

ERITREA

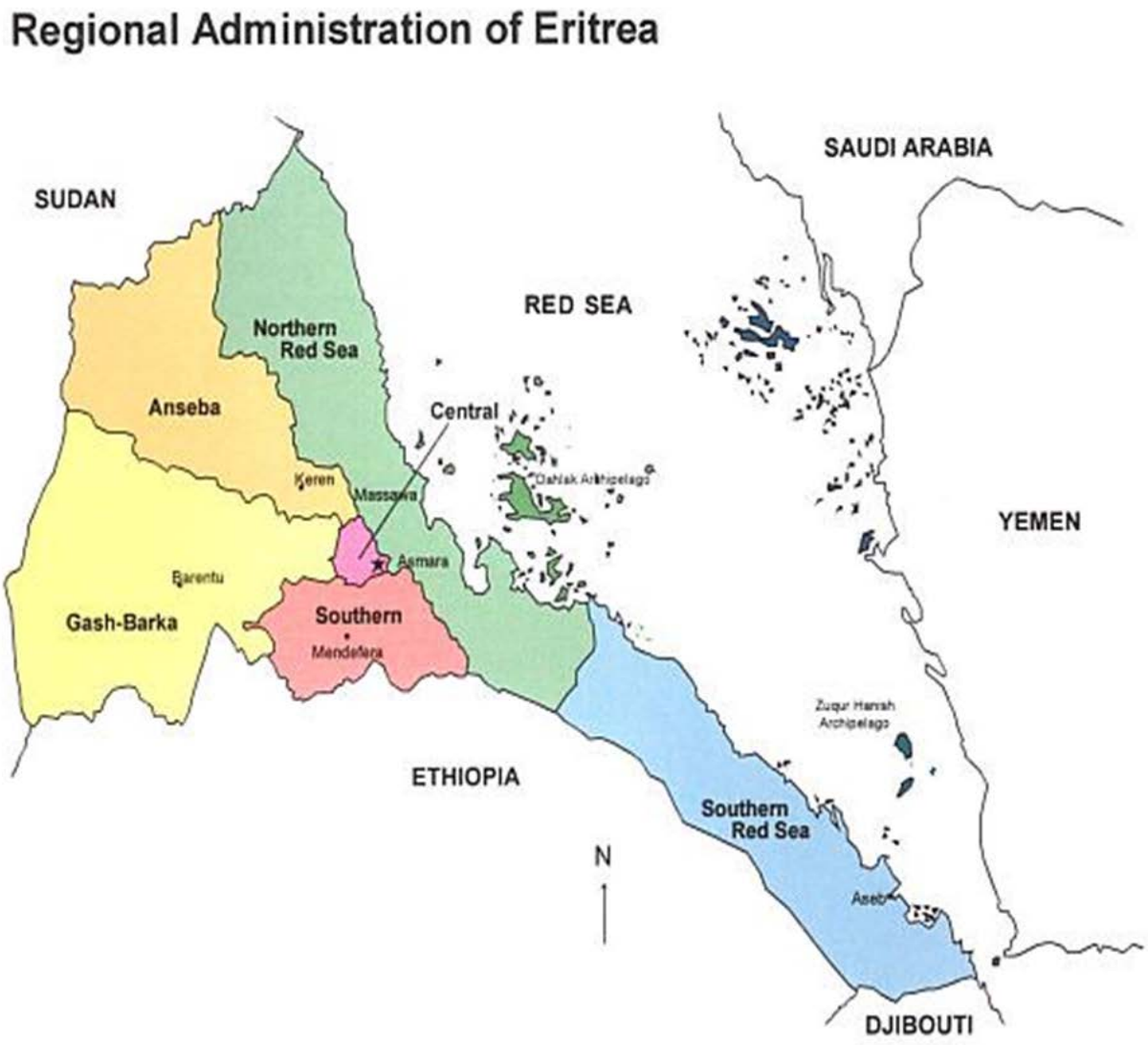
EDUCATION SECTOR ANALYSIS

DECEMBER 2017

ERITREA EDUCATION SECTOR ANALYSIS

DECEMBER 2017

MAP OF ERITREA



NB: This map is solely for the purpose of indicating the location of the administrative regions (zobas)

TABLE OF CONTENTS

ERITREA EDUCATION SECTOR 2
ANALYSIS 1
Table of Contents 3
LIST OF TABLES 12
ABBREVIATIONS AND ACRONYMS 19
EXECUTIVE SUMMARY 25
INTRODUCTION 25
CHAPTER 1 32
CONTEXT OF THE DEVELOPMENT OF THE EDUCATION SECTOR 32
Literacy Status 35
Nutrition 35
Disability 36
Infant and Maternal Mortality Rate 36
1.1.3 Prevalence and Incidence of HIV/AIDS and Malaria 37
1.1.4 Linguistic Context 38
1.1.5 Humanitarian Context 38
1.2.1 GDP and GDP Per Capita Trends 39
1.2.2 Government Expenditure on Education 39
1.2.3 Actual Spending on Education 40
1.2.4 Contributions from Other Sources 41
CHAPTER 2 42
ENROLMENT, INTERNAL EFFICIENCY AND OUT-OF-SCHOOL 42
CHILDREN 42
SECTION 2.1: THE EVOLUTION OF ENROLMENT AND EDUCATION SYSTEM ENROLMENT CAPACITY 42
2.1.1 THE EVOLUTION OF ENROLMENT 42
Pre-primary Level 42
Primary Level 43
Middle School Level 45
Secondary Level 46
2.1.5 All levels Gross enrolment, GER, and NER by Zoba (Region) 47
SECTION 2.2: SCHOOL COVERAGE: SCHOOLING PROFILES, SCHOOL LIFE EXPECTANCY AND EDUCATION PYRAMIDS 48
2.2.1 Schooling Profiles and Retention 48
2.2.2 School Life expectancy 51
2.2.3 Education Pyramids 54
SECTION 2.3: THE SUPPLY AND DEMAND ISSUES ON ACCESS AND RETENTION 55
2.3.1 Access –Related Supply and Demand 55
Levels of awareness and value to education 55

Household Poverty 56
Pre-Primary Education 56
Primary and Lower Secondary Education 56
Socio Cultural Beliefs and Practices 57
Scattered villages and Settlements 57
Late entry and Enrolment in school 57
Availability of Schools and Classrooms 58
Distance of School from home 60
Supply of Teachers 60
2.3.2 Retention – Related Supply and Demand Child Marriage 61
Nomadic – Semi Nomadic Life Style of communities 62
Child work and Apprenticeships 63
Disability 63
School Environment and Infrastructure 64
Availability of Educational Facilities and Materials 65
2.3.3 Bottleneck Analysis 65
SECTION 2.4: INTERNAL EFFICIENCY 67
2.4.1 Repetition 67
2.4.2 Internal Efficiency Coefficient 71
SECTION 2.5: OUT-OF-SCHOOL CHILDREN 72
2.5.1 Estimation of the Share and Number of Out-of-School 72
2.5.2 Who are the Out-of-School Children? 78
CHAPTER 3 80
COST AND FINANCING 80
INTRODUCTION 80
SECTION 3.1: PUBLIC EDUCATION SPENDING 81
3.1.1 Government Spending 81
3.1.2 Allocation by Sub-sector 82
3.1.2.1 Recurrent Expenditure 82
3.1.2.2 Development (Project) Expenditure 82
3.1.3 Evolution of Public Spending by Type of Spending: MOE Expenditure 83
3.1.4 The Distribution of Spending Across Sub-Sectors 84
3.1.5 Detailed Analysis of Public Recurrent Spending for the Most Recent Year 85
3.1.6 External Funding 86
SECTION 3.2: PUBLIC EDUCATION RECURRENT UNIT COSTS 87
3.2.1 Macro Estimation of Public Recurrent Expenditure per Pupil 87
3.2.2 Breakdown of Public Recurrent Unit Costs 88
3.2.3 Analysis of the Status and Remuneration of Teachers 89
3.2.4 Overall Efficiency in the Use of Public Resources 90
3.2.5 Financing Research and Development (R&D) 90
SECTION 3.3 HOUSEHOLD CONTRIBUTIONS TO EDUCATION 90
3.3.1 Private Unit Costs by Education Level 90

3.3.2 Education Cost-Sharing between the Government and Families 91
3.3.3 Breakdown of Average Private Unit Costs by Spending Item and Level 91
SECTION 3.4 SCHOOL INFRASTRUCTURE 92
3.4.1 The Cost of School Infrastructure 92
3.4.2 Community Participation in School Construction 93
Conclusion 94
CHAPTER 4 95
QUALITY, SYSTEM CAPACITY AND MANAGEMENT 95
COMPONENTS AND FOCUS OF THE ANALYSIS 95
SECTION 4.1: ASSESSMENT OF STUDENT LEARNING 95
4.1.1 National Examinations and Admission Tests 95
End-Of-Basic Education National Examination (EBENE) 95
Attainment of Mastery Levels 96
4.1.2 National Learning Assessments 99
Background 99
Benchmarks 99
4.1.3 International Standardized Learning Assessments 102
SECTION 4.2: ANALYSIS OF SYSTEM CAPACITY 102
Introduction 102
4.2.1 Evaluation of the Conversion of Resources into Results by Schools 102
4.2.2 Analysis of the Factors Associated with Learning Achievements 105
Age Differences 105
Disparity of Achievement by Sex 106
School Location as a Factor of Disparity 107
Disparity due to School Type 109
Socio-Economic Status as a Determinant Factor: 110
4.2.3: Institutional Analysis 111
Introduction 111
Organization Structure and Administration 111
Decentralization 111
Educational Management Information System (EMIS) 112
A) Performance of Administrative Structures 112
Challenges 114
4.3: MANAGEMENT OF TEACHERS 96
4.3.1 Quantitative Analysis of Teacher Management 96
Number of teachers 96
Pupil Teacher Ratio 96
Pupil Teacher Ratio by level 96
Pupil-teacher ratio by zoba and level 97
Teacher Qualification and placement 98
Teacher Motivation and Retention 99
Teacher Training and supply 99

Pre-service Training System 100
In-service Training System 100
Supervision and Support 100
SECTION 4.4: THE MANAGEMENT OF OTHER RESOURCES AND TEACHING TIME 101
4.4.1 Management of Resources Other than Teachers 101
4.4.1.1 Curriculum and School Support System Materials 101
School Library: 102
Science laboratories: 102
Pedagogical Resource Center: 103
4.4.1.2 School infrastructure 103
School Buildings (classrooms) 103
Furniture: 104
4.4.1.3 School Facilities 104
4.4.2 Monitoring of effective teaching time 108
Late opening of schools 108
Shortage of supply and high attrition rate of teachers 109
Absenteeism 109
CHAPTER 5 110
EXTERNAL EFFICIENCY 110
INTRODUCTION 110
SECTION 5.1: THE ECONOMIC IMPACT OF EDUCATION (TVET) 110
5.1.1 Description of the Labor market 110
5.1.2 Labor Market Structure and Dynamics 110
5.1.3 Employability of Education system leavers and Graduates of TVET 114
Access to work: 114
Optimal use of employment potential: 114
Remuneration 116
5.1.4 Economic Return of TVET 116
5.1.5 The training – employment balance (Macro – approach) 116
5.1.6 Anticipation of future labor market needs. 117
SECTION 5.2: THE SOCIAL IMPACT OF EDUCATION 118
5.2.1 The Choice of Social Development Variables 119
Estimation of the Net Effects of Education 119
5.2.1.1 The Social Impact of Education on Health 119
Awareness of HIV/AIDS 119
Knowledge and attitudes concerning Tuberculosis (TB) 120
Use and sharing of sanitation facilities (Stool Disposal) 121
Nutritional Status of Children 121
Fertility 122
Teenage Pregnancy and Motherhood 122
Infant and Child Mortality 122
5.2.1.2 The Social Impact of Education on Crime Reduction 123

