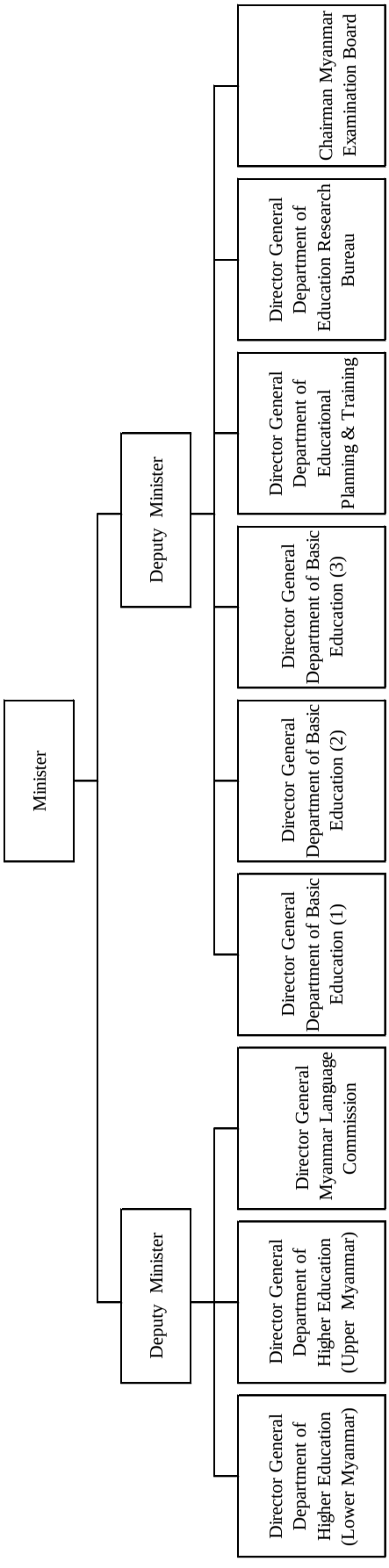
APPENDICES 2

APPENDIX 2-1: Pupil Teacher Ratio in Myanmar (August 2012)

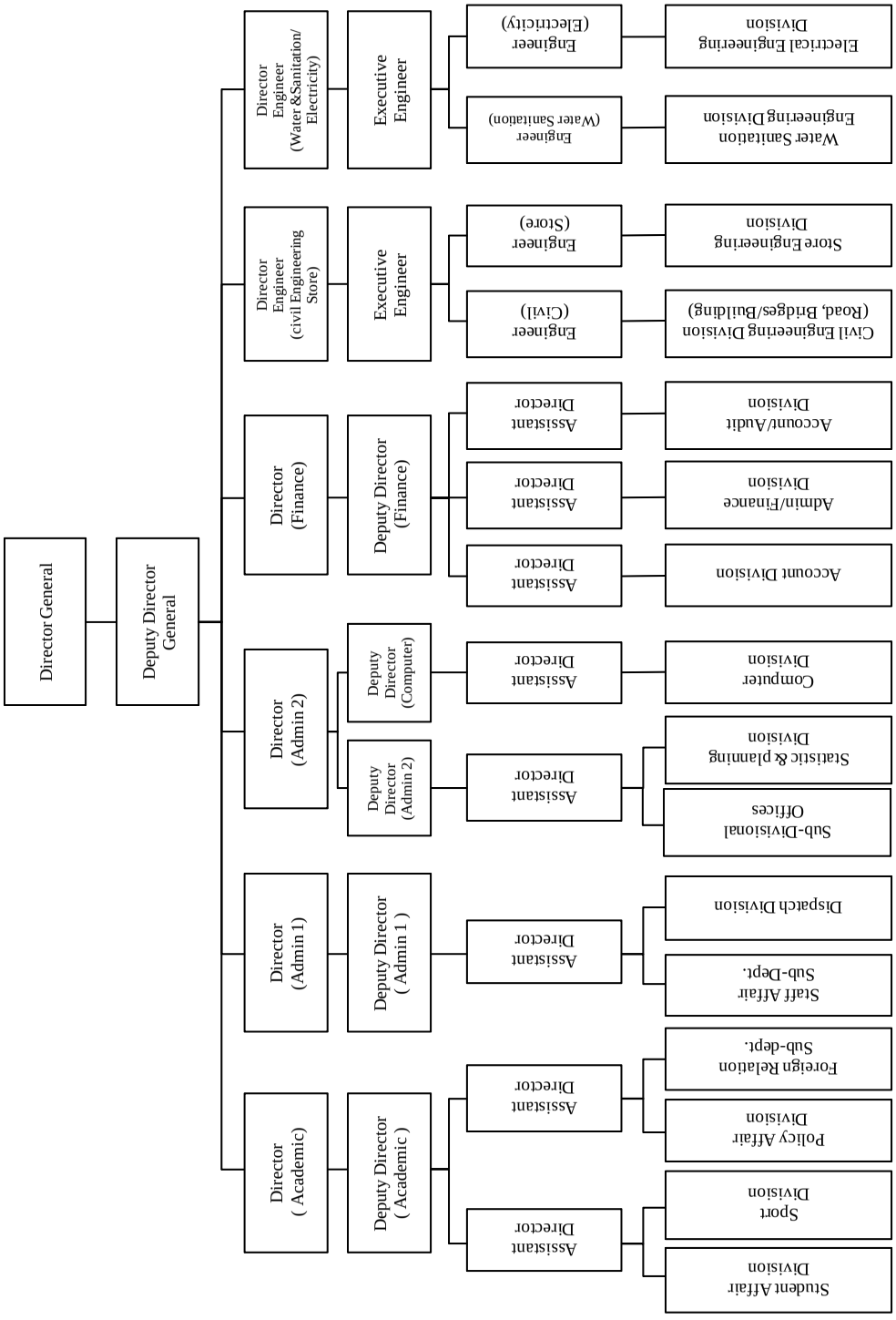
State/region	Primary School	Middle School	High School
Kayin	34.1	42.1	23.8
Tainintheryi	34.9	42.8	25.6
Bago (East)	28.7	39.9	23.9
Bago (West)	17.9	26.6	18.6
Mon	30.5	33.7	21.4
Yakhine	35.2	33.7	20.8
Ayeyarwaddy	32.9	43.6	26.8
DBE 1	**30.6**	**37.9**	**23.5**
Kachin	28.5	43.4	29.4
Kayar	26.7	33.5	23.2
Chin	21.8	33.6	18.9
Sagaing	27.1	35.3	26.6
Magway	23.8	37.7	26.8
Mandalay	25.8	33.6	30.4
Shan (S)	29.0	38.1	23.0
Shan (N)	33.4	37.3	21.3
Shan (E)	28.8	42.1	19.3
Naypyidaw	34.7	37.3	27.0
DBE 2	**27.0**	**36.3**	**26.6**
Yangon	30.9	32.9	27.7
DBE 3	**30.9**	**32.9**	**27.7**
Union	28.9	36.3	25.7

Source: DEPT

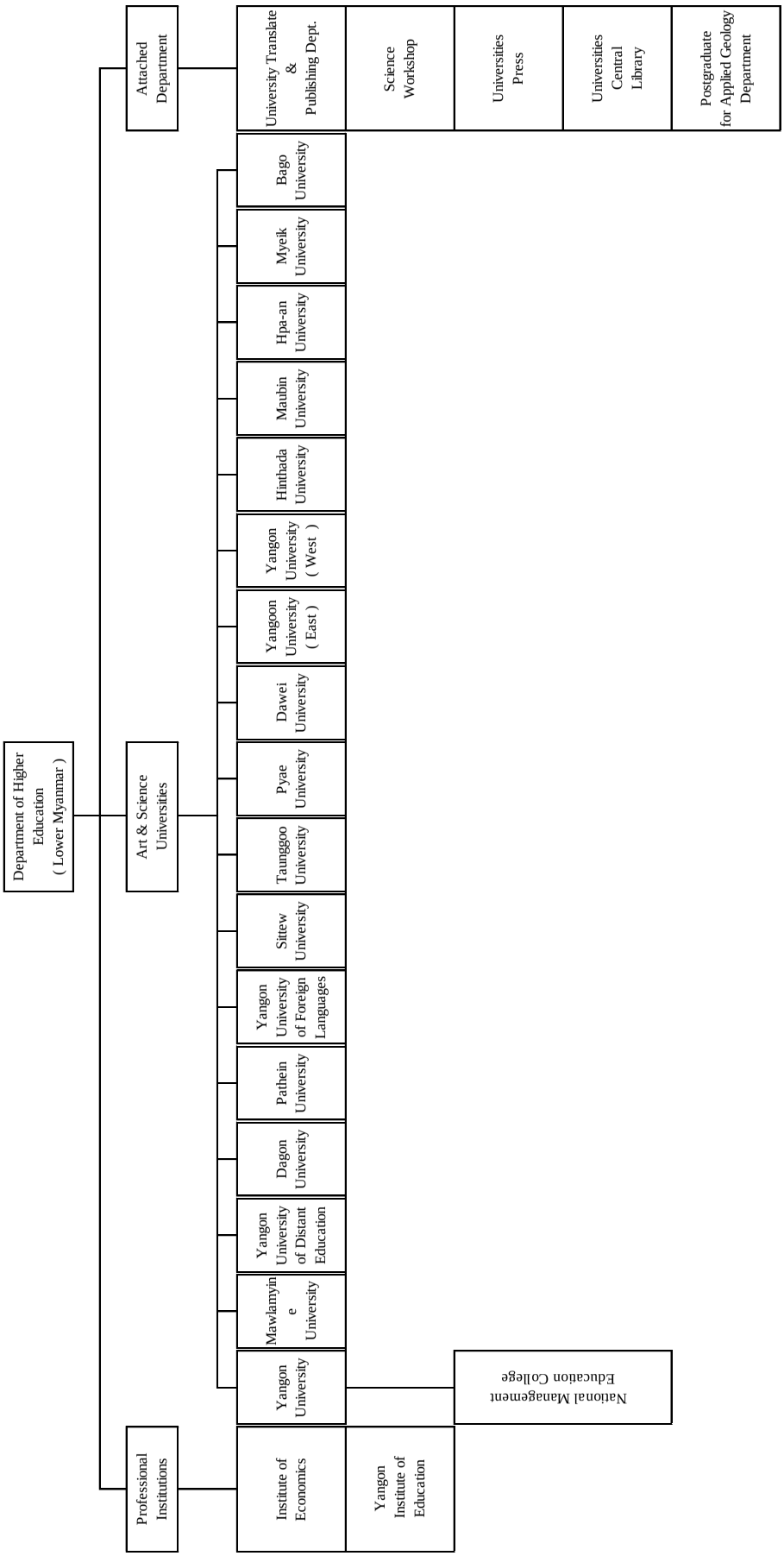
APPENDIX 2-2 : Structure of Ministry of Education



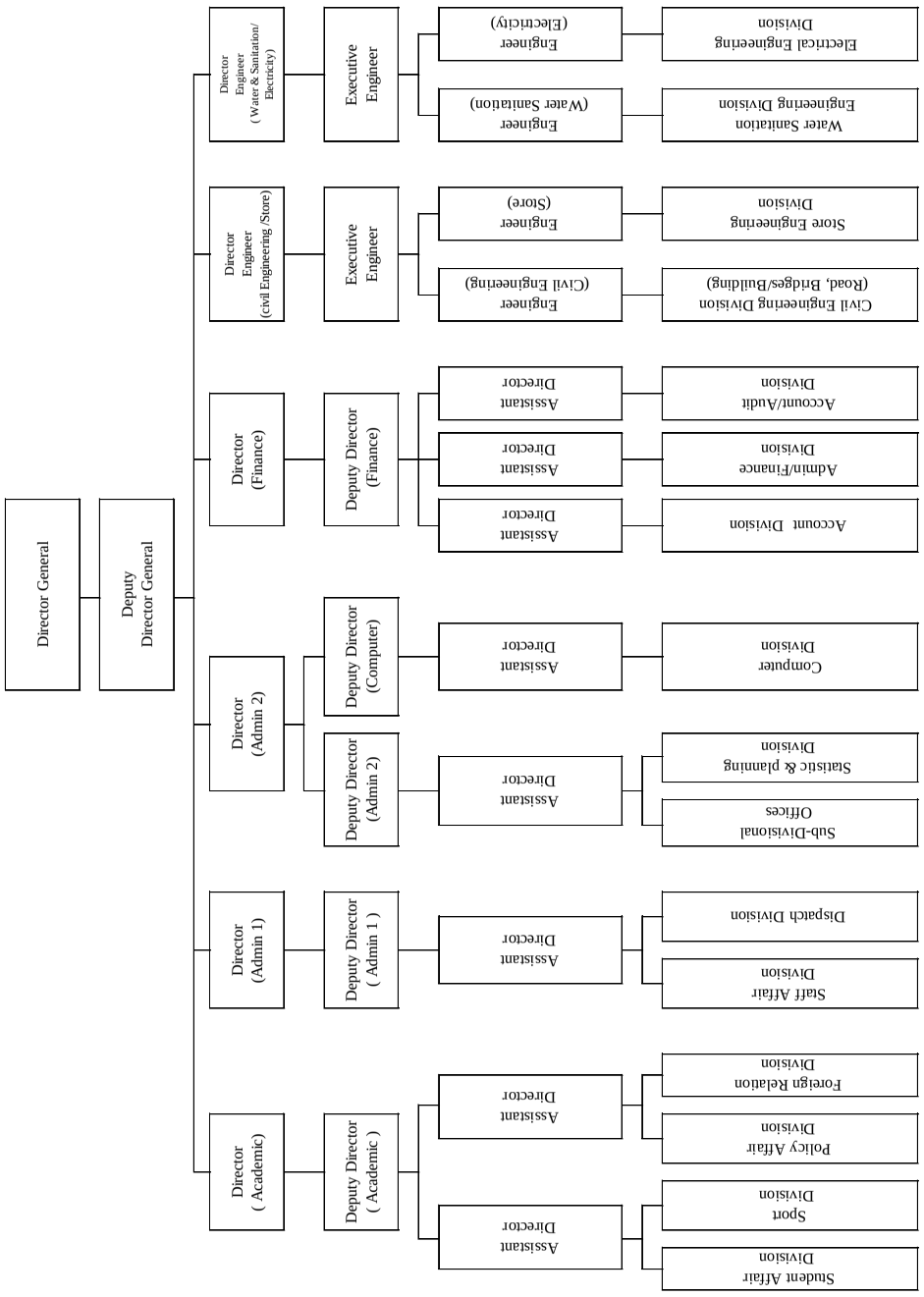
APPENDIX 2-3: Structure of Department of Higher Education (Lower Myanmar)



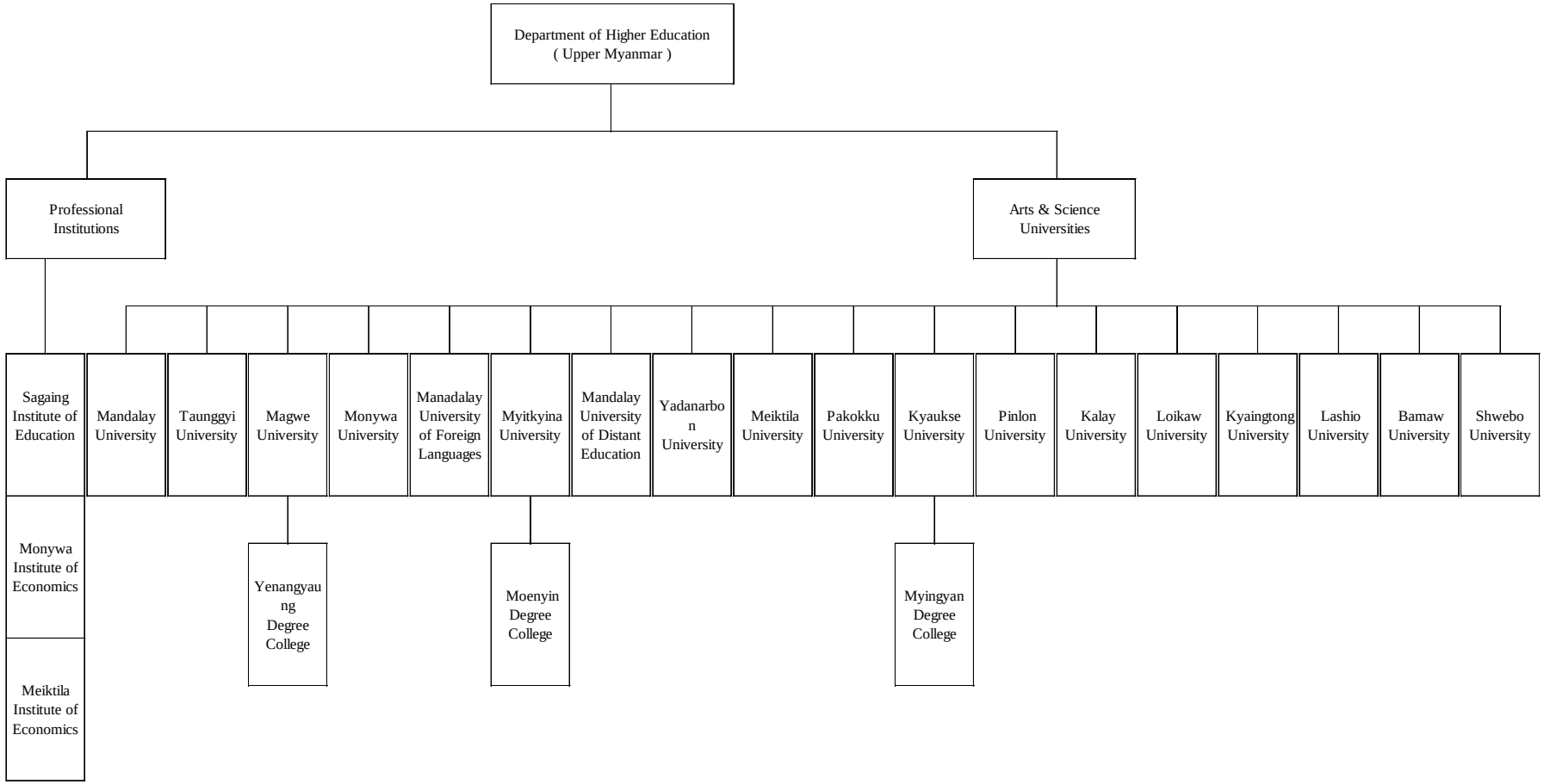
APPENDIX 2-4: Universities/ Degree Colleges & Departments under the Department of Higher Education (Lower Myanmar)



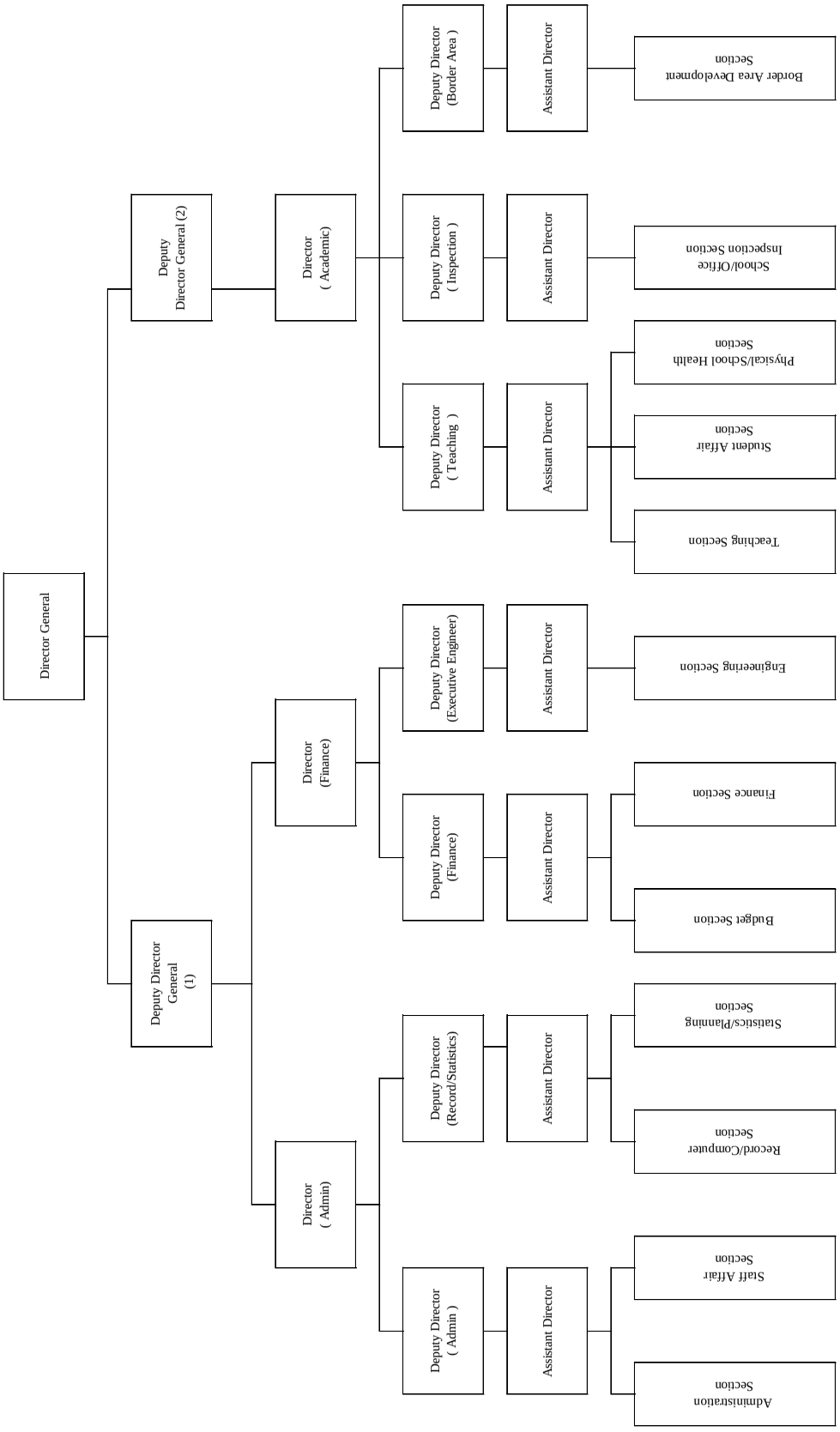
APPENDIX 2-5: Structure of Department of Higher Education (Upper Myanmar)



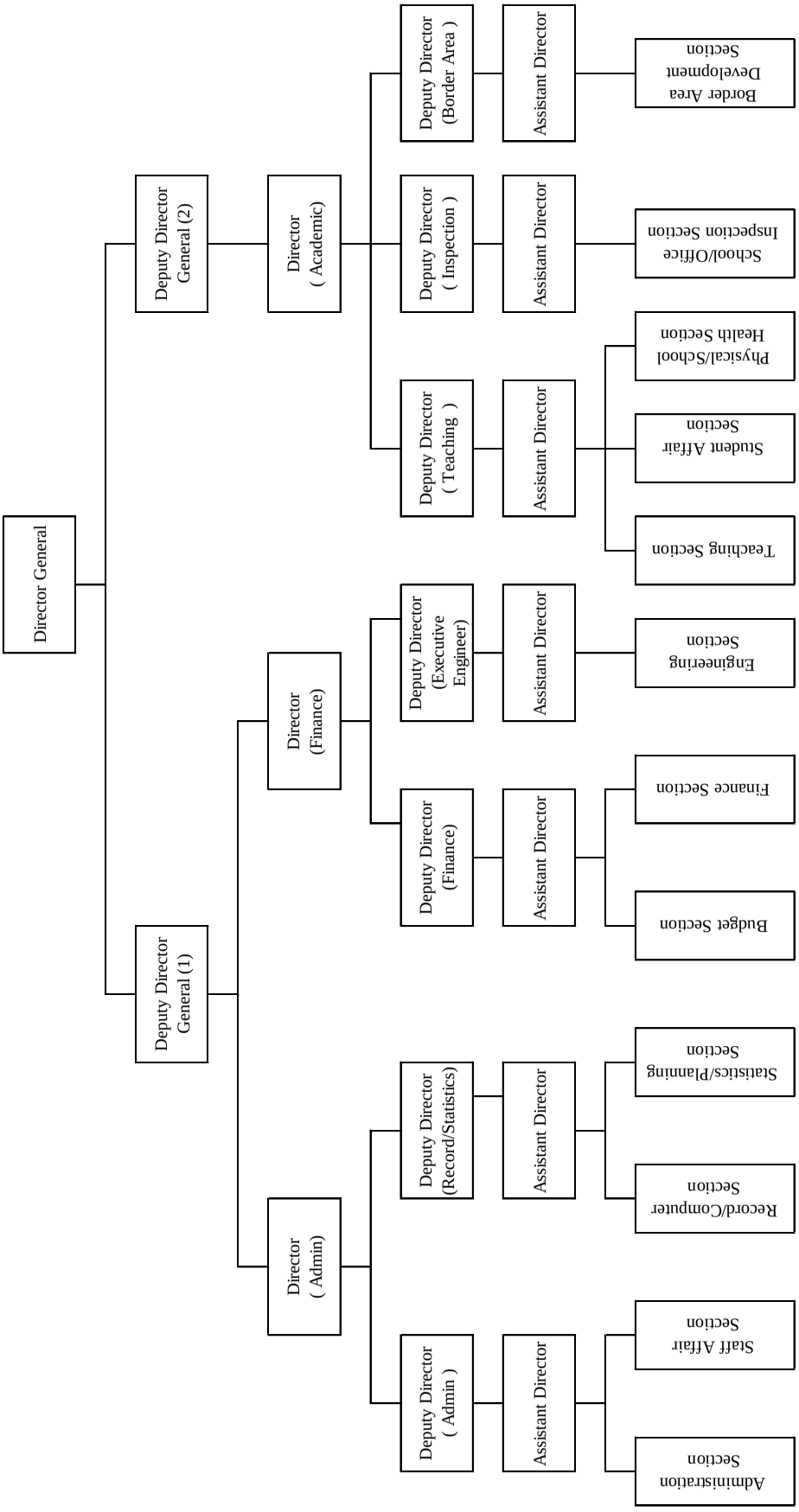
APPENDIX 2-6: Universities and Colleges under the department of Higher Education (Upper Myanmar)



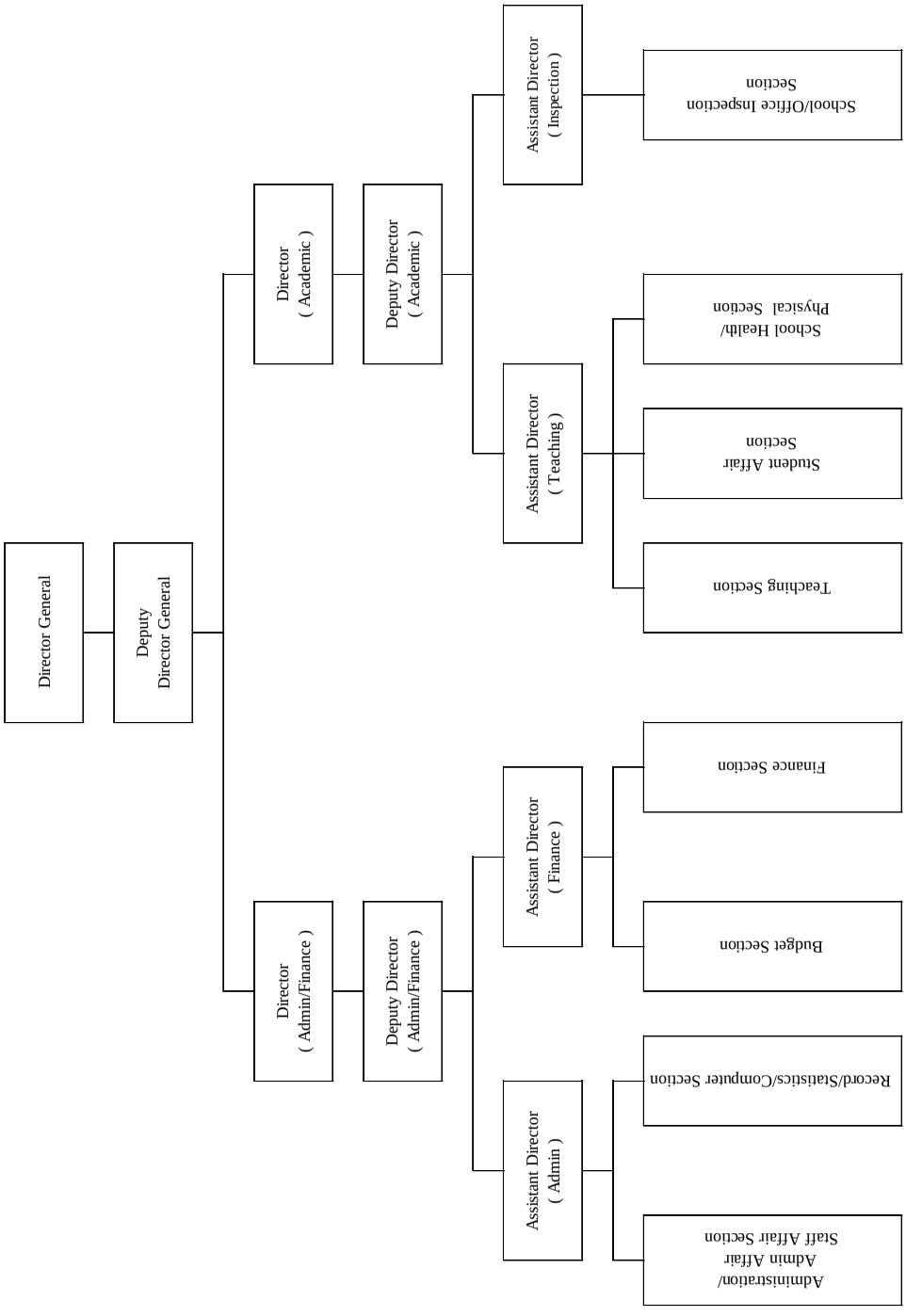
APPENDIX 2-7: Structure of Department of Basic Education 1 (DBE 1)