5.2.1.3 The Social Impact of Education on Civic and Political Participation 123
Men's attitude toward wives' participation in decision making 125
5.2.1.4 The Social Impact of Education on Living Conditions 125
Attitudes toward wife beating: women 127
Conclusion 128
CHAPTER 6 129
EQUITY 129
INTRODUCTION: 129
6.1.1 Gender Education Parity 129
6.1.2 Regional disparities 134
6.1.3 Children from Households with Nomadic (nomad-pastoralist) Livelihood Styles. 140
6.1.4 Other Disadvantaged Groups: Orphans and Street Children. 141
SECTION 2: MEASURING EQUITY IN THE DISTRIBUTION OF PUBLIC RESOURCES 142
6.2.1 The Structural Distribution of Public Education Resources 144
6.2.2 Distributive Equity in Public Education Expenditure: Social Disparities in the Appropriation of Education Resources and Benefit Incidence Analysis 146
6.2.3 Perceptions on Women and Education 147
Eritrea should expand access and improve equity in education, health, and basic services to promote equal opportunity 149
Challenges and Issue 149
CHAPTER- 7 150
EARLY CHILDHOOD DEVELOPMENT (ECD) 150
INTRODUCTION AND CONCEPTUAL FRAMEWORK 150
7.1 MACRO LEVEL 150
7.1.3 ECD Costs and Financing 152
7.2 MESO Level: Mapping the ECD Service Delivery Options 152
7.2.1 Identification of ECD Programs by type 152
7.2.2 Early Childhood Care and Education (ECCE) 152
7.2.2 Identification of program by delivery mode 153
7.2.3 Description of ECD Program Characteristics 154
7. 3.1. Pre-Primary education 154
7.3.1.1 Pre-primary schools 154
7.3.1.2 Pre-primary children enrolment 155
7.3.1.3 Parenting Enrichment 155
7.3.1.4 Guidelines, Standards and Research 156
7.3.2.1 Infant and Child Mortality 156
7.3.2.2 Immunization 157
7.3.2.3 Child Nutrition 157
Core nutrition related for children of age under 5 years *(EPHS, 2010)* 157
7.4 DISPARITIES IN ACCESS TO AND USE OF ECCE SERVICES 159
7.4.1 Disparities in ECCE program 159
7.4.1.1. Pre-Primary school centers: number 159

7.4.1.2 Regional disparity in ECCE services: 160
7.4.1.3 Gender disparity: 160
7.5 QUALITY AND EFFICIENCY OF ECD SERVICES 161
7.5.1 Quality of ECCE Services 161
7.5.1.1. Structural Characteristics 161
7.6.ECD CHALLENGES AND RECOMMENDATIONS 165
CHAPTER 9 166
ADULT AND NON-FORMAL EDUCATION SUB SECTOR ANALYSIS 166
OBJECTIVE 166
Adult and Non-Formal Education 166
Introduction 166
SECTION 1: DEFINITION OF ADULT AND NON-FORMAL EDUCATION (ANFE) 168
Policy Context and Practices 169
Literacy and Post-Literacy Programme 175
Continuing Education Programme 176
Complementary Elementary Education (CEE) 177
Target Groups 177
Certification and Equivalences 178
SECTION 2: NEEDS AND PARTICIPATION 178
Access and Equity 180
Equity 183
Quality and Relevance 184
Internal efficiency 185
Quality 186
Availability of qualified teachers 186
Supervision and Monitoring 187
ACCESS AND EQUITY 188
Access 188
Learning centers 188
Enrolment 189
Enrollment Status in the four Zobas level 1 193
Zoba Anseba 193
Gash-Barka 193
SK Bahri ..... **Error! Bookmark not defined.**
DK Bahri ..... **Error! Bookmark not defined.**
Gender disparity 194
Quality and relevance 195
Dropout rate 195
Completion rate 196
Learning Environment 197
Teaching aids 197
Program duration and learning days 197

Curriculum 198
Process of curriculum Development, and dissemination 198
Teacher: 199
Source and Qualification of teachers 199
Source: Statistical Data from DAEM 20115/16 199
Evening (Extension) Program 200
Access 200
Enrolment rates 200
Enrolment rates by zoba 201
Enrolment Trend 202
Equity 202
Gender Disparity 202
Quality and Relevance 202
Quality of Learning Environment 203
Curriculum Relevance 203
Teachers Participation and Quality 203
Supervision and Monitoring 203
Recommendation 203
SECTION 3: SUPPORTIVE SYSTEM FOR ANFE 204
Progress in improving access and equity 204
Audio visual 205
Challenges 206
Conclusion ..... **Error! Bookmark not defined.**
SECTION 4: COST AND FINANCING 206
Introduction 206
Financing and Resource Mobilization 206
SECTION 5: RESULTS AND QUALITY AND RELEVANCE INDICATORS 210
Provision of ANFE in Eritrea and its results 210
Summary Findings 211
Challenges and Constraints 212
Conclusion Recommendations ..... **Error! Bookmark not defined.**
Conclusion ..... **Error! Bookmark not defined.**
CHAPTER 10 214
TECHNICAL VOCATION EDUCATION AND TRAINING (TVET) 214
INTRODUCTION 214
Section 10.1 What is TVET 214
10.1.1 Context 215
10.1.2 TVET System in Eritrea 217
10.1.3 TVET Policies and Objectives 218
10.1.5 Dimensions and Distinguishing Characteristics of TVET 219
10.1.6 TVET Delivery Systems 219
10.1.7 Data Situation of TVET 220

Section 10.2 Performance of TVET 220
10.2.1 Access 221
10.2.2 Equity 223
10.2.2.2 Ethnicity Disparities ..... **Error! Bookmark not defined.**
10.2.3. TVET Graduates 225
10.2.4 External Efficiency 225
10.2.4.1 Relevance of Training Delivery 226
10.2.4.2 Value of TVET qualification in the labor market 227
10.2.4.3 Labor market matching services 227
Section 10.3 Costs and Financing 228
10.3.1 Introduction 228
10.3.2 Analysis of Public TVET Expenditure 229
10.3.3 Analysis of Other Funding Sources 230
10.3.4 Structure of TVET Expenditure ..... **Error! Bookmark not defined.**
10.3.5 Unit Expenditure and Unit Costs 230
10.3.6 TVET Infrastructure 230
Section 10.4 Internal Efficiency and Quality 231
Introduction 231
Training provisions and quality 231
Quality Assurance Mechanism 232
10.4.1. Analysis of Internal Efficiency 232
10.4.1.1. Repetition rate 233
10.4.1.2. Pass and Failure Rates 233
10.4.1.3 Dropout Rate 233
10.4.1.4 Examination Success Rate in Final Exams 235
10.4.1.5 Graduation Rate 235
10.4.1.6 Internal Efficiency Coefficient Ratio 236
10.4.1.7 Analysis of Quality Of Training Delivery 237
10.4.2.1 Improving quality 237
10.4.2.1.1 Capacity building:-Developing of the human resources in TVET 238
10.4.2.1.2 Curriculum: Developing Supplementary Training Materials 240
10.4.2.1.3 Strengthening and Consolidating School Support Systems 240
10.4.2.1.4 Rehabilitation of schools 240
10.4.2.2 Management of Training Time 241
Issues and Concerns of TVET 241
Appendix -B 252
Area of Skill 252
Enrolled and Completed in Non-formal (Private Training Centers in zobas) 253
in 2013-2017 253
CONCLUSION AND RECOMMENDATIONS 243
Recommendations (Ch. 4 Sec. 3) ..... **Error! Bookmark not defined.**
Recommendations (Ch. 4 Sec. 3) ..... **Error! Bookmark not defined.**

Conclusions and recommendations (Ch. 4 Sec. 3) .....**Error! Bookmark not defined.**
Management of resources other than teacher.....**Error! Bookmark not defined.**
2.4 Recommendations Ch. 6 Sec. 2):.....**Error! Bookmark not defined.**
Chapter 9:.....**Error! Bookmark not defined.**
Chapter 10.....**Error! Bookmark not defined.**
Recommendations.....**Error! Bookmark not defined.**

LIST OF TABLES

Table 1.1	Government Educational spending as a percentage of GDP from 2013 to 2016
Table 1.2	Government Spending on Education by level of classification
Table 2.1	Pre-primary Level Enrolment, GER and NER gender by year
Table 2.2	Primary Level: Enrolment, GER and NER gender by year
Table 2.3	Middle Level: Enrolment, GER and NER gender by year
Table 2.4	Secondary Level: Enrolment, GER and NER gender by year
Table 2.5	All Levels: Gross Enrolment by zoba in 2015/16
Table 2.6	Gross intake rate and Net intake rate
Table 2.7	School Life Expectancy of Grade 1-12 by year and sex
Table 2.8	Projections of classroom requirements by school level
Table 2.9	Projections of new teacher requirements by school level
Table.2.10	Percentage of repetition by level, 2011/12-2015/16
Table 2.11	Percentage of repeaters by Level and zoba, 2015/16
Table 2.12	Primary level: Percentage of repeaters by zoba 2011/12-2015/16
Table 2.13	Secondary level: Percentage of repeaters by zoba 2011/12-2015/16
Table 2.14	Internal efficiency coefficient, primary level
Table 2.15	Summary of School Age Population In and Out-of-school – 2013
Table 2.16	Percentage of Pre-primary School Age Children Out-of-School by Residence, Wealth and zoba
Table 2.17	Percent and Number of Primary School-age Children Out-of-School by Age, Gender, Residence, Wealth and zoba
Table 2.18	Percent and number of Middle School-age Children out-of-school by Age, gender, Residence, wealth and zoba
Table 2.19	Percent and number of Secondary School-age Children out-of-school by gender, Residence, wealth and zoba
Table 3.1	Spending on Education in Eritrea as a Percentage of GDP and Total Government Spending, 2013 – 2016
Table 3.2	Percentage Distribution of Public Education Expenditure, by Nature and Subsector, 2013-2016
Table 3.3	Distribution of public spending on education by economic purpose
Table 3.4	Government Spending on Education by category
Table 3.5	Ratio of Recurrent Expenditure to GDP by category
Table 3.6	Net enrolment by level of education
Table 3.7	External Funding for Basic, Secondary and TVET Education in Eritrea in USD, 2013 – 2016
Table 3.8	Unit Spending by Level of Education in Eritrea, 2015 – 2016