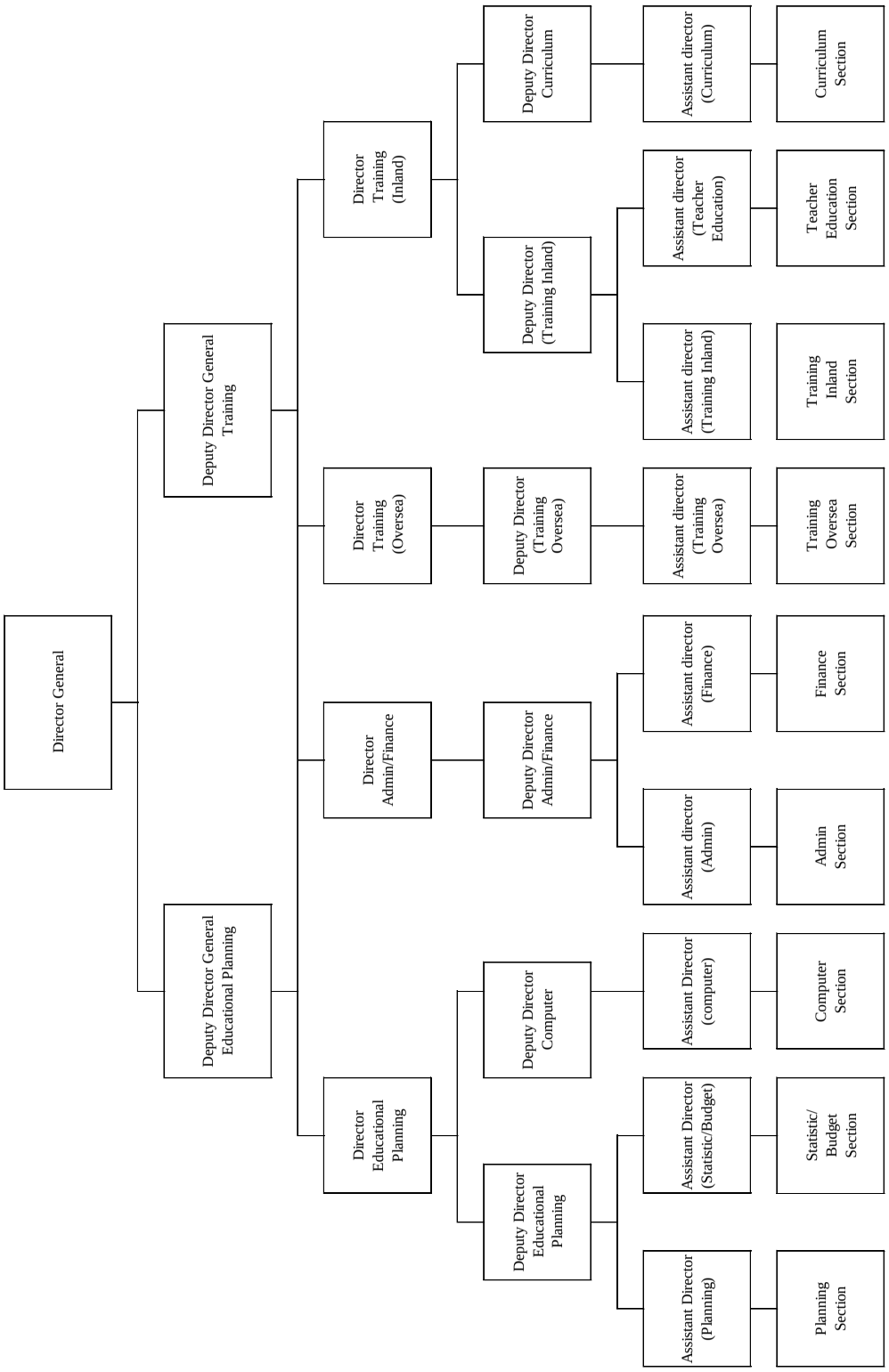
APPENDIX 2-8: Structure of Department of Basic Education 2 (DBE 2)



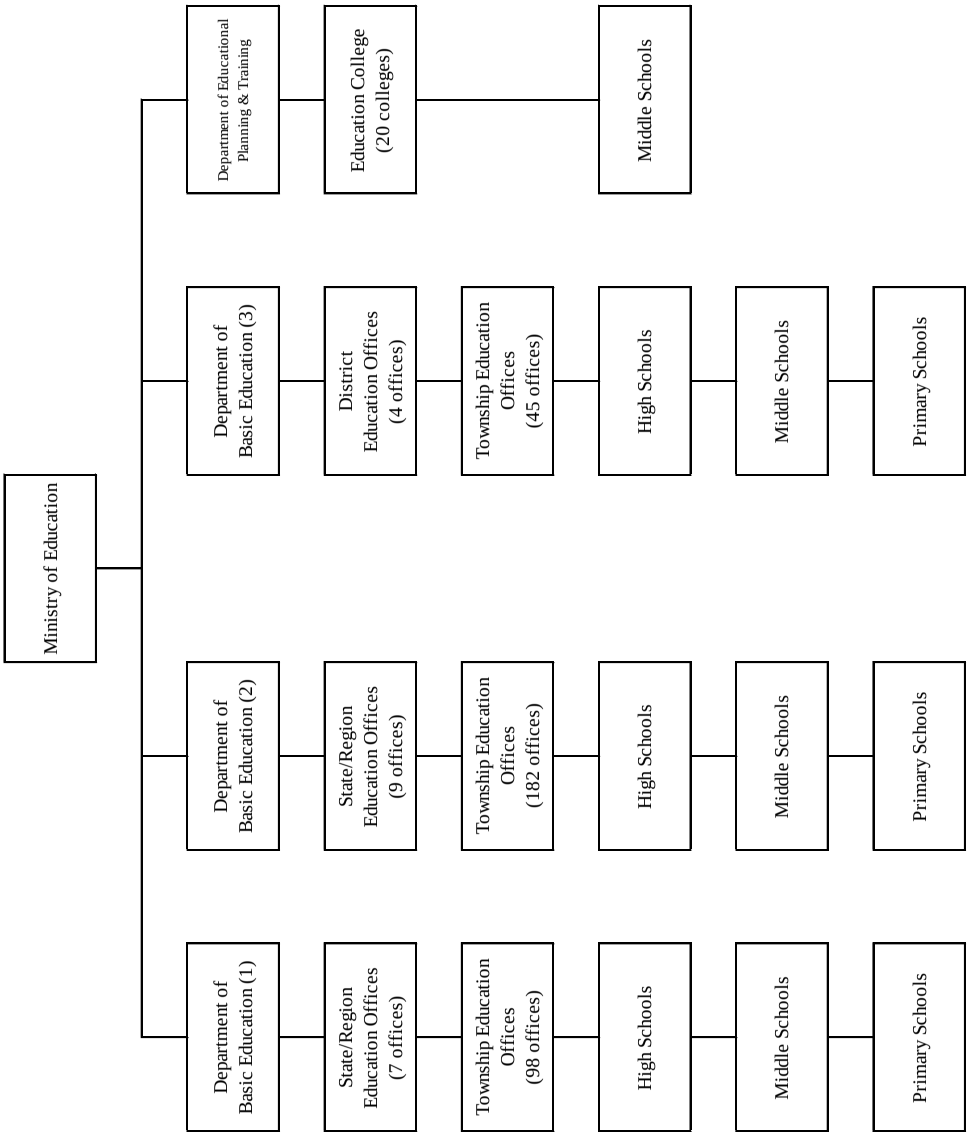
APPENDIX 2-9: Structure of Department of Basic Education 3 (DBE 3)



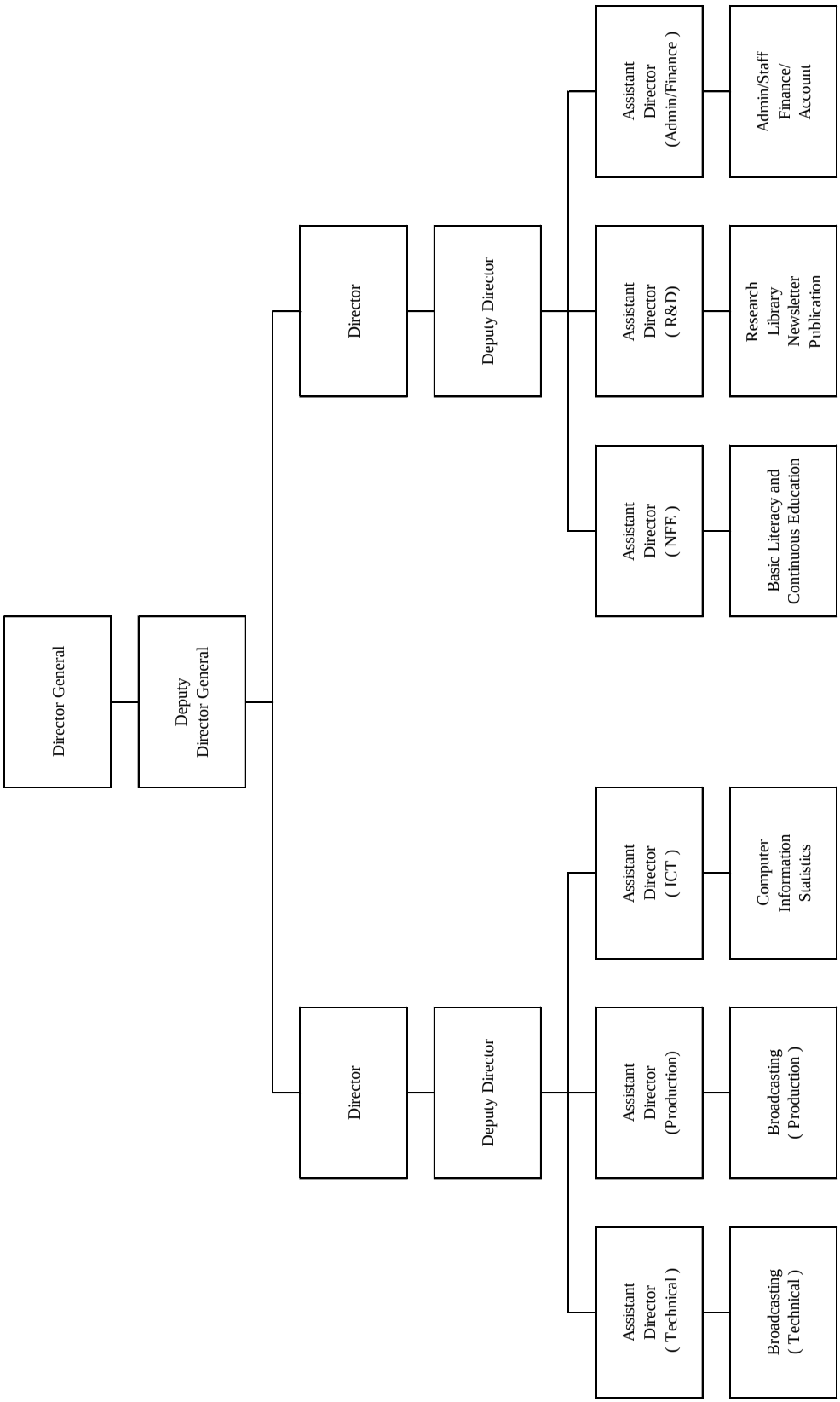
APPENDIX 2-10: Structure of Department of Educational Planning and Training (DEPT)