Table 3.9 New Salary by Level of Qualification in Eritrea
Table 4.1 Pass Rates from basic to secondary education
Table 4.2 Percent of Students who reached the MML score in English & Mathematics, by Age-group and Exam years
Table 4.3 Cross-tabulation of Age group vs NTSRNE for 2017 Exam
Table 4.4 Participants in MLA-III by school type and grade (2015)
Table 4.5 Participants in MLA-III by school location and grade (2015)
Table 4.6 Percent of students who had attained MML in MLA-I, MLA-II, and MLA-III
Table 4.7 Percent of examinees who had achieved the MML in English and Mathematics during the last three years.
Table 4.8 Percent of Examinees attained MML by subjects, National Exam years, and School locations (2015 – 2017)
Table 4.9 Percent of 5thgrade students attained MML by location and subjects in MLA-III (2015)
Table 4.10 Very-Good Performance (Average score of 75% to 100%)
Table 4.11 Excellent Performance (Average score of 90% to 100)
Table 4.12 Profile of manpower by qualification in the administrative structures of MOE Central Office
Table 4.13 Profile of manpower by qualification in zoba Education Offices
Table 4.14 Qualification of teachers by level of school
Table 4.15 Administrative staff at school level (director, Pedagogic head, Administrator)
Table 4.16 Number of teacher by level from 2011/12 to 2015/16
Table 4.17 Pupil-teacher ratio by year and level: 2011/12-2015/16
Table 4.18 Pupil-Teacher ratio by zoba and level in 2015/16
Table 4.19 Qualification of Teachers by level in 2011/12 to 2015/16
Table 4.20 Number of middle and secondary schools with libraries
Table 4.21 Type of classrooms in schools by zoba
Table 4.22 Availability of students' desks by zoba
Table 5.1 Work Permit Issued to Expatriates by Educational Level, Year & Sex (2011 – 2012)
Table 5.2 Expatriates Issued with Work Permit by Continent of Origin, Year & Sex (2011-2012)
Table 5.3 Project Analysis of TVET 2013 to 2020
Table 5.4 Employment Data of 2013 and 2015 Job Seekers
Table 5.5 Knowledge of AIDS
Table 5.6 Disposal of children's stools
Table 5.7 Fertility by background characteristics
Table 5.8 Level of education and Number of crimes
Table 5.9 Gender breakdown of higher government posts

Table 5.10 Women's participation in decision making by background characteristics
Table 5.11 Employment status: Women
Table 5.12 Employment status: Men
Table 5.13 Attitude towards wife beating: Women
Table 6.1 Gross enrollment ratios and parity indexes by gender and area of residence, 2015/16
Table 6.2 Gender Parity Index by zoba, 2015/16
Table 6.3 Gender Parity Index by survival, transition and completion rates
Table 6.4 Gender Parity Index for Primary Completion rate by zoba and gender
Table 6.5 Performance levels* (bands) by gender in Grade 8 National Examination in 2015/16
Table 6.6 GER and NER by school level and zoba
Table 6.7 Enrolment by school level and zoba
Table 6.8 Enrolment in boarding schools by ethnicity and sex (2015/16)
Table 6.9 Primary Enrolment by zoba and location 2015/16
Table 6.10 Middle school attendance ratio
Table 6.11 Secondary school net attendance ratio (NAR)
Table 7.1 Disparities by location and gender
Table 7.2 Distribution of pre-primary centers by ownership, region, and location, 2015/16
Table 8.1 Number of villages with and without literacy programs so far
Table 8.2 Literacy enrolment 1993/1998
Table 8.3 Literacy enrolment 1999/2009
Table 8.4 Literacy enrolment 2010/2016
Table 8.5 Literacy participants by zoba
Table 8.6 Literacy program centers by zoba
Table 8.7 Literacy participants by ethnicity
Table 8.8 Enrolment by language of instruction
Table 8.9 Literacy Participants by age and sex
Table 8.10 Literacy enrolment, drop out and completion 2011 – 2016 by Level and Gender
Table 8.11 Literacy teachers by type
Table 8.12 Literacy teachers by academic qualification
Table 8.13 Types of literacy classes
Table 8.14 Number of learning centers across regions
Table 8.15 Level 1: Enrollment, Dropout and Promotion by zoba
Table 8.16 Level 1: Enrollment, Dropout and Promotion by level
Table 8.17 Level 2: Enrollment, Dropout and Promotion by zoba
Table 8.18 Level 2 Enrollment, Dropout and Promotion by level
Table 8.19 Level 3: Enrollment, Dropout and Promotion by level
Table 8.20 Level 3: Enrollment, Dropout and Promotion by level

Table 8.21 Level 1: Enrolment by zoba & sex 2011/12- 2015/16
Table 8.22 Enrolment, completers and dropouts
Table 8.23 Level 3: completers and mainstreamed CEE learners
Table 8.24 Learning days and periods of non-formal and formal education
Table 8.25 CEE program progression
Table 8.26 Teachers by type and qualification
Table 8.27 Yearly enrolment of learners across (2012-2016)
Table 8.28 Yearly enrolment of learners by zoba
Table 8.29 Learning Centers by zoba and by Year
Table 8.30 Status of learners (Registered, Promoted, Failed and Dropout)
Table 8.31 Expenditure on Literacy and Continuing Education as a percentage of total government expenditure on education.
Table 8.32 Government Spending on Education by level of classification
Table 8.33 Government Budget Allocated for the implementation of Literacy and Continuing Education for 5 years (2011-2015) at the national and zoba levels in ERN
Table 9.1 Summary of TVET Delivery Systems
Table 9.2 Intake of TVET compared to that of regular secondary schools.
Table 9.3 TVET Intermediate Level Enrollment by Stream
Table 9.4 CeVoT enrolment by Centre
Table 9.5 TVET Intermediate Enrollment by zoba/Region
Table 9.6 Intermediate level TVET Graduates 2012/13-2016/17 by Stream
Table 9.7 ***CeVoT Graduates by Centre***
Table 9.8 Government spending on TVET as a percentage of total government spending on education
Table 9.9 Spending on Education in Eritrea as Percentage of GDP and Total Government Spending (Million), 2013 – 2016
Table 9.10 Dropout rates in TVET schools in 2013-2017 by Stream
Table 9.11 Dropout Rates in the Center for Vocational Training (CeVoT) by Stream
Table 9.12 Success rates in final exams in 2013-2017 by Stream
Table 9.13 Success rate in final exams at CeVoT 2012-2017 (3 TVET cycle)
Table 9.14 Internal efficiency coefficient
Table 9.15 Qualification of Instructors

LIST OF FIGURES

Figure 2.1	Pre-primary Gross Enrolment Rate and Net Enrolment Rate by year
Figure 2.2	Primary Level Gross Enrolment Rate and Net Enrolment Rate by year
Figure 2.3	Middle level Gross Enrolment Rate and Net Enrolment Rate by year
Figure 2.4	Secondary level Gross Enrolment Rate and Net Enrolment Rate by year
Figure 2.5	All levels Gross Enrolment rate by Zoba 2015/16
Figure 2.6	All Levels Net Enrolment Rate by zoba 2015/16
Figure 2.7	Enrollment by Grade, Eritrea 2012-2016
Figure 2.8	Cross section schooling profiles, Eritrea, 2011-12 and 2015-16
Figure 2.9	Expected primary education retention profile, Eritrea, 2012 and 2016
Figure 2.10	Promotion Rate, Eritrea 2016
Figure 2.11	Promotion Rate by zoba, Eritrea, 2016
Figure 2.12	School life expectancy by level and year: Eritrea, 2012 - 2016
Figure 2.13	School life expectancy by level and sex: Eritrea, 2016
Figure 2.14	School life expectancy all level by sex and year: Eritrea, 2012-2016
Figure 2.15	Education Pyramid for Eritrea, 2016
Figure 2.16	Repeaters by level, Eritrea 2011/2012 – 2015/16
Figure 2.17	Repetition at all levels by zoba, 2015/16
Figure 2.18	Elementary level: percentage of repeaters by zoba 2011/12 – 2015/16
Figure 2.19	Middle level: percentage of repeaters by zoba 2011/12 - 2015/16
Figure 2.20	Secondary level: Repeaters by zoba 2011/12 - 2015/16
Figure 2.21	Coefficient of efficiency, primary level, Eritrea
Figure 2.22	% of pre- primary school age children I and out-of-school by zoba
Figure 2.23	Percent of out-of-school secondary school age children
Figure 4.1	Mean scores by subjects and examination years
Figure 4.2	Percent of students who scored MML, by Sex and Exam years

Figure 4.3 Percent of students who attained MML by the Number of Times the Students had Repeated National Examination (NTSRNE) and by Examination Years

Figure 4.4 Percent of students who attained MML in Literacy and Numeracy by School Type (2015)

Figure 4.5 Percent of Students who had attained MML in Literacy Learning Domains, by Sex (Grade 3, MLA-III)

Figure 4.6 Percent of Students who had attained MML in Literacy and Numeracy by School Location (Grade 5, MLA-III)

Figure 4.7 Percent of students who had attained the MML, in MT, Math, English by Age-groups; MLA-III, in Grade 3

Figure 4.8 Percent of students attained MML in MT, Math and English by Age-groups (MLA-III, in Grade 5)

Figure 4.9 Percent of 5th grade students who had attained the MML in MT and Maths by Sex

Figure 4.10 Percent of students attained MML by School Type

Figure 4.11 Organizational Structure of the Ministry of Education

Figure 4.12 Pupil Teacher ratio by zoba and level in 2015/16

Figure 4.13 Qualification of teachers

Figure 5.1 Registered job seekers by occupation and year

Figure 5.2 Registered job seekers by gender and year

Figure 5.3 Registered job seekers by level of education

Figure 6.1 Number of out-of-school children by sex across years

Figure 6.2 NER GPI for pre-primary, primary, middle and secondary levels -2012/13 to 2015/16

Figure 6.3 GER gender parity index by zoba and level of education (2015/16)

Figure 6.4 Gender Parity Index for primary completion (2015/16)

Figure 6.5 Primary and Middle levels completion rate by zoba (2015/16)

Figure 6.6 Grade 3 students' attainment of MML and DML in MLA III (2016)

Figure 6.7 Percent of rural children across school levels by zoba (2015/16)

Figure 6.8 Grade 8 National Examination Performance Levels (2015)

Figure 6.9 Reported cases of children with disabilities (EMIS 2007/08 and 2013/14 – 2015/16)

Figure 7.1 Pre-primary enrolment trend

Figure 7.2 Child Mortality (Per 1000 live births)-1995 EDHS, 2002 EDHS, and EPHS 2010.

Figure 7.3 The Impact of ECD interventions on children's development

Figure 7.4 Impact of teachers' training on children's achievement

Figure 7.5 Impact of parents' educational level on children's achievement

Figure 8.1 Relationship of adult education and the formal education system

Figure 8.2 Adult literacy rate by zoba

Figure 8.3 Enrolment trend 1993/2016

Figure 9.1 Gender Disparities by Stream

ACRONYMS

ACCE	Asmara Community College of Education
ADF	African Development Fund
ADB	African Development Bank
AIDS	Acquired Immuno-Deficiency Syndrome
ALE	Adult Learning and Education
ANFE	Adult and Non-Formal Education
CCGs	Community Care Givers
CEE	Complementary Elementary Education
CeVoT	Center for Vocational Training
CLTS	Community-Led Total Sanitation
CoE	College of Education
CP	Community Participation
CPD	Curriculum Planning and Development
CRC	Convention on the Rights of the Child
CWDs	Children With Disabilities
DAEM	Department of Adult and Education Media
DANIDA	Danish International Development Agency
DKB	Debubawi Keih Bahri
DML	Desired Mastery Level
EBENE	End-of-Basic Education National Examination
ECCE	Early Childhood Care and Education
ECD	Early Childhood Development
EFA	Education For All
EIECD	Eritrea Integrated Early Childhood Development
EIT	Eritrea Institute of Technology
ELDS	Early Learning and Development Standards
EMIS	Education Management Information System
ENLS	Eritrea National Literacy Survey
ENRS	Eritrea National Reading Survey
EPHS	Eritrea Population and Health Survey
EPLF	Eritrean People Liberation Front
ERN	Eritrean Currency (Nakfa)
ESA	Education Sector Analysis
ESDP	Education Sector Development Programme
ESECE	Eritrea Secondary Education Certificate Examination
ESIP	Education Sector Investment Project
ESP	Education Sector Plan
EU	European Union
EWG	Education Working Group

FGM	Female Genital Mutilation
GDP	Gross Domestic Product
GER	Gross Enrollment Rate
GNI	Gross National Income
GoSE	Government of the State of Eritrea
GPE	Global Partnership for Education
GPI	Gender Parity Index
GSP	Gross Domestic Product
HIV	Human Immunodeficiency Virus
HRD	Human Resource Development
HST	Health Science and Technology
ICT	Information and Communications Technology
IDB	Islamic Development Bank
ILO	International Labor Organization
IMCI	Integrated Management of Child Illness
IMF	International Monetary Fund
ITN	Insecticide Treated Net
IYCF	Infant and Young Child Feeding
KG	Kindergarten
LCE	Literacy and Continuing Education
LIFE	Literacy Initiative For Empowerment
MDG	Millennium Development Goals
MHM	Menstrual Hygiene Management
MIS	Malaria Indicator Survey
MLA	Monitoring Learning Achievement
MLHW	Ministry of Labor and Human Welfare.
MML	Minimum Mastery Level
MoA	Ministry of Agriculture
MoE	Ministry of Education
MoF	Ministry of Finance
MoJ	Ministry of Justice
MoLG	Ministry of Local Government
MoND	Ministry of National Development
MQA	Monitoring and Quality Assurance
MQS	Minimum Qualification standards
MTCT	Mother-To-Child Transmission
MTE	Mother Tongue Education
N/A	Not Available
NAEP	National Adult Education Policy
NAR	Net Attendance Ratio
NCEW	National Confederation of Eritrean Workers
NEP	National Educational Policy

NER	Net Enrollment Rate
NFE	Non-Formal Education
NGAP	National Gender Action Plan
NGO	Non-Government Organization
NMR	Neonatal Mortality Rate
NQF	National Qualification Framework
NRC	Norwegian Refugee Council
NSO	National Statistics Office
NTSRNE	Number of Times Students Repeat National Examinations
NUEW	National Union of Eritrean Women
NUEYS	National Union of Eritrean Youth and Students
ODF	Open Defecation Free
ODL	Open Distance Learning
OECD	Organization for Economic Cooperation and Development
OOSC	Out-Of-School Children
PFDJ	People's Front for Democracy and Justice
PISA	Program for International Standardized Assessments
PRC	Pedagogic Resource Center
PTA	Parent Teacher Associations
PTR	Pupil–Teacher Ratio
PWD	Person With Disability
PTSA	Parent Teacher and Student Associations
QMS	Quality Management System
R & D	Research and Development
RCCC	Rural Community Children Centers
RPL	Recognition of Prior Learning
RRA	Rapid Results Approach
SACMEQ	Southern Africa Consortium for Measuring Education Quality
SDC	Skill Development Centers
SDG	Sustainable Development Goals
SES	Socio-Economic Status
SIDA	Swedish International Development Agency
SKB	Semienawi Keih Bahri
SLE	School Life expectancy
SMCP	Small Micro-Credit Program
SNE	Special Needs Education
SSDEE	Support to Skills Development for Employability and Entrepreneurship
TB	Tuberculosis
TVET	Technical and Vocational Education and Training
UN	United Nations
UNDP	United Nations Development Program

UNESCO	United Nations Educational, Scientific and Cultural Organization
UNICEF	United Nations Children's Fund
WASH	Water Sanitation and Hygiene
WB	World Bank
WHO	World Health Organization
ZEO	Zoba Education Office

EXECUTIVE SUMMARY

INTRODUCTION

Currently, the Ministry of Education (MoE) of Eritrea is developing the Education Sector Plan for five years (2018 – 2022). The MoE joined the Global Partnership for Education (GPE) in 2013 and will look for a second GPE program for the years 2018 - 2020. In doing so the MoE has developed a comprehensive Education Sector Analysis (ESA) and is planning to go through a joint appraisal process of the Education Sector Plan.

The ESA emphasizes pre-primary, primary, middle, secondary education, adult education and technical vocational education and training. Higher Education is not included in the ESA.

The ESA on the basis of the GPE Guidelines is structured in nine major chapters. These chapters are: Context of The Development of The Education Sector; Enrolment, Internal Efficiency and Out-of-School Children; Cost and Financing; Quality; System Capacity and Management; External Efficiency; Equity; Early Childhood Development; Non-Formal Education and Literacy; and Technical and Vocational Education and Training (TVET). This analysis is prepared by taking into account the perspective of supply and demand as well as with the view of applicable and quality on the provision of education through the whole sector. The two volumes about the Education Sector Analysis GPE in the Methodological Guidelines were helpful in preparing the ESA and the MoE has firmly followed the concepts set on both volumes of the guidelines.

The analysis used various relevant data from EMIS, MoF, MoND, NSO and others. Moreover, the analysis comprised a number of interviews and consultation workshops with different MoE staff, Regional Education Office staff, the Education Working Group (EWG) as well as other education stakeholders.

Administratively, Eritrea is divided into six administrative regions. A wide variation of population density exists in the different administrative areas and some 2,580 villages dotted across the country (EPHS, 2010). No census has been conducted in Eritrea since 1991.

The population of Eritrea is 65% rural and has multi-ethnic social composition, speaking nine different languages. Similarly, there are differences in livelihood among various sections of the population. Small subsistence sedentary farming and semi-pastoralist animal herding are the commonest livelihoods. Urban residence is characterized by salaried dwellings of diverse income records.

Reflective of national and international development instruments, such as the Millennium Development Goals (MDG) and Sustainable Development Goal (SDG) 4- 2030 and the Dakar ‘Education for All’ framework (Dakar, 2000), the National Education Policy (MoE, 2003; MoE, 2011) reiterate that “the provision of sound basic education is both a human right and a tool that raises the overall awareness of citizens, which in turn enhances productivity”. Hence, it reaffirms the government’s commitment towards

realizing equitable educational opportunities to all citizens free of charge, irrespective of their differences regional, urban-rural, gender, language, ethnic, etc. (MoE, 2011; MoE, 2003).

In the past decades since independence (1993), the GoSE expended considerable national efforts and resources to expand education opportunities for citizens. These efforts, framed in the Government's policy papers (National Charter of the PFDJ, 1994; Eritrean Constitution 1997; Macro Policy, 1994), statute 'social justice' as an integral component of national economic, social and cultural development. These guides orientate for equitable and efficient distribution of resources and services to all citizens.

Evidence gathered from MoE study reports and annual EMIS statistics show that commendable achievements have been gained in many dimensions of education by past efforts, including: expansion of education access to citizens and regions around the country. The proportion of out-of-school children has been declining, significantly in the past years (MoE, 2016a). The Gross Enrollment Rate for the academic year 2015/16 it was19.3%, 106.7%, 75.4% and 28.3% for the pre-primary, primary, middle and secondary school levels respectively.

However, MoE reports also reveal that these past efforts could not yet fully meet the education opportunity demands both quantitatively and qualitatively. A considerable number of children are still unable to access school. The Ministry of Education, Eritrea, has undertaken several evaluative initiatives aimed at identifying problems and proposing solutions. ((MoE, Eritrean National Reading Survey (ENRS), 2002)). Among others, ENRS and the Monitoring of Learning Achievement (MLA) could be mentioned. Following MLA-I (2001), MLA-II (2008) and MLA-III (2015) were conducted in primary schools. The MLA project is a large scale systemic assessment which provides education systems with useful information on the status of quality learning in general and the factors that influence learners' achievement in particular.

The MLA projects focused on basic learning competencies in the domains of literacy and numeracy. The MLAs have enabled the MoE to compare the standards of Eritrean education with other systems internationally. A significant proportion of learners failed to attain the expected Minimum Mastery Level (MML) in learning achievement (MoE, 2000; MoE, 2008a; MoE, 2016b), which are essential for their continuity to the next school level and/or for their future social and economic livelihood (exclusion within education). In MLA I, II and III and the grade 8 National Examination, Non-Government (N-Gov) school students overwhelmingly surpassed government school students. While 89.1% of N-Gov school students attained the minimum mastery level (MML) score in MLA-III, in the Mother Tongue (MT), only 19.1% of government school students reached the MML.

The education system is encountered with several challenges in ensuring equitable and quality education for all. The enrolment in pre-primary education is not high. The number of KGs and day care centers that provide some kind of education is found to be minimal. And even the KGs that exist are clustered mostly in urban centers. Thus, enrolment in pre-primary schools is still low. However, enrolment grew from 25.63% to 31.5% (an increase of 22.9%) from 2000 to 2012 but declined to 19.3 % in 2015/16.

The Government has tried to make sure that every Eritrean had basic education, as this level is free and compulsory. Aggressive measures have been taken to address the access gaps at the basic level (primary and middle levels). It is for this reason that the enrolment rates at these levels have registered high increases.

Some progress in enrolment of primary education was shown from 2011/12 up to 2014/15. Over these years, the gross enrolment had steadily risen from 334,245 (boys 184,404, & girls 149,841) in 2011/12 to 361,684 (boys 197,898, & girls 163,786) in 2014/15. But it then showed a slight decline and reached 353,859 (boys 192,977, & girls 160,882) in 2015/16.

The gross enrolment at the middle level showed a decreasing trend from 167,928 (boys 93,116, girls 74,812) in 2011/12 to 141,746 (boys 76,925, & girls 64,821) in the academic year 2015/16.

The gross enrolment at the secondary level revealed a rising trend from 95,152 in 2011/12 to 115,422 in 2013/14. But this trend started to decline between the years 2014/15 and 2015/16 and reached 87,664 (boys 46,383 and girls 41,383). The Gross enrolment rate at the secondary level increased significantly from 31.7% in 2011/12 to 35.2% in 2013/14. But then this trend started to decline in 2014/15 and reached 28.3% in 2015/16. The Net Enrolment Rate recorded a slight increasing trend from 22.1% in 2011/12 to 22.7% in 2012/13. Starting from 2013/14, it began to show a slight decline and recorded a value of 18.2% in 2014/15. In 2015/16 the trend improved and reached 19%.

The education pyramid shows how the number of students enrolled at each level of education drops as we move from lower to higher grades. Only 87% of students enrolled in the first grade are in school system at the end of the primary cycle. This number decreases continuously and it is 16% for those who reach the twelfth grade.

According to various national surveys (Literacy Survey 2008, EPHS2010), the literacy level for the youth lingers around 74% and it was planned to reach 90% as indicated in the Education Sector Development Program (ESDP) 2013-2017. As the surveys indicate there is very high gender and regional disparity.

Eritrea has adopted Mother Tongue Education (MTE) at the primary level in the formal and the non-formal education. This commitment started was aspired during the armed struggle for independence. This practice was continued after independence in the national education system. The MTE is well enshrined in the National Educational Policy (NEP2011). The Ministry trains mother tongue teachers and supplies textbooks in the nine local languages. However, challenges still remain in the supply of teachers in some local languages. To address these challenges, the MoE has taken measures to recruit grade 10 complete students and train them as teachers parallel to the completion of their high school education.