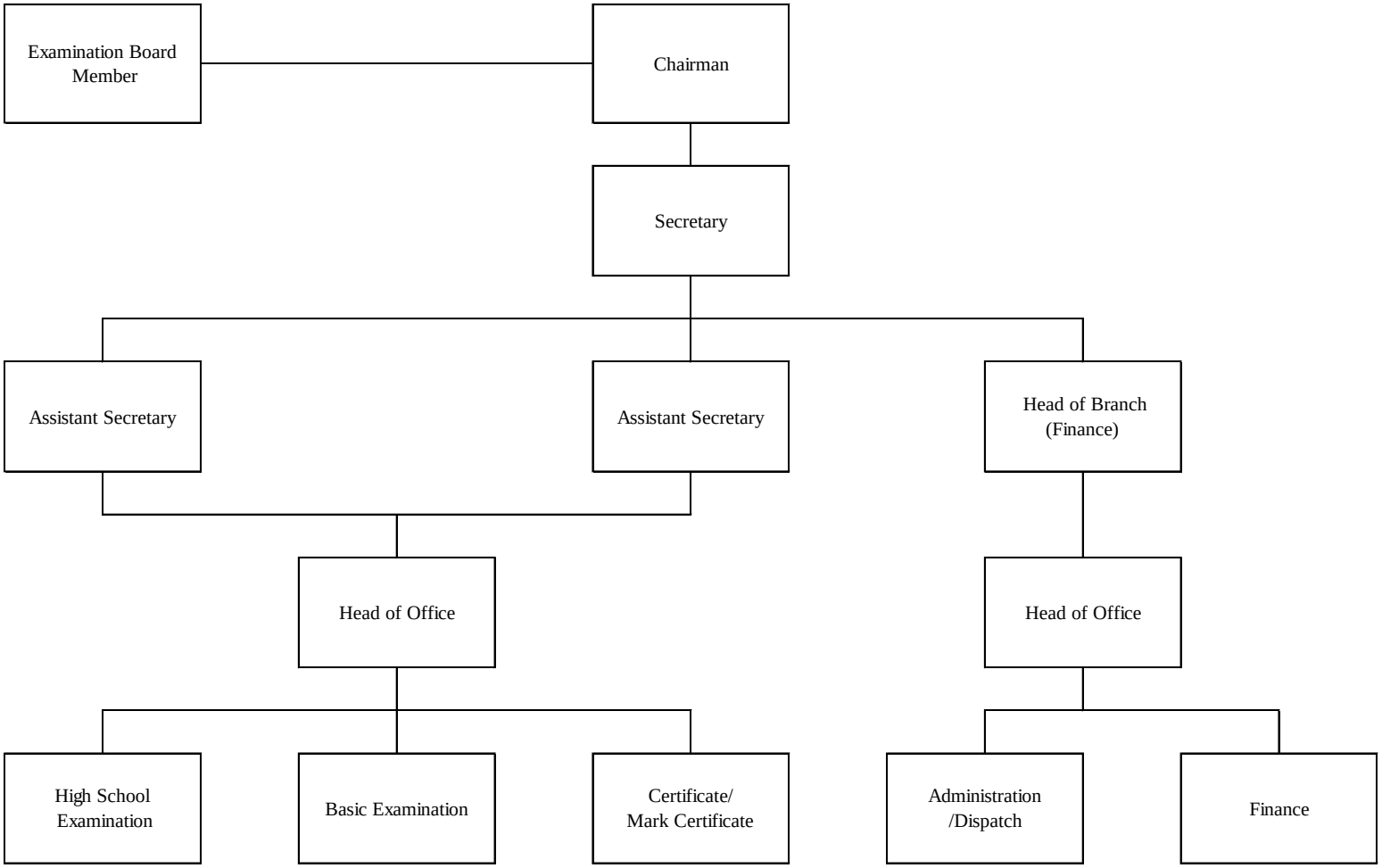
APPENDIX 2-11: Structure of Basic Education



APPENDIX 2-12: Structure of Myanmar Education Research Bureau



APPENDIX 2-13: Structure of Myanmar Examination Board



APPENDICES 3

APPENDIX 3-1: Summary of Education Statistics

1. Number of Schools

		Number of Schools												
		High Schools				Middle Schools				Post Primary Schools	Primary Schools			
	State/Region	Main	Branch	Affiliate	Total	Main	Branch	Affiliate	Total		Main	Branch	Affiliate	Total
1	Kayin	43	37	0	80	42	34	2	78	196	978	52	17	1,047
2	Tainintheryi	46	29	3	78	37	48	26	111	209	715	24	20	759
3	Bago (East)	71	69	1	141	42	106	16	164	400	1,404	93	26	1,523
4	Bago (West)	54	59	1	114	59	54	11	124	312	1,698	58	16	1,772
5	Mon	68	46	1	115	52	31	1	84	176	996	25	16	1,037
6	Yakhine	69	67	6	142	65	68	8	141	351	2,087	21	15	2,123
7	Ayeyarwaddy	135	166	19	320	94	301	134	529	785	4,510	285	128	4,923
	DBE 1	**486**	**473**	**31**	**990**	**391**	**642**	**198**	**1,231**	**2,429**	**12,388**	**558**	**238**	**13,184**
8	Kachin	58	37	0	95	52	75	13	140	195	896	40	33	969
9	Kayar	14	5	0	19	30	4	0	34	32	303	3	16	322
10	Chin	30	30	0	60	54	34	0	88	352	677	8	38	723
11	Sagaing	126	128	15	269	78	445	44	567	1,007	2,441	320	276	3,037
12	Magway	88	114	7	209	76	215	57	348	819	2,513	73	72	2,658
13	Mandalay	143	94	12	249	112	223	7	342	598	2,709	82	37	2,828
14	Shan (S)	81	45	4	130	54	74	3	131	347	1,710	83	145	1,938
15	Shan (N)	64	34	1	99	50	61	1	112	245	1,235	134	156	1,525
16	Shan (E)	26	5	0	31	15	6	3	24	60	465	46	63	574
17	Naypyidaw	37	14	0	51	23	35	0	58	115	392	13	25	430
	DBE 2	**667**	**506**	**39**	**1,212**	**544**	**1,172**	**128**	**1,844**	**3,770**	**13,341**	**802**	**861**	**15,004**
18	Yangon	183	90	0	273	163	89	0	**252**	391	1,793	3	0	1,796
	DBE 3	**183**	**90**	**0**	**273**	**163**	**89**	**0**	**252**	**391**	**1,793**	**3**	**0**	**1,796**
	Total	**1,336**	**1,069**	**70**	**2,475**	**1,098**	**1,903**	**326**	**3,327**	**6,590**	**27,522**	**1,363**	**1,099**	**29,984**

Source: DEPT Statistics Department, August 2012

2. Number of Students and Teachers

	State/Region	Number of Students				Number of Teachers			
		High Schools	Middle Schools	Primary Schools	Total	High Schools	Middle Schools	Primary Schools	Total
1	Kayin	14322	66369	174066	254757	601	1578	5101	7280
2	Tainintheryi	17179	76823	188625	282627	670	1794	5405	7869
3	Bago (East)	39671	148199	337537	525407	1658	3711	11769	17138
4	Bago (West)	23624	82047	173509	279180	1269	3079	9696	14044
5	Mon	26184	103986	232754	362924	1221	3085	7620	11926
6	Yakhine	26683	99254	378426	504363	1280	2948	10758	14986
7	Ayeyarwaddy	79248	282189	831520	1192957	2954	6477	25268	34699
	DBE 1	**226911**	**858867**	**2316437**	**3402215**	**9653**	**22672**	**75617**	**107942**
8	Kachin	32746	109557	178479	320782	1113	2525	6272	9910
9	Kayar	5674	18276	34782	58732	245	546	1303	2094
10	Chin	9689	34529	72413	116631	513	1029	3328	4870
11	Sagaing	77843	295552	560056	933451	2926	8375	20643	31944
12	Magway	59875	210293	393684	663852	2231	5575	16576	24382
13	Mandalay	93630	304449	550826	948905	3085	9049	21327	33461
14	Shan (S)	27796	105174	244197	377167	1208	2763	8416	12387
15	Shan (N)	17870	74059	211375	303304	838	1988	6324	9150
16	Shan (E)	4817	20034	53801	78652	249	476	1870	2595
17	Naypyidaw	17004	61082	122435	200521	630	1636	3525	5791
	DBE 2	**346944**	**1233005**	**2422048**	**4001997**	**13038**	**33962**	**89584**	**136584**
18	Yangon	126090	344413	564601	1035104	4557	10477	18278	33312
	DBE 3	**126090**	**344413**	**564601**	**1035104**	**4557**	**10477**	**18278**	**33312**
	Total	**699945**	**2436285**	**5303086**	**8439316**	**27248**	**67111**	**183479**	**277838**

Source: DEPT Statistics Department, August 2012

APPENDIX 3-2: Results of Matriculation Examination

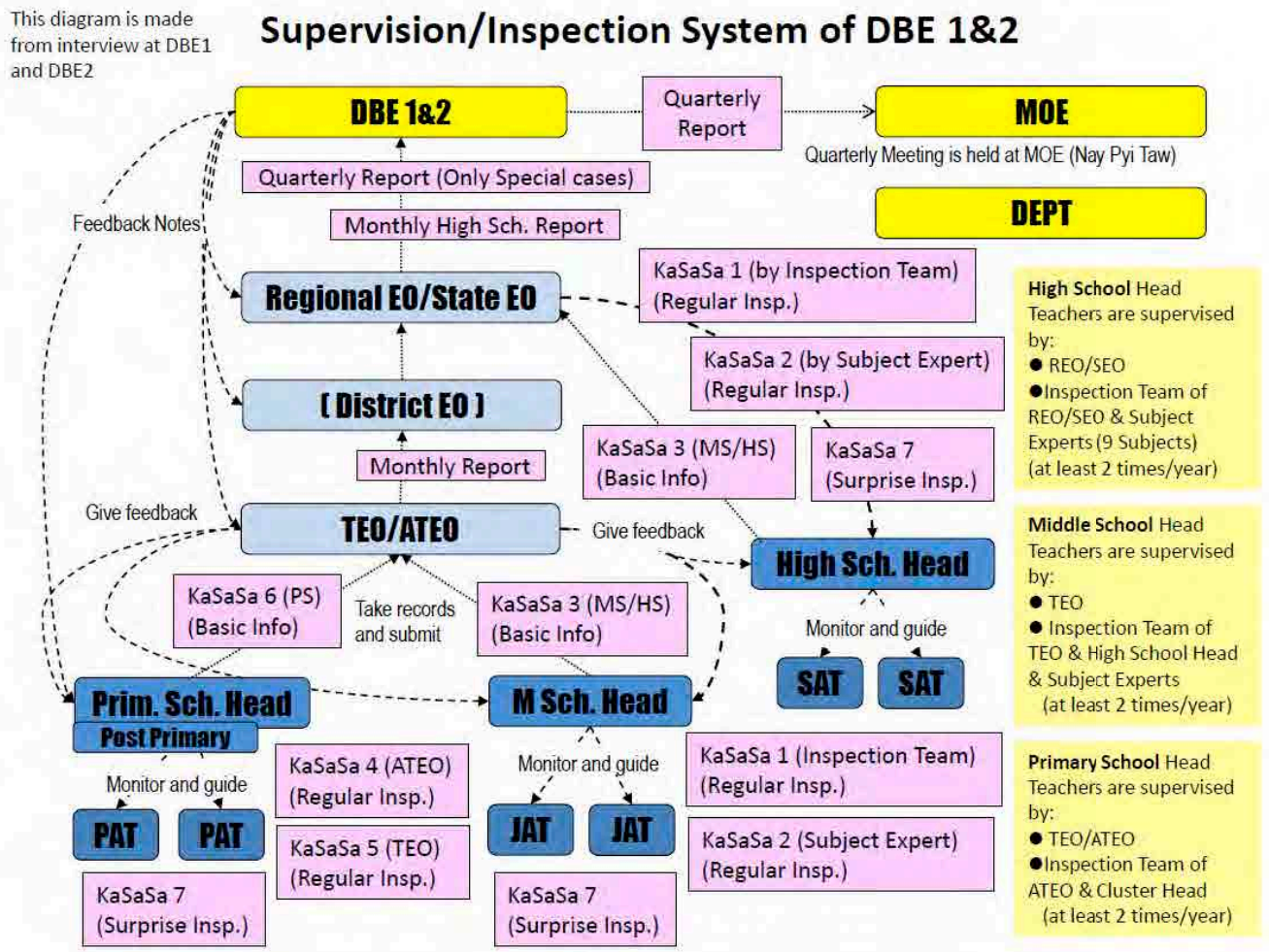
State/Region		Grade 11		
		Total	**Female**	**Male**
Kayin	G11 Enrolled Students	5,713	3,474	2,239
	Examinees	5,457	3,364	2,093
	Passed Students	1,842	1,182	660
	Pass Rate	33.75	35.14	31.53
Tanintharyi	G11 Enrolled Students	6,854	4,328	2,526
	Examinees	6,525	4,167	2,358
	Passed Students	2,411	1,582	829
	Pass Rate	36.95	37.96	35.16
Bago(East)	G11 Enrolled Students	17,426	9,283	8,143
	Examinees	16,868	9,115	7,753
	Passed Students	5,823	3,444	2,379
	Pass Rate	34.52	37.78	30.68
Bago(West)	G11 Enrolled Students	8,731	4,724	4,007
	Examinees	8,469	4,622	3,847
	Passed Students	3,239	1,964	1,275
	Pass Rate	38.25	42.49	33.14
Mon	G11 Enrolled Students	12,473	7,479	4,994
	Examinees	12,062	7,308	4,754
	Passed Students	5,358	3,369	1,989
	Pass Rate	44.42	46.10	41.84
Yakhine	G11 Enrolled Students	13,359	6,265	7,094
	Examinees	12,777	6,124	6,653
	Passed Students	3,968	1,892	2,076
	Pass Rate	31.06	30.89	31.20
Ayeyarwaddy	G11 Enrolled Students	35,540	19,105	16,435
	Examinees	35,097	18,840	16,257
	Passed Students	11,424	6,779	4,645
	Pass Rate	32.55	35.98	28.57
DBE(1)Tatal	G11 Enrolled Students	100,096	54,658	45,438
	Examinees	97,255	53,540	43,715
	Passed Students	34,065	20,212	13,853
	Pass Rate	35.03	37.75	31.69
Kachin	G11 Enrolled Students	12,370	7,346	5,024
	Examinees	11,606	6,988	4,618
	Passed Students	3,435	2,034	1,401
	Pass Rate	29.60	29.11	30.34