Despite numerous challenges, Eritrea has undertaken rehabilitation and reconstruction of the economy with food security at the top of the Government's agenda, followed by rehabilitation and rebuilding of infrastructure. The provision of social services based on the principle of social justice is also one of the priorities of the Government of the State of Eritrea.

Experience has shown that it is not sufficient to build schools and train teachers for children to attend school. There are numerous situations where a significant share of children stay out-of-school or drop out-of-school, despite the availability of adequate infrastructure and personnel.

A study about out-of-school children was carried out in 2012/2013. The study indicated that 220,596 children aged 5-13 are out-of-school. The magnitude of exclusion is more acute at the pre-primary and middle levels where 73% and 41% of the eligible school age children respectively are out-of-school. In comparison, 19% of primary school age children (6-10 years) are estimated to be out-of-school.

In Eritrea, educational provision is free at all levels, including tertiary education. This puts a heavy load and commitment on the Government. However, a minimal public cost-sharing is also in place at operational levels in schools. Besides, the education sector also benefits from the support of various international development partnerships.

Government spending on education has shown a decrease between 2008-2011 and 2013-2017. For the 2008-2011 periods, Government spending on education remained between 3.7% and 2.6% of GDP while for the 2013-2017 period, spending on education was 1.45% of GDP in 2013 and 0.94% of GDP for 2016. External partners such as, African Development Bank (ADB), the Global Partnership for Education (GPE), UNICEF and the Norwegian Refugee Council (NRC) in total contributed 61.58 million USD for the period between 2013 and 2016, and this has partially relieved Government spending on education. Out of the total Government spending on education around 90% went to recurrent costs while the rest went to capital expenditure.

A significant number of the schools were classified as having less than adequate basic facilities, such as sanitation and water facilities, and were lacking in secure school fences. The total number of schools has increased from time to time. The cost of building class rooms has also increased from time to time and had reached over USD15, 000 per class room in 2015. However, concern has been expressed about the lack of comparability of construction costs in Eritrea with typical costs for countries in general and some observations of cost implications in design that might be modified have been noted.

As regards to teacher training programs, several pre-service, in-service, distance learning and short term trainings are conducted at the Asmara Community College of Education (ACCE) and the College of Education (CoE). However, the CoE at the Eritrea Institute of Technology (EIT) could not meet the demands of middle and secondary school teachers of the Ministry of Education. In the last three years, the Ministry of education was supplied only with 38% of its demand for secondary school teachers. Similarly, it was supplied only with 32.3% of its demand for middle school teachers. The College of Education is not producing enough middle and secondary school teachers and this necessitated for non-education students to be recruited temporarily as teachers. The recruiting of non-education students to be deployed as teachers temporarily has negatively affected the quality of education and the social status of teachers.

Eritrea, as a developing country, is committed to providing and ensuring equitable education at all levels. The education system aspires to produce all rounded citizens firmly committed to country, people and social justice (Revised National Education Policy, August 2011). Moreover, under the fundamental

principle of ‘unity in diversity’ (Eritrean Constitution, Article 11), social equity is linked with the notion of fairness and justice. In the Eritrean context, equity largely refers to the fair distribution and availability of public resources among individuals, groups or communities. Ensuring that there are sufficient schools and classroom facilities for all children (girls, children with no pre-school opportunities, nomadic families, children with special needs, out-of-school children or youth) is a prerequisite for developing an equitable education system (ibid). In brief, the core aim of the Eritrean education system is to foster and sustain a sense of unity, collective national identity and social justice (ibid).

Since its independence, the country has endeavored to expand equitable access in all regions, notably by giving due attention to rural areas and the disadvantaged social groups in the society. In Eritrea, education takes a large share of the government’s budget. The investments which have proved to be effective in ensuring social equity at all levels of education has been translated into action through the building of infrastructure, provision of furniture, production and provision of textbooks, recruiting and training of teachers, as well as making available other necessary support systems. As a result, overall access to schooling has flourished, boosting the total numbers of schools, students and teachers from 605, 273,736 and 7,265 in 1993 to 1,933, 628,683 and 16,234 in 2016 respectively (MoE Basic Education Statistics, 2015/2016). This growth in education is, therefore, a concrete testimony of the government’s commitment.

In the efforts towards expanding and ensuring social equity of education, besides huge government subsidies, concerted synergies of all education stakeholders have also been underway over the two and half decades of independence. Moreover, the various policies, strategies, mechanisms, programs and interventions complemented with pertinent public funds have impacted to the optimistic outcomes in addressing equity. As a result, despite the fact that the paces of school populations ‘progresses were gradual and spiral, thus far evidently the participation of many school-aged rural girls, disabled and orphaned children and other social groups who were alienated due to colonial marginalization and socio-economic factors markedly increased. In the course of the efforts and interventions to promote equity, the fair distribution and appropriation of public resources were crucial; and thus have been fairly effected for the benefit of the student in particular and underpinning social justice in general.

Although the GoSE is excreting extra effort to address equity and social justice by providing quality education at all levels to all citizens, still there are some barriers in meeting this objective. The provision of special need education is limited due to lack of appropriately trained staff and expensive SNE facilities. While, the government is keeping to allocate huge amount of money to the disadvantaged areas of the country, still there are unreached remote areas for reasons of having inaccessibility and/or rough roads on one hand and scattered settlements of the community on the other, which hinders from accommodating at school. The lifestyle of nomadic society, unfair handling of females and early marriage in some areas also escalate the challenges for providing equitable education system in the given socio-economic and socio-cultural situation of rural areas.

Eritrea recognizes that education is a fundamental human right. The principle of equitable access to education for all is enshrined in the Eritrean Constitution which states that: "Every citizen shall have the right of equal access to education". That’s why it is given due priority as one of the prerogative and expensive social services that require adequate national as well as international public resources. The

outstanding reason is that all sorts of public resources are determinant inputs in order to yield measurable outputs in education. From an equity spectrum, the fair management and even distribution of public education resources in Eritrea are mostly directed to the more disadvantaged regions and communities who suffered from substandard living conditions due to neglect by colonial powers. By doing so, the pursuit of towards affirmative action in Eritrea has been operational and undoubtedly rewarding starting from the armed struggle for independence. Thus, the practice and performance in record have been promising as well as able to give practical lessons even for the future experiences in addressing equity at all levels of the Eritrean school system.

In the past few decades, considerable progress has been made to promote the provision of technical and vocational education and training in Eritrea. Among these are: the establishment of five skill development centers; the construction of two technical schools and two agricultural schools at the secondary school level; a commercial school and a technical institute at advanced level; the construction of a technical and commercial school in Massawa; and the establishment of the Center for Vocational Training (CeVoT) in Sawa.

In Eritrea the employment rate has been very high among TVET graduates. This is because TVET schools account for only 5% of the graduates of secondary level education. The cumulative total output of qualified graduates from the formal training system since independence (1991) amounts to 18,891. Moreover, the public and private non-formal skills development sector provides limited training opportunities with limited resources, resulting in under-developed skills acquisition. This indicates that Eritrea has shortage of technical and vocational skilled manpower.

There is an increase in the percentage of technicians and associate professionals, service workers and shop and market sales workers, skilled agricultural and fishery workers, craft and related trade workers, plant and machine operators and assemblers and other professionals' participation in the market. However, there are many more occupational skills that have yet to be addressed.

Since 1998, the introduction of integrated farming, which involved combining small individual farms and farming the land with tractors and applying modern farm inputs, has started to empower the beneficiaries. Fishery, on the other hand, is a potential area for the Eritrean economic growth. Fishing of sardines, anchovies, tuna, shark and mackerel is practiced in the waters of the Red Sea. UN fishery experts have estimated that Eritrea has the potential to achieve sustainable yields of around 70, 000 metric tons annually. Accordingly the demand for skilled agricultural and fishery workers has steadily been increasing since 2003.

Eritrea's mineral resources are believed to be of significant potential value. Currently, the country is highly involved in mining activities. For that reason, the participation of citizens in plant and machine operation and assembling activities increased by 111.8%.

Early Childhood Education is one of the main objectives of the Eritrean National Education Policy. It strives at expanding and improving comprehensive Early Childhood Care and Education (ECCE) so that all children have access to free and compulsory pre-primary education of good quality.

If children's early experiences are needed to have beneficial effects in their emotional stability, present contentment and later achievements, it is of paramount importance to pay attention to the investment to be made on children by the government for quality pre-primary educational provision. High quality early childhood education can contribute to children's early learning and future academic and social outcomes. Learning takes place in a variety of environments and has to be examined in different settings in relation to cost and benefits in terms of later education achievements.

The Ministry of Education focuses on the holistic development of children by providing proper upbringing and sound education that endows them with acceptable cultural values as well as moral standards there by helping them to come out as capable, competent and motivated citizens.

Continuing education through formal and non-formal channels is promoted to achieve higher literacy rates and enhanced competence. The learning needs of adults shall be met through wider access to appropriate learning and life skills development programs. Consequently, the provision of primary education to all adults, and particularly women is a top priority issue. Adult and Continuing Education will be expanded and diversified, and integrated into the mainstream of national education and poverty reduction strategies.

Adult and non-formal education is a means of providing Education to adults who couldn't access formal education due to many reasons. The emphasis is on literacy, which the government considers part of its priorities in nation building and economic development programs. Moreover, the government is promoting literacy program having with a clear milestone in attaining social inclusiveness and ensuring that the learning needs of adults are met through equitable access to appropriate learning programmes.

The Ministry of Education has further made arrangements for adult and non-formal education to be mainstreamed with formal education. This program has been successful in that many of the participants of the program have managed complete middle and secondary school levels. In some zobas some of these adults have further developed their capacities and are recruited as teachers of the same program where they were educated.

CHAPTER 1

CONTEXT OF THE DEVELOPMENT OF THE EDUCATION SECTOR

INTRODUCTION

HISTORICAL CONTEXT

Eritrea's history and its struggle for survival are intertwined with its strategic position on the Red Sea coast. For hundreds of years, external invaders such as the Turks and Egyptians used the Red Sea coast in an attempt to secure a foothold in the Eritrean hinterland. Using the port of Assab as a springboard, another category of invaders, the Italians, managed to establish a colony in Eritrea in 1890. With the defeat of Italy during the Second World War, the British took over the administration of Eritrea until 1952. This was followed by a United Nations imposed federal union with Ethiopia but the abrogation of the federal arrangement in 1961 led to a long and protracted struggle for liberation. The war of liberation came to an end in 1991.Eriteas's de jure independence was realized on May 24, 1993, on the basis of a United Nations supervised referendum, whereby Eritrea emerged as an independent and sovereign state.

During the first seven years of independence, the country showed encouraging progress in rehabilitating the socio-economic infrastructure and in laying the foundations for sustainable development. However, the border conflict between Eritrea and Ethiopia which erupted in 1998 slowed down the overall development process.

The armed struggle of the Eritrean people for liberation that took thirty years was a struggle for social justice for the Eritrean people. The struggle was for equitable distribution of wealth, basic social services and opportunities that paid special attention to the most disadvantaged communities. It calls for full public participation to guarantee a balanced and sustainable development, respecting human rights, and advancing democracy. It also emphasizes human development. The Government believes that human resources are its greatest asset. There cannot be any realistic human development strategy that does not include investing in education.

During the war of independence, the Eritrean People's Liberation Front (EPLF) operated its own system of education in the liberated and semi-liberated areas of the country. One of the major challenges of the EPLF was to develop an education system capable of countering the gross inadequacies and the abuses of the education policies of successive colonial administrations, including the Ethiopian occupation which was even more conspicuous in attempts to undermine Eritrean national and cultural identity. In line with its principle of self-reliance and social justice, the EPLF developed an education system that was designed to serve as an instrument of nation building, social transformation and economic development. This principle has become the cornerstone for the establishment of the National Educational System in Eritrea.

Eritrea believes that the struggle for independence and the struggle for a better future cannot be separated from the principle of social justice. The Government firmly believes that if we do not alleviate the poverty and deprivation of the people, safeguard their human and democratic rights, and improve their wellbeing, becoming independent from foreign occupation will not amount to much. Food security, education, health, the provision of potable water, shelter, and sanitation, and communication services are fundamental rights to which every Eritrean is entitled.

Country Description

Eritrea is a multilingual and multicultural country with two major religions (Islam and Christianity) and nine different ethnic groups speaking nine different languages. These are Afar, Bedawiet, Bilen, Kunama, Nara, Rashaida, Saho, Tigre, and Tigrigna. The size of Eritrea is 124,300 sq. Km. Eritrea is situated in the north-eastern corner of Africa, with a coastline of around 1,321 km on the Red Sea and 350 islands. Approximately 65% of the population lives in rural areas, making their living on the land. Less than two-thirds of those living in the countryside belong to the agricultural sector and one-third to the agro-pastoral sector; only a small minority lives purely by nomadic existence. Some 40% of the population lives in towns or cities.

Policy Context

The Government has assigned top priority to the acceleration of efforts for educational development and it has introduced several development policies since independence aimed at resolving the key problems in the system, including the following:

The Government's Macro-Policy (1994): "The overriding national development objective is the creation of a modern, technologically advanced and internationally competitive economy within the next two decades" (GSE, 1994:10). The Macro-policy further stipulates that the key input in the attainment of this objective is the provision of "broad based education incorporating widespread dissemination of skills and languages and extensive human capital formation" (GSE, 1994:10).

The National Education Policy (2011): The Ministry of Education has adopted the following vision:

> *"Our education system aspires to produce all rounded citizens who are firmly committed to country, people and social justice. This aspiration includes the development of creative and productive individuals who are capable of contributing towards the attainment of a modern, competitive, harmonious and self-reliant Eritrea."*

Education in Eritrea is secular. It is a fundamental human right and a lifelong process by which all individuals are given opportunities to attain their potential as all rounded citizens and to contribute to nation building. To this end, the following constitute the general aims of education in Eritrea.

1. Fostering and sustaining a sense of unity and collective national identity.

2. Preparing learners for life, citizenship and the world of work.
3. Developing an innovative and knowledge based society to facilitate economic and social transformation.
4. Promoting science and technology along with the development of knowledge and understanding to conserve the environment and the cultural heritage.

SECTION 1.1: THE SOCIAL, HUMANITARIAN AND DEMOGRAPHIC CONTEXTS

1.1.1 Population

No census has been conducted in Eritrea since 1991. Around 65% of the population lives in rural areas, with the majority of the rural population depending on rain-fed agriculture for their livelihood. A section of this population comprises of nomads and semi-nomads, tending sheep, goats, cattle and other animals and living off their milk and milk-products and the land (EPHS2010). Similarly, "the urban population is characterized by rapid growth, partly as a result of returning refugees from neighboring and other countries, and partly due to high rural-urban migration".

The population of Eritrea is not evenly distributed across the country. A majority of the population (about 50-60%) lives in the highlands and leads sedentary life (EPHS 2010). The rest of the population lives in wide, sparsely populated areas. A section of the latter leads nomadic life, moving from place to place, as the seasons and the demands of life dictate.

In some lowland areas, it is hard to provide social services (education, health, etc) as the people live in small, scattered villages. To this end, the Government gives due stress to the establishment of settlements for the scattered villages and provide social services.

Small segments of the rural population (mainly those that live near the coastal areas) are fishermen, and depend for their livelihoods on the sea. The rest of the population, about 20% of the total are small traders, government employees, and other self-employed people, and live in urban and semi-urban areas.

1.1.2 Basic Social Indicators

School Readiness

Early years' education plays a vital role in the survival of a child in higher grades. Children who have pre-primary education have higher chances of surviving than those who don't. For this reason, pre-primary education plays a crucial role in a child's education.

Despite this fact, however, enrolment in pre-primary education is not high. The Government tried to make sure that every Eritrean gets basic education, as this level is free and compulsory. Aggressive measures have been taken to address the access gaps at the basic level (primary and middle levels). It is for this reason that the enrolment rates at these levels have registered very high record increases.

The number of the KGs and daycare centers (that provide some kind of education) is found to be minimal. And even the KGs that exist are clustered in urban centers. Thus, enrolment in pre-primary schools is still low. However, enrolment from 25.63% grew to 31.5% (an increase of 22.9%) from 2000 to 2012 but declined to 19.3 % in 2015/16.

A study on out-of-school children carried out in 2016 reveals that only about 20% of 5 years old children go to pre-primary schools. This trend is worrying because many children who do not go to pre-primary schools do not survive the early primary grades. In other words, the limited enrolment in pre-primary schools is very likely to affect the performance, survival, and retention of primary school children pupils.

Literacy Status

Quality literacy is a foundation to quality education and a prerequisite for socio-economic development and equitable participation of citizens. In Eritrea, literacy activities as part of basic education has been provided for children, youth and adults in formal and non-formal ways since the armed struggle for liberation. As the result of the longstanding commitment remarkable progress has been made in increasing and sustaining the literacy level in the country. In the post-independence time illiteracy rate was estimate at about 80 percent. According to the literacy survey conducted by the Ministry of Education in 2008, this was reduced to about 33 percent. As to the findings of the Health Demographic survey conducted in 2010 by the National Statistics Office (NSO), literacy rate was increased to about 75 percent. This is an encouraging progress compared to the target set until 2015 to reduce illiteracy rate to less than 15 percent. Although there is a plan to conduct the second National Literacy Survey (NLS) in 2018 by the MoE in collaboration with NSO by age, sex, ethnicity and residence currently, literacy rate is estimated at about 80 percent with a 10 to 5 percent less than that was targeted in the 2000 EFA Framework for Action. This unaccomplished EFA target will be reached within the coming five years in line with the SDG 4, considering that literacy achievement is the combined result of the efforts done in the formal and non-formal provisions of basic education including literacy.

Nutrition

The EPHS 2010 found out that nationally, 50% of children under five were stunted, "including 25% of children who are severely stunted" (EPHS 2010, pp. 219). It also found out that the prevalence of stunting increased with the age of children, the 24-35 month age bracket with the highest prevalence, i.e. 71%.

Using weight for height data, the EPHS 2010 also found out that 15% of Eritrean children were wasted and 4% severely wasted. Wasting or acute malnutrition was highest for children aged 9-11 months (32%), and lowest for children aged 36-47 months (10%). 39% of children under five were found to have been underweight, i.e. have low weight for age and 13% were severely underweight.

Rural children were more likely to be underweight (44%) than urban children (27%). The proportion of underweight children also varies by zoba. Children born to mothers in the lowest wealth quintile are also more than three times as likely to be underweight as children born to mothers in the highest wealth quintile (49% and 15% respectively) (EPHS2010 p.223).

Disability

The EPHS 2010 categorizes persons with physical disabilities to be disadvantaged but that they could prove competitive and productive provided they are given help. The survey finds out that about 5% of the population has disability, with blindness, dumbness, and movement impairments at the top of the list of disabilities.

However, only three schools for the disabled (with a total enrolment of 200) exist in Eritrea. "Many children with difficulties such as physical disabilities remain excluded. The quality and opportunity of education accorded to Children With Disabilities (CWDs) remain limited," a document titled 'Enhancing Equitable Access to Quality Basic Education for Social Justice' states (MoE, pp. 23). In other words, a significant proportion of disabled children do not have access to education. Out of the different kinds of disabilities, only the deaf and the blind have limited access to these three schools. Autistic and children with Down's syndrome have limited access to education.

In partnership with DANIDA (2003) and the EU (2008), the Government started a program that aimed at promoting inclusive education. The program included the sensitization of teachers to enable them use approaches that take disabled children into account and the implications of such approaches to classroom teaching. The program aimed to establish 25 regular school settings in the six zobas to enroll and teach 'intellectually impaired children' (including autistic children and children with Down's syndrome).

The 25 resource rooms were used as pilot settings within the communities, a kind of a bridge between segregated education and inclusive education. Currently, children with various kinds of disabilities: 'slow learners,' and children with intellectual/neurological challenges are receiving life-skills and preliminary academic support in these places ('Enhancing Equitable Access to Quality Basic Education for Social Justice').

In spite of these efforts, the number of disabled children who have not gained access to education (at all levels) still remains very high. It is a foregone conclusion that a huge investment should go into the education of the disabled.

Infant and Maternal Mortality Rates

Eritrea has made some significant progress on the Millennium Development Goals (MDGs). For example, the under-five mortality rate (MDG 4) declined from 136 per 1, 000 live births in 1995 to 63 in 2010. In addition, immunization targets have been achieved. EPHS 2010 compares data taken for EDHS 2002 and EPHS 2010 and comes to the following conclusion:

> *"Comparison of estimates of infant mortality from the EPHS 2010 and EDHS 2002 ... shows there has been tremendous improvement in early childhood mortality in Eritrea. The under-five mortality rate has declined significantly by 32% from 93 deaths per 1000 live births in EDHS 2002 to 63 deaths per 1000 live births in EPHS 2010. The decline in child mortality is even more*

pronounced: from 48 deaths per 1000 children surviving age one in EDHS 2002 to 22 deaths in EPHS 2010, a decline of 54%."

The 2017 estimate for infant mortality rate is 30.7 per 1000 live births (NSO). Similarly, child mortality, i.e. under five mortality rate is estimated to be 43 deaths per 1000 children. Maternal mortality also decreased to 486 in 2010. The EPHS 2010 states these facts: "Maternal deaths represent 26% of all deaths to women aged 15-49. The percentage of female deaths that were maternal varies by age and ranges from 2% among women 45-49 to 36% of all deaths among women 25-49."

In EDHS1995, the maternal mortality rate was 985 per 100, 000 live births, which declined to 486 in 2010, which decreased annually by 4.71%. Based on information from EDHS 1995 and EPHS 2010, the NSO estimates maternal mortality at 350 per 100, 000 live births in 2017.

1.1.3 Prevalence and Incidence of HIV/AIDS and Malaria

HIV/AIDS and malaria affect education negatively, as they directly impact the involvement of the teaching force and students. Teachers may be infected with HIV/AIDS or malaria, and children may lose their parents to these diseases, which force them to earn their living, by abandoning their studies.

EPHS 2010 showed that the prevalence of HIV/AIDS for both men and women was found to be 0.93%, which is relatively low as compared to other sub-Saharan African countries. The survey result also predicts the future of the AIDS epidemic would depend on HIV/AIDS related knowledge, social stigma, risk behavior modification, access to high-quality services for sexually transmitted infections, provision and uptake of HIV counseling and testing, and access to anti-retroviral therapy.