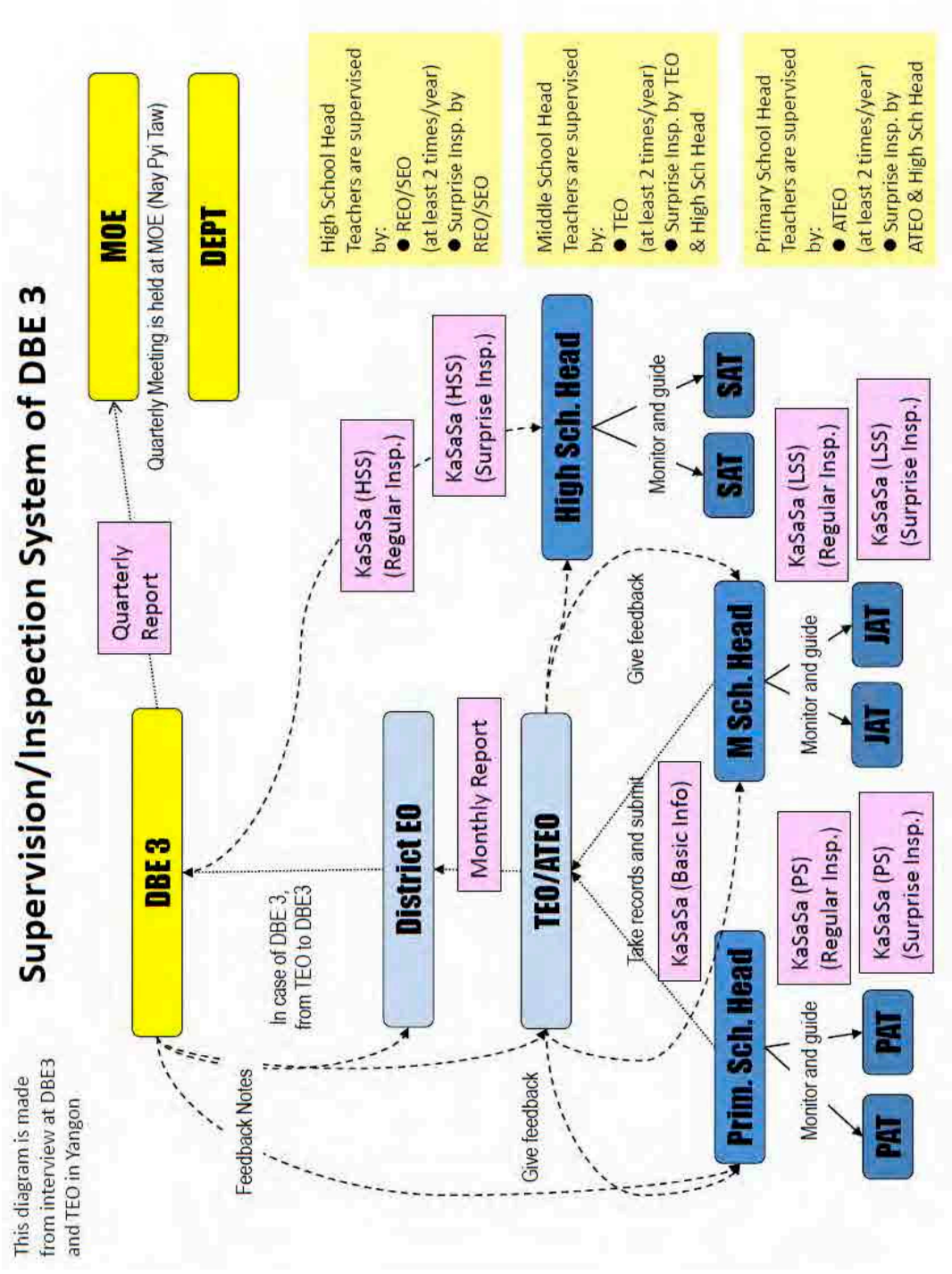
State/Region		Grade 11		
		Total	**Female**	**Male**
Kayar	G11 Enrolled Students	2,500	1,547	953
	Examinees	2,415	1,521	894
	Passed Students	840	540	300
	Pass Rate	34.78	35.50	33.56
Chin	G11 Enrolled Students	4,371	2,409	1,962
	Examinees	4,275	2,373	1,902
	Passed Students	718	399	319
	Pass Rate	16.80	16.81	16.77
Sagaing	G11 Enrolled Students	32,537	17,715	14,822
	Examinees	31,811	17,469	14,342
	Passed Students	12,331	6,914	5,417
	Pass Rate	38.76	39.58	37.77
Magway	G11 Enrolled Students	25,789	13,297	12,492
	Examinees	25,482	13,195	12,287
	Passed Students	8,768	4,842	3,926
	Pass Rate	34.41	36.70	31.95
Mandalay	G11 Enrolled Students	49,452	25,865	23,587
	Examinees	48,481	25,539	22,942
	Passed Students	17,198	9,598	7,600
	Pass Rate	35.47	37.58	33.13
Shan(S)	G11 Enrolled Students	12,652	7,466	5,186
	Examinees	12,373	7,359	5,014
	Passed Students	4,591	2,881	1,710
	Pass Rate	37.10	39.15	34.10
Shan(N)	G11 Enrolled Students	7,094	4,336	2,758
	Examinees	6,820	4,222	2,598
	Passed Students	2,407	1,514	893
	Pass Rate	35.29	35.86	34.37
Shan(E)	G11 Enrolled Students	1,959	1,193	766
	Examinees	1,879	1,140	739
	Passed Students	460	287	173
	Pass Rate	24.48	25.18	23.41
DBE2 Total	G11 Enrolled Students	148,724	81,174	67,550
	Examinees	145,142	79,806	65,336
	Passed Students	50,748	29,009	21,739
	Pass Rate	34.96	36.35	33.27
DBE 3 (Yangon) Total	G11 Enrolled Students	60,371	31,059	29,312
	Examinees	58,077	30,150	27,927
	Passed Students	20,427	11,603	8,824
	Pass Rate	35.17	38.48	31.60

APPENDIX 3-3: Location of Teacher Education and Training Institutes in Myanmar

出典：Developed by Study Team based on map made by JICA SCCA2 project

APPENDIX 3-4: School Inspection System of DBE1&2&DBE3




Supervision/Inspection System of DBE 3
This diagram is made from interview at DBE3 and TEO in Yangon
MOE
DEPT
Quarterly Report
Quarterly Meeting is held at MOE (Nay Pyi Taw)
DBE 3
District EO
TEO/ATEO
Prim. Sch. Head
M Sch. Head
High Sch. Head
Feedback Notes
In case of DBE 3, from TEO to DBE3
Monthly Report
Give feedback
Take records and submit
KaSaSa (Basic Info)
KaSaSa (HSS) (Regular Insp.)
KaSaSa (HSS) (Surprise Insp.)
KaSaSa (PS) (Regular Insp.)
KaSaSa (PS) (Surprise Insp.)
KaSaSa (LSS) (Regular Insp.)
KaSaSa (LSS) (Surprise Insp.)
Monitor and guide
PAT
PAT
JAT
JAT
SAT
SAT
High School Head Teachers are supervised by:
● REO/SEO (at least 2 times/year)
● Surprise Insp. by REO/SEO
Middle School Head Teachers are supervised by:
● TEO (at least 2 times/year)
● Surprise Insp. by TEO & High Sch Head
Primary School Head Teachers are supervised by:
● ATEO (at least 2 times/year)
● Surprise Insp. by ATEO & High Sch Head

APPENDICES 4

APPENDIX 4-1: Types of Education (TVET and Higher Education), Their Responsible Ministries and Types of Courses

#	Ministry	Department	Field of Ed.	Types of Institutions	No.	Courses and schooling years	Remarks
1	Ministry of Agriculture and Irrigation	Myanmar Agriculture Service	Agricultural Science	Yesin Agricultural University	1	- 4 Years Bachelor of Agricultural Science (BAgrSc) - 3 Years MAgrSc - 4 to 5 Years PhD in Agr Sc	6 campuses based on specialized area of studies; various locations
				Agricultural Institute	10	-3 years Diploma Course	Entry: Matriculation pass
2	Ministry of Livestock and Fisheries	-	Veterinary Science	Yesin University of Veterinary Science	1	-6 Years Bachelor of Vet Science - 3 Years MVSc and PhD	
		Fisheries Department	Fisheries Related Course	*Fisheries Science School, Yangon*	*1*	*- Short-term and Long-term certificate courses for in-service personnel and private firms* *- Refresher Course, Inspector Course* *- Fishery Technology, Post-Harvest Technology, etc*	*Until 2011-12 FY, they provide certificate courses*
		Department of Livestock Breeding	Dairy Cattle Production	*Two Training Centers in Yangon and Nay Pyi Taw*	*2*	*- Plan to provide Diploma in Animal Health and Production Training from next year for interested applicants (For Public)* *- Provide different types of training for government staff for capacity building.*	
3	Ministry of Commerce	Directorate of Trade	Trade	*Trade Training Institution in Yangon*	*1*	*- 4 month Certificate Courses*	
4	Ministry of Cooperatives	Department of Cooperatives	Arts, Business Management and Accounting	Cooperative Universities (Thanlyin and Sagaing)	2	-3 year degree courses (B.B.Sc)	Sagaing CU upgrade as university from 2012-13 AY.
				Cooperative Colleges (Pathein and Pyaunggyi)	2	- 2 year diploma courses (Dip. S.E)	
		Department of Cottage Industries	Lacquer ware	Lacquerware College in Bagan-Nyung Oo	1	- 2 year diploma course	Entry: Matriculation pass
			Waving	*The Saunder's Waving School* *1 Textile Technology(waving)* *1 Hundreds Shuttle Achaik*	*2*	*-1&2years Certificate Course* *-6months Certificate Course*	Entry: Matriculation pass
				5 Basic Weaving Schools and 8 High-level Weaving Schools	*13*	*- 3 to 6 months short courses*	Entry: Primary School pass

#	Ministry	Department	Field of Ed.	Types of Institutions	No.	Courses and schooling years	Remarks
5	Ministry of Science and Technology	Department of Technology and Vocational Education	Engineering	Technological Universities (TU)	27	- AGTI 3 years, - B.Tech total 5 years, - B.E total 7 years	From 2012-13 AY, only selected TUs and GTC will provide B.E.
				University of Technology (Yadanarpon Cyber city)	1	- B.E (ICT) 6 years, - Master (2 year) and PhD (3 year~)	
				Government Technical Colleges (GTCs)	3	-AGTI 3 year, - B.Tech total 5 years	
				Government Technical Institutes (GTIs)	11	- AGTI 3 year	From 2012-13 AY, GTI will provide AGTI diploma courses only.
				Government Technical High School (GTHS)	*36*	*- High School (Equivalent to Grade 10 and 11 of Formal Education)*	
		Department of Science and Technology		Myanmar Aerospace Engineering University (MAEU)	1	- 2 year undergrad diploma - 5 year Bachelor of Engineering degree - 1 year postgrad diploma	http://www.most.gov.mm/maeu/index.php?option=com_content&task=view&id=27&Itemid=46
				University of Technology (Yangon and Mandalay)	2	-B. E (CoE) 6 years -Master (2years) and PhD (3years~)	
				University of Technology (West Yangon and Pyay)		Same as TU	
				Universities of Computer Studies	25	- 5 year Bachelor of Computer Studies, Computer Technology (B.C.Sc and B.C.Tech) - 2 year Master and 4 year~ PhD	Since 2011-12 AY, only UCSY and UCSM (CoE) offer Postgraduate course
6	Ministry of Education	Both DHEs (Upper and Lower Myanmar)	Arts and Science, Education	Arts and Science University	34	- Universities offer Bachelor Degrees (3 years), B. Honors (total 4 years) - College offers 2 Year Diploma and - Degree Colleges offer 4 year Bachelor degree but certification is accredited by Arts and Science University in the region	Only Yangon and Mandalay University offer Post-graduate Degree Courses (Master Coursework, Master by Research and Doctoral Degrees)
				University of Foreign Languages	2		
				Institutes of Education	2		
				Institute of Economics	3		
				Degree Colleges and Colleges	5		
			Human Resources Development Programme	Above Arts and Sciences Universities (except University of Distance Education)	-	- Short-term Certificate courses, Undergrad and Post-graduate diploma 1 year course and Masters degrees (e.g. MBA, MPA, MDS) in some institutions.	Evening and early morning course for adults
		Department of Educational Planning and Training	Teacher Training	*Education College*	*20*	*- 1-2 year diploma in Education*	

#	Ministry	Department	Field of Ed.	Types of Institutions	No.	Courses and schooling years	Remarks
		Department of Basic Education 1,2 and 3	Pre-vocational education	*Pre-vocational schools (attached to selected high schools)*	*120*	*Providing domestic science and technical science subjects*	The curriculum has been same as other ordinary high schools since 2001.
7	Ministry of Health	Department of Medical Science	Health Science /	University of Medicine (4), Pharmacy (2), Paramedical Science (2), Dental Medicine (2), Nursing (2), Public health (1), Community health (1)	14	For University of Medicine - 5 year Bachelor degree. - 3 year Masters and 4 to 5 year Doctoral degree are offered for Government Service Personnel.	For 2012-13 AY, MoH plans to increase schooling years for each university but this arrangement has not been confirmed.
				Nursing and Midwifery related training schools	*46*	*- 1.6 and 1.8 year certificate courses for health related courses.*	
		Department of Traditional Medicine	Traditional Medicine	University of Traditional Medicine	1	- Under-grad and Post-grad courses	
8	Ministry of Religious Affairs	-	Religious and Missionary Works	International Theravada Buddhist Missionary University	1	*- Certificate courses (3-4 months)* - 1 year diploma in Buddha Dahma - 2 year graduate degree (B.A) - 3 year Master degree (M.A) - 4 year Doctoral degree (Ph.D)	
9	Ministry of Transport	Department of Transport	Maritime Engineering, Marine Electrical System & Electronics etc	Myanmar Maritime University	1	- 5 Year (B.E) and B.SC (Hons) - One year Postgrad Diploma	http://www.mot.gov.mm/mmu/programs.html
				Myanmar Mercantile Marine College	1	- 2 year Diploma Course *- Certificate Courses (Refreshers, STCW Short Course, and Special Course)*	http://www.mot.gov.mm/mmc/services.html
10	Ministry of Culture	-	Performance Arts, Music, Sculpture, Drawing	National University of Arts and Culture	1	- 4 Year Bachelor of Arts (B.A, Performance; B.A, Painting, B.A, Sculptures, B.A, Movie and Opera) - 1 year Master of Arts	
11	Ministry of Environmental Conservation and Forestry	Department of Training and Research Development	Forestry related training	*Pyin Oo Lwin Forestry Training Centre*	*1*	*- Offer 9 month forestry related training course and other short-term training.*	- Entry requirement: 10th Standard passed and must be in-service personnel.
				Central Forestry Development Training Centre (CFDTC) Hmawbi and sub-campus in Patheingyi	*2*	*- Refresher Courses for Range Officer and Assistant Director levels based on their specialization.* *- Community Forestry courses like Mangrove Rehabilitation is provided to farmers and respective communities whose livelihood depends on Forest.*	- Generally, almost all training courses and degree programs are intentionally opened for government staff and those who become in-service personnel.