Malaria accounts for 2% of all outpatient attendance and admissions and less than 30 deaths annually in Eritrea (EPHS 2010). Malaria is most prevalent in the western lowlands: Gash Barka, which carries 2/3 of the national burden of malaria, followed by Debub, which carries 1/5 of the national burden of malaria.

Two transmission seasons affect all zobas. In the first transmission season (August - November), four zobas (Debub, Gash Barka, Anseba, and Maekel) are affected. This season coincides with the beginning of the academic year in the four zobas. The second transmission season (December - February), affects the two other zobas: the coastal areas of SKB and DKB. This season also overlaps with the beginning of the second semester in the Eritrean school calendar and affects school attendance.

The EPHS 2010 quotes a survey conducted by the Ministry of Health in October 2012, the Malaria Indicator Survey (MIS). This survey tried to find out people's behavior in different areas such as environmental management, ownership and use of mosquito nets, and treatment seeking behavior.

The findings were:

1. “90% of the households have at least one mosquito net of any type with 87% having at least one ITN [Insecticide Treated Net].
2. Seven in ten (67%) of children under age five slept under ITN the night before the survey, showing an increase of 37% from that observed in 2008 MIS (48%).
3. Six in ten of children who had fever two weeks before the survey took any drugs and 5% took anti-malarial drugs.
4. Six in ten of women in the reproductive age group (15-49) slept under ITN the night before the survey."

1.1.4 Linguistic Context

Eritrea has adopted Mother Tongue Education (MTE) at the primary level both in formal and non-formal education. This commitment was aspired during the armed struggle for independence. This aspiration was directly implemented after independence in the national education system. MTE is well enshrined in the National Educational Policy (NEP 2011).

In addition, the Ministry trains mother tongue teachers and supplies textbooks prepared in the nine local languages. However, challenges still remain in the supply of teachers in some local languages. To address these challenges, the MOE has taken measures to recruit grade 10 complete students and train them as teachers parallel to high school graduates.

1.1.5 Humanitarian Context

Eritrean society is known for its cohesion. During the armed struggle, the population fought against a common enemy, which required that they fight in unity, setting their differences (religious, ethnic, etc) aside. This meant that the people of Eritrea put the national question of independence above every other demand. In addition, the EPLF encouraged and cultivated such attitudes among the population, creating common values among the Eritrean society. The Front during the armed struggle years and the Government of Eritrea after independence fought against sub national sentiments.

For these reasons, there are no ethnic, religious or other conflicts in Eritrea unlike in other multi-ethnic or multi-religious societies around the world. The Government has also promoted tolerance and religious harmony among the people.

Before independence, Eritrea experienced a severe drought in the 1980's, which resulted in a huge human and animal toll. Despite the effects of climate change and the spread of the Sahara, Eritrea has not been affected by drought after independence due to the Government's preparation and handling of such situations. In 2011, a volcano erupted in DKB, affecting a community nearby. The effect of the volcano eruption was minimal because the Government and the population took mitigating measures and supported the affected population.

Section 1.2: The Macroeconomic and Public Finance Contexts

1.2.1 GDP and GDP Per Capita Trends

As stated above, about 65% of the population of Eritrea lives in rural areas. This has a tremendous impact on the economic activities of the country. For this reason, Eritrea's economy is mainly based on agriculture, relying on rain-fed and livestock farming. It also relies on undeveloped areas of light industry, fisheries, and services, which includes tourism, which the Government is trying to build up by developing a number of key infrastructures.

Compounding these challenges, Eritrea has experienced recurrent drought, which has slowed down its normal growth and development. In addition, degradation of land, inadequate infrastructure, and shortage of skilled human power pose constraints to its overall development.

Currently, Eritrea is attempting to develop its mining sector by opening it to investors, which has attracted some foreign mining companies, aiming to mine for gold, copper, potash, and other minerals. IMF data show Eritrea's GDP estimated growth for 2011 to be 8.7%, and a per capita income of USD 549 in 2012. Compared to that of 2011 this income showed a growth of 16%.

Despite numerous challenges, Eritrea has undertaken the rehabilitation and reconstruction of the economy with food security at the top of the Government's agenda, followed by the rehabilitation and rebuilding of infrastructure. Moreover, the provision of social services based on the principle of social justice, is one of the priorities of the Government of the State of Eritrea.

As a social service, education is one of the priorities of the Government. Moreover, the National Education Policy recognizes basic education as free and compulsory. The Ministry of Education is responsible for the training of teachers, curriculum planning and development, implementation, and the provision of textbooks. The Ministry also recruits teachers, sets standards, provides policy framework, monitors and evaluates the whole sector. Moreover, it procures school supplies/materials, including furniture, teaching and learning materials and constructs class rooms, teachers' quarters, PRCs, laboratories and other school infrastructure.

Though secondary and higher education are not compulsory, the provision of education at these levels as well as technical and vocational training is free in Eritrea. The financial burden becomes harder to bear as the Government takes the responsibility to provide free education at all levels and in all sub sectors. The role of the private sector in education is still insignificant.

1.2.2 Government Expenditure on Education

The overall government expenditure on education between 2008 and 2011 was about 8-10% of the total national budget. Expenditure on education as a percentage of the Gross Domestic Product (GDP) is between 2.6% to 3.7%, based on the GDP estimates of the World Bank. Though very slightly, government expenditure on the basic education sub-sector has fluctuated. For example, Government expenditure on basic education in 2008 was 25.3% of the total government (education) spending. This declined very

slightly to 25.1% in 2011. Similarly, the non-salary Government expenditure on basic education in 2008 was 50.7%, which decreased to 42.3% in 2011(Education Sector Development Plan 2013-2017).

In 2015, the Government spent 10.50% of its expenditure, 9.16% of government recurrent expenditure, 1.34% of capital expenditure and 1.14% of GDP on education. Government spending on education increased from2013 to2014 but decreased in2015 and 2016.

Table 1.1: Government Educational spending as a percentage of GDP from 2013 to 2016

Year	Total Govt. Spending	Total Education Spending	Education Spending (% of Total Government Spending)		
	(% of GDP)	(% of GDP)	Total Education	Recurrent	Development
2013	13.79%	1.45%	10.49%	9.61%	0.88%
2014	11.30%	1.39%	12.33%	10.76%	1.57%
2015	10.85%	1.14%	10.50%	9.16%	1.34%
2016	9.31%	0.94%	10.06%	9.86%	0.20%

Source: (Ministry of Finance) Computed from different sources

1.2.3 Actual Spending on Education

Government spending on education has shown a decrease between the 2008-2011 and 2013-2017 periods. For the 2008-2011 period, Government spending on education hovered between 3.7% and 2.6% of GDP while for the 2013-2017, spending on education hovered between 1.45% of GDP in 2013 and 0.94% of GDP for 2016. External partners (for example, the African Development Bank, the Global Partnership for Education, UNICEF and NRC in total contributed about 61.58 million USD for the period between 2013 and 2016, and this has certainly affected Government spending on education.

Out of the total Government spending on education on the average around 90% went to recurrent costs while the rest about 10% went to capital expenditure.

Table 1.2: Government Spending on Education by level of classification

YEAR	PRIMARY	MIDDLE	SECONDARY	TVET	ADULT	TOTAL
2013	*22.91%*	*8.09%*	*27.15%*	*6.92%*	*1.79%*	*66.86%*
2014	*21.45%*	*7.18%*	*24.74%*	*10.72%*	*1.95%*	*66.04%*
2015	*23.81%*	*7.19%*	*23.28%*	*7.56%*	*2.35%*	*64.19%*
2016	*29.42%*	*5.45%*	*23.12%*	*7.75%*	*6.62%*	*72.37%*

In 2015, out of the Government expenditure on education, in total 31.01% went to primary and middle school, which shows the Government's priority and commitment to compulsory and free basic education. Secondary education received 23.28%, bigger than the amount for middle school but much smaller than the amount for primary schooling.

1.2.4 Contributions from Other Sources

In the recent past the Eritrean education system has benefitted from other external sources of funding. For example, in 2003-2008, the World Bank supported the Education Sector Investment Project (ESIP), which later became the Education Sector Development Program (ESDP).

Between 2005 and 2009, a number of external organizations (the African Development Bank, the European Union, UNDP, UNESCO, UNFPA, UNICEF, and the World Bank) got involved and supported the Education Sector Development Program (ESDP). In addition to the contribution of the Government, various development partners provided USD 90,972,780.20 and Euro 53 million in the form of grants and extended loans.

Currently, some external organizations such as the African Development Bank (with USD 19.7 million), the Islamic Development Bank (IDB) (to the tune of USD 200,000) and UNICEF (with USD 9 million) are supporting the ongoing ESDP (2013-2017). The African Development Bank is supporting the Vocational Education and Training sub-sector, while UNICEF is supporting basic education in Eritrea.

External financing, however, though it forms a significant part of the financing, is only a part of the contribution, because community contribution forms the other part. Different from Government contribution, community contribution shows a community's involvement in the education of its children. This includes support in kind, labor (for example providing labor in the construction of classrooms) and the provision of school items, school uniforms, and payment for water and electricity. This being the case, community contribution has not been systematically quantified to determine its percentage in education financing.

CHAPTER 2

ENROLMENT, INTERNAL EFFICIENCY AND OUT-OF-SCHOOL CHILDREN

SECTION 2.1: THE EVOLUTION OF ENROLMENT AND EDUCATION SYSTEM ENROLMENT CAPACITY

2.1.1 The Evolution of Enrolment

Pre-primary Level

Pre- primary schooling for children in Eritrea enrolls ages four and five years. Pre- school is provided in a comprehensive and integrated learning program for two years. In Eritrea pre-school takes two forms: Formal and Non-formal. Kindergarten is formal school. Whereas Community Care giving Center or Rural Community Children's Centre is non-formal. The main pre-school curriculum emphasizes laying a foundation for language and concept development, social relationships, and the holistic development of the child, including basic life skills.

The Government of the State of Eritrea (GoSE) believes that investment in early childhood development is directly related to the promotion of child rights, poverty alleviation, sustainable human resource development, Basic Education for All, and Health for All. Hence, much attention was devoted to the subject of Early Child Care and Education (ECCE) for young children, and special emphasis was put on the disadvantaged areas and population groups.

In addition to this, the Government of the State of Eritrea, as an integral part of its commitment to the "Education for All" goals, has given much attention to enhancing ECCE programs throughout the country. The MoE in particular has focused on increasing access to ECCE with due consideration to equity, fairness and social justice. Central to the MoE's activities here has been the involvement and coordination of all those stakeholders in the program including the GPE. MoE also took a number of important steps to secure quality provision by preparing basic items for the realization of its objectives.

The above statements can be confirmed with the information obtained from "Basic Education Statistics 2014/15 and 2015/16", and Essential Education Statistics (2015/16) which are annual statistical publications of the Ministry of Education. The number of teachers at the pre-primary level it has shown an increase of 10% as compared to 2014/15. The total number of schools at this level indicated a 5% increase in the same year. However, enrolment at this level is still low at the percentage of19.2% for GER and 17.6% for NER in 2015/16. The government is providing free education, but not compulsory at the pre- primary level; this could be one of the reasons for the low gross and net enrolments at this level. In general, however, the MoE recognizes the low enrolment at this level and much effort has to be done in the future.