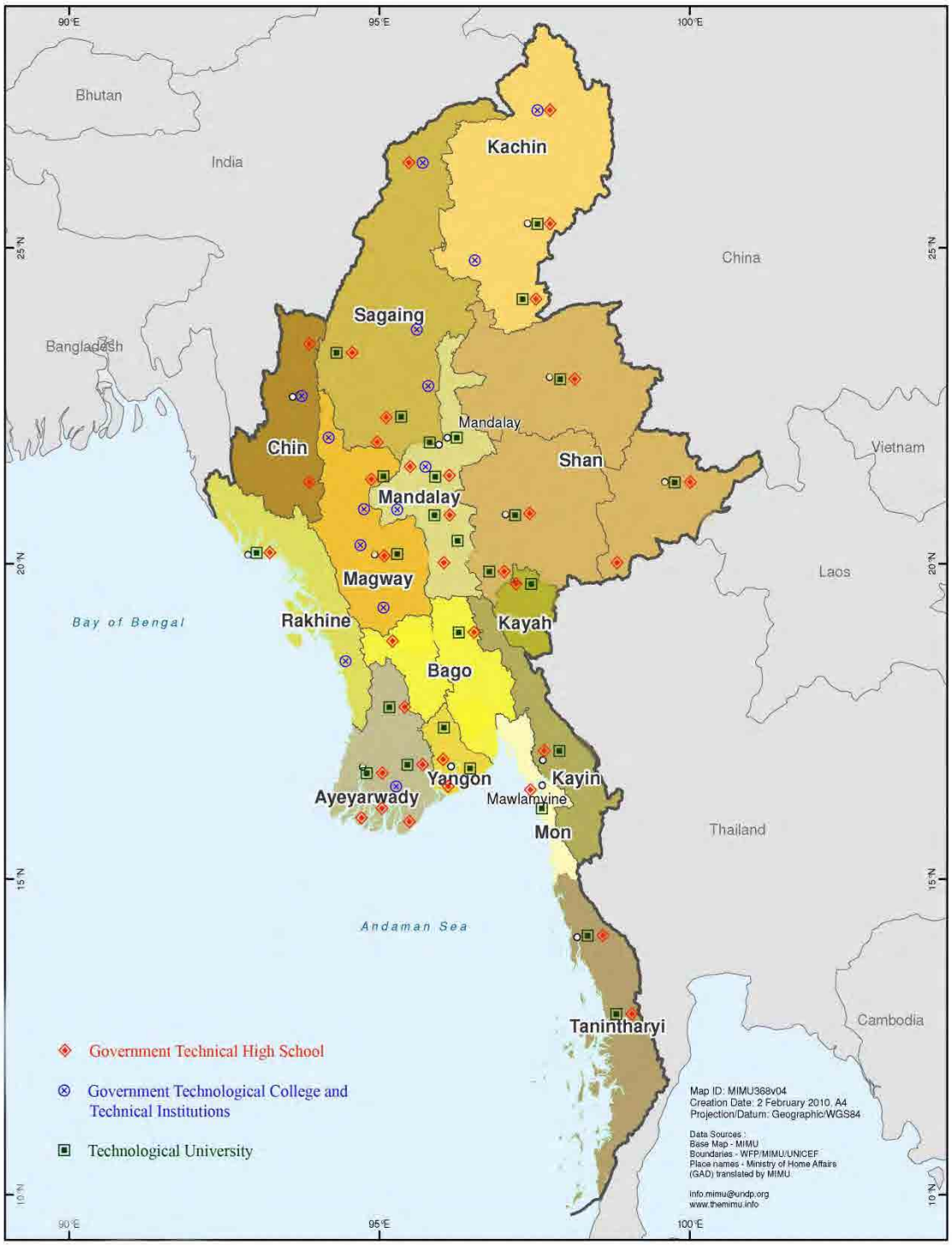
#	Ministry	Department	Field of Ed.	Types of Institutions	No.	Courses and schooling years	Remarks
		Department of Environmental Conservation and Forestry	Forestry related higher education	University of Forestry	1	- Offer 6 year Bachelor of Science (Forestry) and 2 year Master of Science degree. - PhD programs conducted since 2003 but recently no PhD graduates from this university.	
12	Ministry of Defense	-	Military Training	Defense Service Academy (DSA)	1	Bachelor in Liberal Arts, Science and Computer Science	
			Medical Science	Defense Service Medical Academy (DSMA)	1	Bachelor of Medicine and Surgery Diploma in Medical Science Master of Medical Science Doctor of Medical Science Ph.D.	
			Various Engineering Disciplines	Defense Service Technological Academy (DSTA)	1	Bachelor of Engineering (BE), Master of Engineering (ME)	
			Paramedical Science and Pharmacy	Defense Service Institute of Nursing and Paramedical	1	Bachelor of Nursing (B.N.Sc and B.P.Sc)	
			-	National Defense College	1	Information not available	
13	Union Civil Service Board	Civil Service Selection and Training Board	Various courses for civil servant	*Central Institute of Civil Service (Phaunggyi)* *Central Institute of Civil Service (Upper Myanmar)*	*2*	*- Intensive Officer Training Course (3 months)* *- Special Refresher Training for teachers and Officers (3 months)* *- Other certificate courses (1 month)*	*** For Civil Servants Only. (Not for general public)
14	Ministry of Border Affairs	Department of Education and Training	Teacher Education	Sagaing University for the Development of the National Races of the Union	1	*- 3 year Primary/Special/Junior Assistant Teachers Certificate* - 1 year Diploma - 2 year B.Ed (Bridging Course) - 1 year Postgrad Diploma - 1 year M. Ed - 1 year Master of Philosophy - 2 year Doctor of Education	Recently they do not provide any other arts and sciences course.
			Arts and Sciences Subjects and Engineering	Yangon and Mandalay Nationalities Youth Resource Development Degree Colleges and Central Training Schools.	2	- 4 year B.A and D.Sc - 3 year Engineering Diploma *- 17 certificate Training Courses (Central Training School)*	

#	Ministry	Department	Field of Ed.	Types of Institutions	No.	Courses and schooling years	Remarks
			Vocational Education for Border Area development	*Vocational Training Schools of Domestic Science for Women (as part of Border Area development programs)*	*39*	*-12 week certificate courses particularly for females.* *e.g., Handicraft, Hairdresser, Cooking and Bakery, Sewing and Knitting, Weaving (depends on region)*	Entry requirements: those who can read and write Burmese language can enroll for training.
				Training Schools for Development of Nationalities Youth from Border Areas (including Tiger Parahita School in Yangon, 4 Technical Training Schools for Nationalities Youth and One Professional Training School (Mechanics/Workshop))	*29*	*- Offer Short-Term (8 or 12 week certificate courses) especially for males.* *- Carpenter Course,* *- Welding and Building Blocks (construction related course)* *- Machinery Maintenance Course*	- Entry requirements: 8th Standard (Grade 9 passed)
15	Ministry of Industry	Directorate of Trade Planning	Industrial related Engineering course	*- 6 Industrial Training Centers (ITCs)*	*6*	*One year intensive course in cooperation with respective foreign governments (China, India, Germany and Korea).*	ITC Myinchan is still under construction and training courses are planned to commence next year.
16	Ministry of Labour	Directorate of Labour	Basic Technician, Language and Computer	*- Skilled Training Centre (Yangon, Mandalay and Pathein)*	*3*	*- Short-term certificate courses*	
17	Ministry of Social Welfare	Department of Social Welfare	Non-Formal Education (two types of training: academic and vocational education)	*Youth Care Centers, Vocational Training Centre for Disabled Adults (10)* *(Accept different types of students such as parentless, orphanage, children with bad moral behaviors and children who commit crimes)* *Schools for Blind, Deaf and Students with Disability (4)*	*14*	*- Provide free education for all students (including food, accommodation)* *- For those who want to study basic education, they offer non-formal education programs. For those who want to study vocational education, they have hairdresser (barber), carpenter (and mason) and handicraft.*	http://abilitymagazine.com/news_Myanmar.html
18	Ministry of Sport	Sports and Physical Education Department	Sports Education	*Sport and Physical Science School (High school level)*	*2*	*2- Academic year course (Academic curriculum is same as grade 10 & Grade 11) and teaching additional Subjects (23 types of sport and Sport system)*	To be upgraded to a University from the 2013-14 AY(Yadanabon University and Dagon University)
19	Ministry of Hotel and Tourism.	-	Tourism Education	*Tourism Training School (Tour Guide Basic Training and Tour Management Basic Course)*	*1*	*2 months courses*	Matriculation passed for tour guide and post graduate for tour management

#	Ministry	Department	Field of Ed.	Types of Institutions	No.	Courses and schooling years	Remarks
20	Ministry of Rail Transportation	-	Rail Transportation	*Central Institute of Transport and Communications*	*1*	*3 and half months to get certificate*	

Italic with red color: TVET institutions which do not provide degrees

APPENDIX 4-2: Geographical Location of TVET Institutions under DTVE



Source: Developed by the Study Team based on the information of Ministry of Science and Technology (2012) and map obtained from www.themimu.info

APPENDIX 4-3: List of TVET/HE Institutions under DTVE (AY 2011–2012)

(1) University of Technology

#	Name	State/ Division	Established year	Students number	Teacher number	Course offered
1	Yatanarpon Cyber City	Mandalay	2010	1667	155	ICT, Electronic Engineering, Advanced Materials Engineering, and Precision Engineering

(2) Technological University

#	Name	State/ Division	Established year	Students number	Teacher number	Course offered[1]
1	Banmaw	Kachin	GTC(2001), TU(2007)	558	76	C/EC/EP/Mech
2	Dawei	Taninthary i	GTHS(1982), GTI(1988), GTC(1999), TU(2007)	715	75	C/EC/EP/Mech
3	Hinthada	Ayeyarwa dy	GTHS(1977), GTI(1982), GTC(1999), TU(2007)	2164	92	C/EC/EP/Mech
4	Hmawbi	Yangon	GTHS(1989), GTI(1998), GTC(2001), TU(2007)	7229	152	C/EC/EP/Mech/IT/ MC/IT/Arch
5	Hpa-An	Kayin	GTHS(1993), GTI(1998), GTC(2000), TU(2007)	820	72	C/EC/EP/Mech
6	Kalay	Sagaing	GTI (1999), GTC(2001), TU(2007)	1078	69	C/EC/EP/Mech
7	Kyaingtone	Shan	GTI(1999), GTC(2001), TU(2007)	332	51	C/EC/EP/Mech
8	Kyaukse	Mandalay	GTI (1998), GTC(2001), TU(2007)	4904	196	C/EC/EP/Mech/IT/ MC/IT/Met/Bio/NT
9	Lashio	Shan	GTI(2007), TU(2007)	945	81	C/EC/EP/Mech
10	Loikaw	Kayah	GTHS(1982), GTI(1998), GTC(2001), TU(2007)	744	60	C/EC/EP/Mech
11	Magway	Magway	GTC(1999), TU(2007)	2778	153	C/EC/EP/Mech/MC/ Che
12	Mandalay	Mandalay	GTI (1955), GTC(1999), GTC(2002), TU(2007)	5558	223	C/EC/EP/Mech/MC/ IT/ChE/Min/Pet/Arc h
13	Maubin	Ayeyarwa dy	GTHS(1989), GTC(2002), TU(2007)	1283	87	C/EC/EP/Mech
14	Mawlamyin e	Mon	GTI(1982), GTC (1999), TU(2007)	3252	154	C/EC/EP/Mech/IT/ MC
15	Meiktila	Mandalay	GTI (1986), GTC(1999), TU(2007)	2743	122	C/EC/EP/Mech/IT/ MC
16	Monywa	Sagaing	GTHS (1982), GTI (1986), GTC(1999), TU(2007)	4555	158	C/EC/EP/Mech/IT/ MC/Tex
17	Myeik	Taninthary i	GTI(1999), GTC(2002), TU(2007)	649	64	C/EC/EP/Mech
18	Myitkyina	Kachin	GTHS (1981), GTI (1997), GTC (1999), TU(2007)	657	82	C/EC/EP/Mech
19	Pakokku	Magway	GTI(1999), TU(2007)	1855	92	C/EC/EP/Mech
20	Pathein	Ayeyarwa dy	GTC(1999), TU(2007)	1802	122	C/EC/EP/Mech/IT/ MC
21	Pinlon	Shan	GTC (2003), TU(2007)	276	57	C/EC/EP/Mech
22	Sagaing	Sagaing	GTHS(1990), GTI(1998),	2440	87	C/EC/EP/Mech

[1] C: Civil Engineering, EC: Electronic Engineering, EP: Electrical Power Engineering, Mech: Mechanical Engineering, MC: Mechatronic Engineering, IT: Information Technology, Che: Chemical Engineering, Min: Mining Engineering, Tex: Textile Engineering, Pet: Petroleum Engineering, Met: Metallurgical Engineering, Arch: Architectural Engineering, Bio: Biotechnology, NT: Nuclear Technology

#	Name	State/ Division	Established year	Students number	Teacher number	Course offered[1]
			GTC(2007), TU(2011)			
23	Sittwe	Rakhine	GTC(1999), TU(2007)	719	103	C/EC/EP/Mech
24	Taunggoo	Bago	GTHS(1982), GTI(1985), GTC(1999), TU(2007)	3655	131	C/EC/EP/Mech/IT/ MC
25	Taunggyi	Shan	GTI (1999), GTC (2001), TU(2007)	2447	117	C/EC/EP/Mech/IT/ Min
26	Thanlyin	Yangon	Technical Vocational School(1984), GTI(1997), GTC(1999), TU(2007)	10536	208	C/EC/EP/Mech/IT/ MC/Che/Arc/Pet
27	Yamethin	Mandalay	GTI(1999), GTC(2001), TU(2007)	1623	73	C/EC/EP/Mech

(3) Government Technological College

#	Name	State/ Division	Established year	Students number	Teacher number	Course offered
1	Moehnyin	Kachin	GTI(2004), GTC(2007)	1120	71	C/EC/EP/Mech/IT
2	Myingyan	Mandalay	GTI(2004), GTC(2007)	1995	84	C/EC/EP/Mech/IT
3	Shwebo	Sagaing	GTC(2008)	2061	68	C/EC/EP/Mech/IT

(4) Government Technical Institute

#	Name	State/ Division	Established year	Students number	Teacher number	Course offered
1	Chauk	Magway	GTI(1973)	1294	103	C/EP/Mech
2	Gangaw	Magway	GTI(2008)	166	35	C/EC/EP/Mech
3	Hakha	Chin	GTI(2008)	158	40	C/EC/EP/Mech
4	Hkamti	Sagaing	GTI(2009)	71	25	C/EC/EP/Mech/MC/ IT
5	Kantbalu	Sagaing	GTI(2011)	276	41	C/EC/EP/Mech
6	Kyaukpadaung	Mandalay	GTHS(1993) GTI(1998)	1122	64	C/EP/Mech
7	Putao	Kachin	GTI(2011)	50	19	C/EP/Mech
8	Thandwe	Rakhine	GTI(1998)	384	52	C/EP/Mech
9	Thayet	Magway	GTI(2010)	369	34	C/EC/EP/Mech
10	Wakema	Ayeyarwady	GTHS(1995), GTI(1999)	244	41	C/EP/Mech
11	Yenanchaung	Magway	GTHS(1977), GTI(1998)	1117	63	C/EC/EP/Mech

(5) Government Technical High School

#	Name	State/ Division	Established year	Students number	Teacher number	Course offered[2]
1	Putao	Kachin	2009	9	12	BT
2	Myitkyina	Kachin	2009	71	29	BT/EcT/AMT
3	Banmaw	Kachin	2009	24	29	BT/EcT/AMT
4	Hkamti	Sagaing	2009	6	27	-
5	Mindat	Chin	2010	91	48	BT/ET
6	Kalay	Sagaing	2009	66	21	BT/AMT
7	Monywa	Sagaing	2009	105	37	BT/EcT/MT/AMT/ET

[2] BT: Building Technology, BST: Building Services Technology, EcT: Electronic Technology, MT: Machining Technology, AMT: Auto Mechanics Technology, ET Electrical Technology, MPT: Metal Process Technology

#	Name	State/ Division	Established year	Students number	Teacher number	Course offered[2]
8	Kyaukse	Mandalay	2009	66	66	BT/EcT/MT/AMT/ET
9	Pakokku	Magway	2009	99	43	BT/AMT/ET
10	Lashio	Shan	2009	31	22	AMT/ET
11	Pinlon	Shan	2009	29	17	AMT
12	Taunggyi	Shan	2009	84	32	BT/EcT
13	Kyaingtong	Shan	2009	16	20	BT
14	Meiktila	Mandalay	2009	149	26	BT/AMT/ET
15	Loikaw	Kayah	2009	138	26	BT/EcT/MT/AMT
16	Naypyitaw	Naypyitaw	2009	358	43	BT/EcT/MT/AMT/ET
17	Magway	Magway	2009	159	41	BT/EcT/AMT
18	Pyay	Bago	2009	85	43	BT/AMT
19	Taunggo	Bago	2009	159	36	BT/MT/AMT/ET
20	Sittway	Rakhine	2009	12	27	BT
21	Hinthada	Ayeyarwady	2009	151	44	BT/EcT/AMT
22	Maubin	Ayeyarwady	2009	146	46	BT/EcT/MT/AMT/ET
23	Pathein	Ayeyarwady	2009	144	30	BT/MT/AMT
24	Pyinsalu	Ayeyarwady	2009	0	15	-
25	Chaungwa	Ayeyarwady	2009	19	16	BT
26	Ahmar	Ayeyarwady	2009	27	16	BT
27	Hpa-an	Kayin	2009	32	26	BT
28	Mawlamyine	Mon	2009	78	38	BT/AMT
29	Dawei	Tanintharyi	2009	23	23	ET
30	Myeik	Tanintharyi	2009	32	15	AMT
31	Pangpet	Shan	2010	87	18	MT/ET
32	Myingyan	Mandalay	2010	137	19	EcT/MT/ET
33	Chaung Oo	Sagaing	2010	54	25	ET
34	Ywama	Yangon	2010	268	21	EcT/MT/ET/MPT
35	Lakhukgon	Yangon	2010	22	19	AMT
36	Teetain	Chin	2010	50	10	BT

Source: Developed by the Study Team based on the information of Ministry of Science and Technology (2012)

APPENDICES 7

APPENDIX 7-1: Report on Information Sharing Workshop

Report on

Information Sharing Workshop

by the Study Team

for
Data Collection Survey
on Education Sector in Myanmar

7 December, 2012

Prepared by:
Study Team
for Data Collection Survey
on Education Sector in Myanmar

1. Background

For the purpose of formulating future cooperation programs in the education sector in Myanmar, Japan International Cooperation Agency (JICA) has dispatched a Study Team to conduct the "Data Collection Survey on Education Sector in Myanmar" in collaboration with the Department of Educational Planning and Training of Ministry of Education (MoE) of Myanmar for the period between September 2012 and February 2013.

As part of the Study Team's contribution to the ongoing Comprehensive Education Sector Review (CESR) initiatives lead by the MoE, the Study Team and CESR Technical Team mutually decided to organize an Information Sharing Workshop to share the Study's interim findings based on the first field study conducted between September and November, 2012 with CESR Technical Team members.

The timing of the workshop was arranged in early December 2012 so that the information shared by the Study Team would be of benefit to the writing process of the CESR Phase 1 (Rapid Assessment) Report by CESR Technical Team, which is planned from late December 2012.

2. Objectives

The objective of the workshop was to share interim study results of the JICA study with a special focus on teacher education, curriculum and assessment and higher education.

3. Date & Time

9:00-15:30 on Friday, December 7, 2012

4. Participants

- CESR Technical Team Members
- CESR National Consultants
- CESR International Consultants
- JICA Representatives
- Study Team

Sr	Name	Title/Focus Area	Organization
1	Daw Tin Tin Shu	Task Manager	CESR Team
2	Daw Ohnmar Thein	Assistant Task Manager	CESR Team
3	U Tun Hla	National Coordinator	CESR Team
4	Dr. Ian Birch	Chief Technical Advisor	CESR Team
5	U Aung Than	Quantitative Analysis	CESR Team
6	Daw Aye Phyu	Basic Education	CESR Team
7	Daw Myat Myat Khine	Basic Education	CESR Team
8	Daw Khine Yone	Basic Education	CESR Team
9	Daw Yamin Aung	Basic Education	CESR Team
10	Daw Thin Thin Khine	Basic Education	CESR Team
11	Daw Chaw Chaw Han	Basic Education	CESR Team
12	Daw Aye Ei Ei Theint	Basic Education	CESR Team
13	Daw Aye Aye Myint	Basic Education	CESR Team
14	U Zayar Aung	TVET and Higher Education	CESR Team
15	Daw Honey Kyaw	TVET and Higher Education	CESR Team
16	Daw Mya Thandar Tun	TVET and Higher Education	CESR Team
17	Daw Yee Yee Cho	Financing	CESR Team
18	U Tehin Myint	Textbook	CESR Team
19	Daw Ei Ei Khine	Textbook	CESR Team
20	Daw Myat Myat Khine	Stakeholder Analysis	CESR Team

Sr	Name	Title/Focus Area	Organization
21	U Min Zaw Oo	Stakeholder Analysis	CESR Team
22	U Khin Maung Aye	Policy, Legislation & Management	CESR National Consultant
23	U Set Kyar	Primary Education	CESR National Consultant
24	Daw Aye Aye Thin	Non-Formal Education	CESR National Consultant
25	Dr. Khin Zaw	Teacher Education	CESR National Consultant
26	Daw Than Htay Khin	TVET	CESR National Consultant
27	Dr. Thet Lwin	Higher Education	CESR National Consultant
28	Daw Ei Klar Moore	Financing	CESR National Consultant
29	Mr. Richard Martin	Policy Analysis	CESR International Consultant
30	Ms. Marion Young	Secondary Education	CESR International Consultant
31	Dr. Sideth Dy	TVET/Higher Education	CESR International Consultant
32	Mr. Gerhard Kohn	TVET	CESR International Consultant
33	Mr. Carsten Huttemeier	TVET	CESR International Consultant
34	Mr. Paul Brady	Labor Market Analysis	CESR International Consultant
35	Prof. Martin Hayden	Higher Education	CESR International Consultant
36	Prof. Anthony Welch	Higher Education	CESR International Consultant
37	Mr. Jun Sakuma	Deputy Director General, Basic Education Group	JICA HQ
38	Mr. Norihiro Nishikata	Senior Education Advisor	JICA HQ
39	Ms. Ami Ikeda	Basic Education Group	JICA HQ
40	Mr. Kohei Isa	Representative	JICA Myanmar Office
41	Ms. Tomoko Masuda	Basic Education Advisor	DEPT/MOE-JICA
42	Dr. John T. Denny	Education Specialist	UNICEF Myanmar
43	Dr. Norio Kato	Team Leader / Basic Education	Study Team
44	Mr. Takashi Soma	Deputy Team Leader / Teacher Education	Study Team
45	Prof. Kazuhiro Yoshida	Educational Administration and Finance	Study Team
46	Prof. Dr. Keiichi Ogawa	Industry and Labor Market	Study Team
47	Mr.Chiko Yamaoka	Technical and Vocational Education and Training	Study Team
48	Ms. Midori Ozawa	Higher Education	Study Team
49	Mr. Ryuichi Sugiyama	Curriculum and Textbook	Study Team
50	Ms. Naoko Kitadate	CESR and Aid Coordination	Study Team
51	Ms. Kanae Kawashima	Education Information Analysis	Study Team
52	Ms. Sandar Kyaw	Researcher / Basic Education	Study Team
53	Ms. Zin Myint	Researcher / Basic Education	Study Team
54	Ms. Ingyin Htun	Researcher / Higher Education	Study Team

5. Venue

Conference Room, Basic Education Resource Development Centre (BERDC), ERC Building, Yankin Education College, Thitsar Road, Yankin 11081, Yangon

6. Program

6.1 Opening remarks by a JICA representative

Mr. Jun Sakuma, Deputy Director General, Basic Education Group, JICA Tokyo, welcomed all the participants to the workshop and talked about the following:

- JICA's long history of assistance to the education sector in Myanmar since 1990s
- JICA's continued support for education particularly in the areas of basic education focusing on primary curriculum and teacher education as well as higher education focusing on the field of engineering
- Continued interest in contributing to CESR through aligning the above programs with the framework of CESR and the future Sector Plan

6.2 Presentation by the Study Team

The Study Team made a presentation of the interim findings and preliminary analysis on the following topics:

1. Policy and Administration Issues (by Prof. Kazuhiro Yoshida)
2. Basic and Upper Secondary Education (by Dr. Norio Kato)
3. Technical and Vocational Education and Training (by Mr. Chiko Yamaoka)
4. Thematic issue 1: Curriculum and Assessment (by Mr. Ryuichi Sugiyama)
5. Thematic issue 2: Teacher Education (by Mr. Takashi Soma)
6. Thematic issue 3: Higher Education focusing mainly on universities under the Ministry of Science and Technology (by Ms. Midori Ozawa and Prof. Keiichi Ogawa)

6.3 Questions and Answers

A summary of questions raised by the participants and answered by the Study Team is as follows:

Question 1: Concerning the presentation on the basic education budget, it seems that the figure includes the higher education budget. Please clarify.

Answer 1: The heading of the slide is "basic education budget" but the table contains all other education subsectors.

Question 2: Concerning the presentation on teacher education, there is a sharp drop in the female teacher ratio from the middle level to G9 level. Why it is so?

Answer 2: The reason is unclear. It may be due to the transitional period after the Education College Reform initiated some years ago.

Question 3: Concerning the presentation on higher education, there should be a discussion of professional autonomy as an important dimension of higher education.

Answer 3: In our Interim Report, institutional autonomy is mentioned in the issues and challenges on governance and management of the higher education subsector and it can be further expanded in the final report.

Question 4: Concerning the presentation on teacher education, University for Development of National Races should be added as a unique teacher education institution offering minority students a pre-service teacher education from primary to higher education.

Answer 4: University for Development of National Races will be covered in the further study.

Question 5: Gender is an important issue in education but there was not much discussed about gender in the presentation. Most school teachers in Myanmar are female while most of the Township Education Officers and School Heads are male. Why aren't there more male teachers and more female education managers?

Answer 5: We would also like to ask our colleagues from Myanmar about the values in teaching and management that seem to prefer female teachers and male managers to find out what is the realistic gender ratio in education in Myanmar.

Question 6: Concerning the presentation on higher education, what are the cross-cutting similarities between the universities under the MoE and the Ministry of Science and Technology (MoST) and what are their differences?

Answer 6: Some of the universities currently under the MoST were originally transferred from the MoE, so these universities have similar systems with universities under the MoE. The difference is that universities under the MoE are only within the higher education track, while universities under the MoST are a mixture of institutions from the higher education track and the TVET track.

Question 7: Concerning the presentation on curriculum, how were the teaching time hours calculated in the presentation?

Answer 7: Teaching hours were calculated by each subject by each level and some subjects were adjusted to make them comparable across countries.

6.4 Group Discussion and Presentation

In the afternoon, the participants were divided into three thematic groups and discussed the problem analysis presented during the morning presentation. Each group then made a presentation on the outcomes of their discussions, which are summarized below:

Group 1: Curriculum and Assessment

The following issues should be covered in the curriculum reform:

1. The balance among main subjects and co-curricular subjects should be reviewed with a view to increasing the portion of co-curricular subjects
2. Among the three levels of curriculum contents, there should be more contents of Level 3 (higher order thinking skills)
3. There should be a review of overlapping contents across different subjects
4. School inspection should be aligned with curriculum objectives
5. The curriculum and syllabus should be reviewed and developed
6. Textbooks need to be revised in terms of contents and layouts
7. The timeframe and roles/responsibilities as to who does what for the curriculum reform should be defined
8. The curriculum reform should take in to account the objectives of the Government of Myanmar while also keeping in mind international standards and the practices of other countries

Group 2: Teacher Education

The following recommendations were drawn for teacher education:

1. A performance- /competency-based promotion system for teachers, which is linked with Continuous Professional Development (CPD), should be developed
2. To manage both pre-service and CPD of teachers, a Teacher Education Department within the MoE should be established as a separate department.

Group 3: Higher Education

The following issues were discussed for higher education:

1. MoE and MoST should streamline and align degree structures
2. Official documents that define the new degree structures introduced in the 2012-2013AY under MoST need to be developed.
3. Autonomy of Higher Education Institutions (HEIs) should be considered together with means to generate their own income. Human Resource Development Programs which are implemented at some HEIs under the MoE and which used to be implemented at some HEIs under the MoST could be one of the means for income generation.
4. Coordination among 13 ministries administering HEIs should be strengthened.
5. A faculty scheme should be introduced at universities as a comprehensive system

6.5 Closing remarks by a CESR representative

U Tun Hla, National Coordinator, CESR Technical Team thanked the Study Team for the fruitful workshop which offered a comprehensive analysis covering the whole education sector in Myanmar and was very useful for the work of the CESR team. He also commented that he was impressed with the JICA Team's study outcomes, which were compiled within the short period of only two months. He expressed appreciation for JICA's long-term support to education in Myanmar and mentioned that he would look forward to working closely with JICA in the future.

APPENDIX 7-2: Minutes of Meeting on the Report of Information Sharing Workshop

Minutes of Meeting on

the Report of Information Sharing Workshop

by the Study Team

for
Data Collection Survey
on Education Sector in Myanmar

15 December, 2012

Prepared by:
Study Team
for Data Collection Survey
on Education Sector in Myanmar

1. Background

As part of the Study Team's contribution to the ongoing Comprehensive Education Sector Review (CESR), the Study Team and CESR Technical Team organized an Information Sharing Workshop on December 7, 2012 in Yangon for sharing the Study's interim findings with CESR Technical Team members.

Upon request from the Director General of Department of Educational Planning and Training (DEPT), Ministry of Education (MoE), the Study Team decided to have a separate meeting in Nay Pyi Taw to share the results of the Information Sharing Workshop.

2. Objectives

The objective of the meeting was to brief officials from the MoE and the Ministry of Science and Technology based in Nay Pyi Taw on the interim study results of the JICA study as well as the outcomes of the Information Sharing Workshop held on December 7, 2012 in Yangon.

3. Date & Time

9:00-12:00 on Saturday, December 15, 2012

4. Participants

- Officials of DEPT and Department of Higher Education (DHE), Ministry of Education
- Official of Ministry of Science and Technology
- JICA Education Advisor
- Study Team

Sr	Name	Title	Organization
1	U Ko Ko Tin	Director General, DEPT	Ministry of Education
2	U San Lwin	Director, DEPT	Ministry of Education
3	Daw Khin Mar Htway	Director, DEPT	Ministry of Education
4	Daw Khin Khin Htay	Director, DEPT	Ministry of Education
5	Daw Aye Chit	Director, DEPT	Ministry of Education
6	U Ko Lay Win	Deputy Director, DEPT	Ministry of Education
7	Daw Mu Mu Aung	Deputy Director, DEPT	Ministry of Education
8	Daw Khin Khin Gyi	Deputy Director, DEPT	Ministry of Education
9	Daw Aye Aye Soe	Deputy Director, DEPT	Ministry of Education
10	U Thein Naing	Deputy Director, DEPT	Ministry of Education
11	Daw Aye Aye Mon Oo	Assistant Director, DEPT	Ministry of Education
12	Daw San San Myint	Assistant Director, DEPT	Ministry of Education
13	Dr Aye Thida Soe	Research Officer, DMERB,	Ministry of Education

Sr	Name	Title	Organization
14	Daw Aye Aye	Assistant Director, DHE	Ministry of Education
15	Daw Thit Thit Khine	Assistant Director, DBE (1)	Ministry of Education
16	U Amt Maung	Assistant Director, MEB	Ministry of Education
17	U Zaw Win	Assistant Director, DBE(2)	Ministry of Education
18	U Thint Zin Oo	Section Head, DHEL	Ministry of Education
19	Dr. Thanda Shwe	DTVE	Ministry of Science and Technology
20	Ms. Tomoko Masuda	Basic Education Advisor	DEPT/MOE-JICA
21	Dr. Norio Kato	Team Leader / Basic Education	Study Team
22	Mr. Takashi Soma	Deputy Team Leader / Teacher Education	Study Team
23	Prof. Dr. Keiichi Ogawa	Industry and Labor Market	Study Team
24	Mr. Chiko Yamaoka	Technical and Vocational Education and Training	Study Team
25	Ms. Midori Ozawa	Higher Education	Study Team
26	Mr. Ryuichi Sugiyama	Curriculum and Textbook	Study Team
27	Ms. Sandar Kyaw	Researcher / Basic Education	Study Team
28	Ms. Ingyin Htun	Researcher / Higher Education	Study Team

5. Venue

Meeting Room, Ministry of Education, Nay Pyi Taw

6. Program

6.1 Presentation by the Study Team

The Study Team made a presentation on the interim findings and preliminary analysis on the following topics:

1. Summary of the situational analysis (by Dr. Norio Kato)

2. Thematic issue 1: Curriculum and Assessment (by Mr. Ryuichi Sugiyama)

3. Thematic issue 2: Teacher Education (by Mr. Takashi Soma)

4. Thematic issue 3: TVET and Higher Education (by Mr. Chiko Yamaoka, Ms. Midori Ozawa and Prof. Keiichi Ogawa)

6.2 Questions and Answers

A summary of questions raised by the participants and answered by the Study Team is as follows:

Question 1: Under the 2008 Constitution, free compulsory education for primary and basic education is contradicted.

Answer 1: Here is some clarification regarding the articles under Constitution 2008. Chapter I: Basic Principle of the Union states that "28 - Implement free, compulsory primary education system" and Chapter 8: Citizen, Fundamental Rights and Duties of the Citizens states that "366 - Shall be given basic education which the Union prescribes by law as compulsory." In Myanmar, the law for free, compulsory primary education has not yet been developed and we expect to develop it. So we will start with free primary school education, and later extend the free education to the lower secondary level.

Question 2: TVET institutions are under various ministries, and the private sector also conducts TVET programs. What do you think about the way to unify them?

Answer 2: The TVET sector in Myanmar has many training institutions and each of them have their own policies, strategies and activities. One way to solve it is the formulation of National Skill Standards initiated by the Ministry of Labour. The Ministry of Labour, however, cannot formulate the skill standards for all areas in TVET, such as computers and transport. Therefore, currently specialists from other ministries and the private sector are also collaborating for the development of skill standards in their respective fields. Though collaboration among each of the specialized ministries and private training institutions may take time, the sector can gradually improve the skills of trainees towards the equivalent level to ASEAN standards if all stakeholders continue this kind of collaborative work.

Question 3: Which approach of curriculum design will be the best for Myanmar: Content-Based Approach (CBA), Outcome Based Approach (OBA), or the combination of both?

Answer 3: Myanmar currently follows CBA. Continuing to follow CBA is recommended. Based on my experience in various countries, attempts for a dramatic curriculum change always seem to fail, mainly because teachers cannot follow such kind of drastic changes. Teachers need costly training. Furthermore, parents who may not accept new curriculum approach will complain. CBA is an old curriculum design approach and the new approach like OBA seems a better one to improve education quality. However, Japan has consistently performed well in terms of education quality even though it still follows CBA. Japan always ranks as one of the highest in international achievement tests such as PISA or TIMSS. There is no perfect solution. Both CBA and OBA have strengths and weaknesses. If we think critically, we can improve either approach based on the analysis. So again, following CBA is recommended for Myanmar.

Question 4: The Government of Myanmar is in the process of changing its education system to 5-4-3 and it is under consideration at the President Office. With this change, what will be the challenges for us?

Answer 4: Changing the education system to 5-4-3 will mean having extra grades. So there will be a need for more classrooms, teachers and budget. Short term implementation will be difficult and requires strategic planning. Thailand, for example, expanded compulsory education from 6 years to 9 years by topping up classes in primary schools.

Question 5: The starting age for schooling is also under consideration to be changed to 6 years-old in the future. What do you think of that?

Answer 5: Curriculum/content is more important than age.

Question 6: According to the promotion system of teachers in Myanmar, a primary teacher with some teaching experience will be promoted to a junior teacher, and then be promoted to a middle school head teacher. When teachers become rich in teaching experiences, they are promoted and positions of primary teachers always become vacant and recruited yearly. It affects the quality of education. What are your suggestions to solve this problem?

Answer 6: Here are some of the ideas for solution:

- Competency-based teacher promotion system
- Specialized courses for teachers
- Specialized education degrees for primary, middle and high school levels (e.g. Bachelor in Primary Education, Bachelor in Middle School Education and Bachelor in High School Education)
- Teacher education policy, support for professional teaching (including budget for training), and promotion of social status of teachers

Question 7: In Myanmar, there are so many ministries involved in higher education. Do we need to administer all the HEIs under one ministry, the Ministry of Education, or not? ?

Answer 7: As long as the main objective of HEIs remains to produce high quality human resources necessary to their belonging respective ministries, there are meanings to have HEIs under different ministries. In such circumstances, coordination mechanism among ministries must be strengthened. After a private sector is more expanded and the majority of graduates from HEIs become not necessary to work in the government sector, it may be time to consider bringing back HEIs under the Ministry of Education.

Question 8: Should there be autonomy for curriculum at respective universities?

Answer 8: Yes. Each university needs to have autonomy over curriculum decisions. In Myanmar, HEIs are not allowed to determine their curriculum, syllabus and textbooks. All departments of the same study field, even at different HEIs, must use the same curriculum, syllabus, and textbooks authorized by Council of University Academic Bodies. Universities located in different regions may have different demands and needs of human resource development from local communities and labor market.

Question 9: Among teachers, should most outstanding teachers teach in grades 1 to 6?

Answer 9: For students to have a good education, it is very important that they have a strong foundation. Thus, it is reasonable to say that basic education teachers for grades 1 to 6 should be the most outstanding teachers. Teachers for grades 1 to 6 have to make more efforts than teachers for other grades because the foundation built during students' early learning has long lasting impacts at later stages.

Question 10: Myanmar hopes that many foreign countries will come to Myanmar to do business and apply their technology and knowledge with their own approaches. But now it seems that the amount of FDI is less than our expectation. What do you think about it?

Answer 10: Myanmar is still going through a transition period. It seems that foreign countries are waiting to see the changes in every aspect of Myanmar especially in FDI policy. After the FDI policy is approved, there will be incentives for FDI and many foreign companies should come here to carry out investment and apply their own technology and knowledge with their own approaches.

Question 11: In the future, which sectors will be the best for FDI in Myanmar?

Answer 11: Myanmar has labor-intensive industries and good human resources. Manufacturing sectors especially in the garment sector will have more demand for FDI.

Question 12: How can Myanmar meet the gaps between supply and demand for good human resources?

Answer 12: To meet a gap between supply and demand for good human resources of foreign affiliated companies in every sector of business, people should have appropriate skills such as language skills for communication, management skills, etc. and sufficient knowledge of marketing not only in Myanmar but also in foreign countries. Some activities or programs to upgrade skills should be initiated to generate efficient and effective workers and employees. For example, internship programs in universities should be promoted. Some experts from local and foreign

countries with experience should be invited to hold seminars in universities and so on. To identify whether graduates from universities can apply the knowledge and skills which they learnt from their universities in the practical world after graduation, universities should conduct a trace survey of graduates and their employers.

APPENDICES 8

APPENDIX 8-1: An Overview of Critical Issues for the Education Sector in Myanmar

Education Administration and Finance

- ✓ The current MoE's organizational structure is not conducive to accelerating the education reform and improvement.
- ✓ Unclear demarcation of roles among different government bodies and schools is leading to inefficiency and ineffectiveness in education administration.
- ✓ The existing education administration structure does not allow each locality to respond to their local needs.
- ✓ The existing education budget structure makes it difficult to clearly identify how much is actually spent and how much is needed for improvement at each level of education.
- ✓ Budget and financial resources to achieve long/mid-term educational policies are not clear.

Main Issues by subsector

Access	Quality	Management
Basic Education ✓ There is a pattern in which enrolment rates decrease and dropout rates increase towards the upper grades. ✓ Access to educational opportunities for disadvantaged children (such as children from poor families and minority groups, and children with disabilities) is limited. ✓ Shortage of opportunities for dropped out children to continue education. ✓ Some regions do not have TTIs in their localities. ✓ Only limited training opportunities exist for minority students to become teachers . ✓ Shortage of teachers deployed to remote areas.	***Basic Education*** ✓ School quality varies significantly across different types of schools. ✓ Contents of textbooks have not been revised for a long time. ✓ Classroom teaching practice is dominated by rote-learning. ✓ Lack of quality assurance mechanism for classroom environments. ✓ Professional competencies among teachers need to be strengthened. ✓ Teachers have difficulty upgrading their professional competencies. ✓ Teachers are not equipped with skills needed to deal with the realities in the classroom/school.	***Basic Education*** ✓ The existing laws and policies have become outdated and do not reflect the realities of basic education today, and no unified policy and guideline. ✓ The existing school inspection system has become a formality without meaningful feedbacks for quality improvement. ✓ The head teachers do not have a clearly defined role and any support system on school management.
TVET ✓ There is a significant TVET enrolment gap across regions. ✓ There is a gap between supplies of TVET programs and demands for middle-level technical workers. ✓ There is a lack of financial support for economically disadvantaged students.	***TVET*** ✓ Lack of opportunities for students to gain practical skills and experiences. ✓ Teaching and learning is centered on rote-learning of the fixed national curriculum. ✓ Capacity of teaching staff needs to be strengthened. ✓ Private companies have low confidence and trust in TVET institutions.	***TVET*** ✓ The levels and contents of TVET programs vary significantly due to the lack of coordination across relevant ministries and institutions. ✓ The existing laws and policies have become outdated and do not reflect the realities of TVET today.
Higher Education ✓ There are very few HEIs that offer highly demanded courses and thus limiting access to these courses.	***Higher Education*** ✓ Graduates from HEIs do not attain enough knowledge or skills directly applicable to the workplace. ✓ The capacity of teaching staff needs to be strengthened. ✓ Research functions at HEIs need to be strengthened. ✓ A Quality Assurance system needs to be developed.	***Higher Education*** ✓ Lack of coordination across ministries administering HEIs. ✓ The existing laws and policies have become outdated and do not reflect the realities of higher education today. ✓ The policies need to be established based on evidences. ✓ The management capacity of HEIs needs to be strengthened. ✓ Degree system and structure vary among HEIs under different ministries and are complicated
Common Issuesz ✓ There is a lack of access to educational opportunities for disadvantaged groups (such as children and youth from poor or minority families), thus, limiting their chances for continuing education.	***Common Issues*** ✓ School curricula and teacher competencies have not been adequately upgraded to respond to the changing needs of the labor market.	***Common Issues*** ✓ Relevant ministries, administrative bodies and schools are not fully serving their intended functions without appropriate coordination and demarcation of roles to serve for a unified and coordinated purpose. ✓ Existing laws and policies have become outdated and do not reflect the realities of the education sector today.

Core Issues

1. The existing education laws have become outdated.
2. The past directives/measures implemented in the education sector have been fragmented and uncoordinated.
3. Educational policy decisions have not been based on evidence or analysis due to the lack of reliable and comprehensive statistics.
4. Current education system does not have a mechanism to continuously upgrade itself to respond to the needs of the world of work.
5. Relevant ministries, administrative bodies and schools are not fully serving their intended functions without appropriate coordination and demarcation of roles to contribute to a unified purpose.

Overall Recommendation for Education Reform in Myanmar

To formulate evidence-based policy decisions while ensuring coherence in major reform agenda (including a school system reform, a curriculum reform as well as decentralization).