Table 2.1: Pre-primary Level Enrolment, GER and NER gender by year

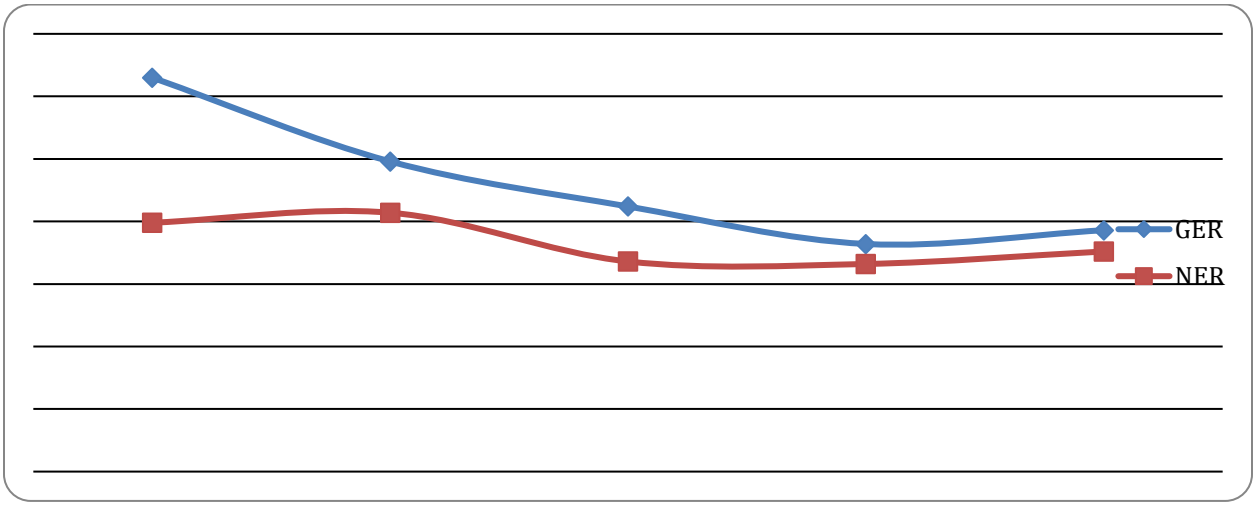
Year	Enrolment			GER			Net Enrolment			NER		
	Total	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**
2011/12	*45,973*	*45,973*	*23,378*	*31.5*	*30.8*	*32.3*	*28,952*	*14,801*	*14,151*	*19.9*	*19.5*	*20.2*
2012/13	*46,448*	*23,797*	*22,797*	*24.8*	*24.6*	*24.9*	*38,869*	*19,905*	*18,964*	*20.7*	*20.6*	*20.8*
2013/14	*45,291*	*23,195*	*22,096*	*21.2*	*21.2*	*21.2*	*35,953*	*18,448*	*17,504*	*16.8*	*16.8*	*16.8*
2014/15	*42,122*	*21,723*	*20,399*	*18.2*	*18.3*	*18.0*	*38,443*	*19,828*	*18,615*	*16.6*	*16.7*	*16.4*
2015/16	*45,233*	*23,264*	*21,969*	*19.3*	*19.4*	*19.2*	*41,294*	*21,213*	*20,081*	*17.6*	*17.7*	*17.5*

Source: Eritrea, Essential Education Indicators 2015/16

Table 2.1 shows pre-primary Gross Enrolment rate (GER) and Net Enrolment Rate (NER). As can be seen from the table, students' gross enrolment in the academic year 2012/13 showed a significant increase compared to the academic year 2011/12. Then it started to decline in the academic years 2013/14 up to 2014/15. But then it showed a marked increase in the academic year 2015/16. The highest value of gross enrolment 46,448 (boys 23,797, & girls 22,797) was recorded in the year 2012/13. The possible reason for the decline in enrolment in the academic years 2012/13 up to 2013/14 could be reporting error, and it requires a thorough investigation.

On the other hand, the figure shows that the value of NER at this level showed a significant increase in 2012/13 when compared 2011/12. It started to decline in 2013/14 up to 2014/15. But then it revealed a slight improvement in 2015/16. The highest NER 20.7% was observed in 2012/13.

Figure 2.1: Pre-primary Gross Enrolment Rate and Net Enrolment Rate by year



Source: Eritrea, Essential Education Indicators 2015/16

Primary Level

In the Eritrean education system, the primary level comprises grades 1-5 for children 6 to 10 years of age. The mother tongue is the medium of instruction. As indicated in the educational policy of the Government

of the State of Eritrea (GoSE), the main purpose of primary education is to give children a firm grounding in basic learning skills. The intention in primary education is to have all children complete the cycle, while at least accomplishing minimum learning achievements as defined by the national curriculum.

The trend in table 2.2 shows some progress in enrolment in primary education in 2011/12 up to 2014/15. Over the years, gross enrolment had been steadily rising from 334,245 (boys 184,404, & girls 149,841) in 2011/12 to 361,684 (boys 197,898, & girls 163,786) in 2014/15. But it then showed a slight decline and reached 353,859 (boys 192,977, & girls 160,882) in 2015/16.

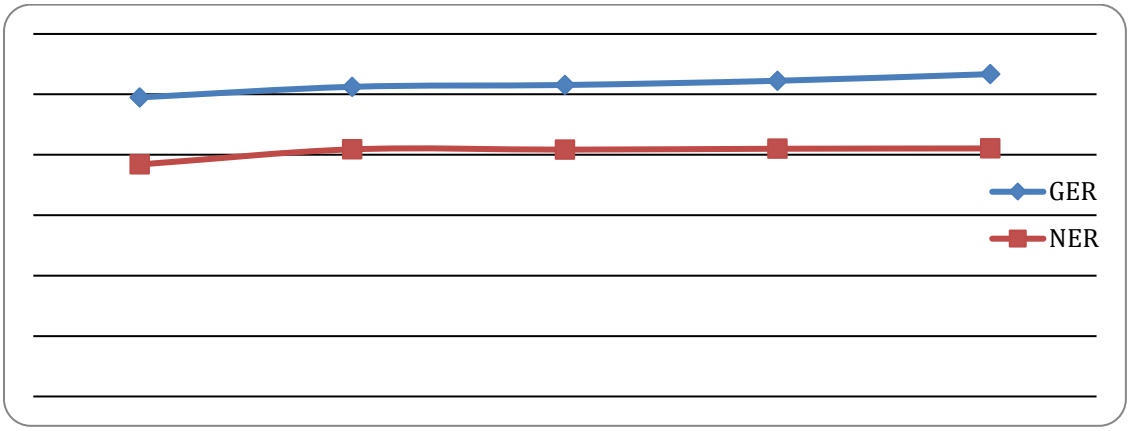
Table 2.2: Primary Level: Enrolment, GER and NER gender by year

Year	Enrolment			GER			Net Enrolment			NER		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
2011/12	334,245	184,404	149,841	99	104.2	93	259,345	141,118	118,227	76.8	79.7	73.4
2012/13	349,652	192,118	157,534	102.5	107.8	96.7	276,762	148,577	128,185	81.8	83.4	78.7
2013/14	361,604	198,620	162,984	103.1	108.6	97.2	286,457	153,594	132,863	81.7	84.0	79.2
2014/15	361,684	197,898	163,786	104.5	110.6	98.0	283,815	151,571	132,244	82.0	84.7	79.1
2015/16	353,859	192,977	160,882	106.7	112.6	100.6	272,188	144,841	127,347	82.1	84.5	79.5

Source: Eritrea, Essential Education Indicators 2015/16

As can be seen from figure 2.2, GER values for primary education showed an increasing trend from 99% in 2011/12 to 106.7% in 2015/16. The figure also shows that NER at the primary level had increased to 82.1% in 2015/16 when compared to 76.8% in 2011/12. It is very encouraging to see from the figure below that 82.1% of the Eritrean school aged children were enrolled in primary education in the academic year 2015/16. In addition the figure revealed a sharp increase in enrolment in 2012/13 when compared to 2011/12. The MoE constructed and rehabilitated many schools in those years through its Education Sector Development Program (ESDP), and this might have contributed to this trend. Basic education statistics 2012/13 shows that there were 875 primary schools in 2011/12, and the number of schools increased to 908 in 2012/13 academic year. In addition to this, 2012/13 was the academic year when the nomadic schools started functioning in many parts of the country and this could also be another factor for the sharp increase in enrolment during that period.

Figure 2.2: Primary Level Gross Enrolment Rate and Net Enrolment Rate by year



Source: Eritrea, Essential Education Indicators 2015/16

Middle School Level

Middle level is the second part of the basic education cycle in the Eritrean education system. Basic education is the minimum level of education which every individual must attain in order to function as a productive citizen in the country. Middle level education consists of 3 years of schooling from grade 6 up to grade 8 for students 11 to 13 years of age. The medium of instruction at this level is English.

Table 2.3 shows enrolment, GER and NER at the middle level during the period 2011/12 up to 2015/16. The table reveals that gross enrolment at this level showed a decreasing trend from 167,928 (boys 93,116, girls 74,812) in 2011/12 to 141,746 (boys 76,925, & girls 64,821) in the academic year 2015/16.

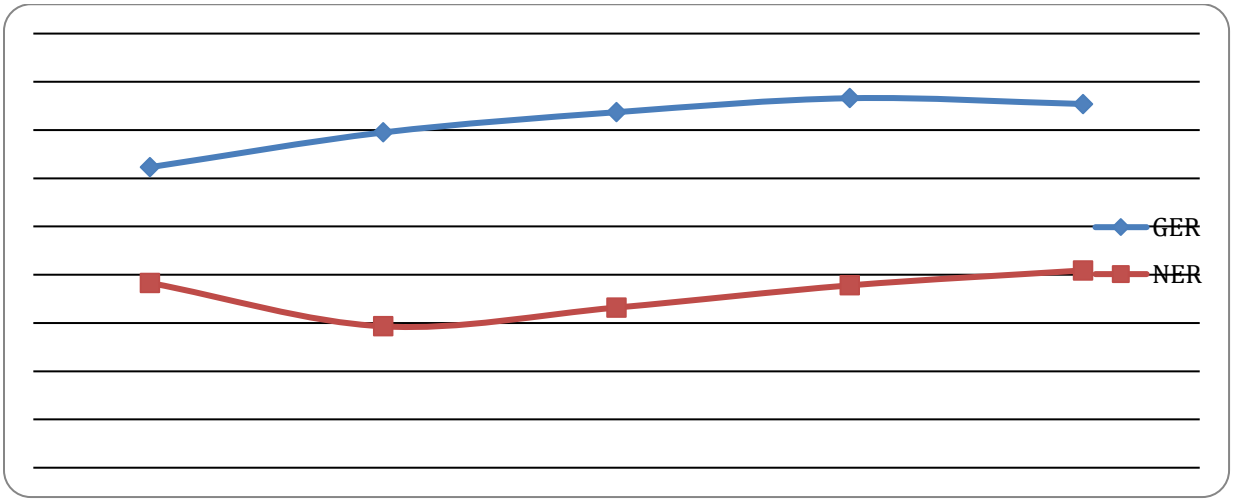
Table 2.3: Middle Level: Enrolment, GER and NER gender by year

Year	Enrolment			GER			Net Enrolment			NER		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
2011/12	*167,928*	*93,116*	*74,812*	*62.3*	*72.3*	*62.1*	*95,438*	*51,123*	*44,315*	*38.3*	*39.7*	*36.8*
2012/13	*155,526*	*86,586*	*68,970*	*69.5*	*74.4*	*64.3*	*65,621*	*34.443*	*31,178*	*29.3*	*29.6*	*29.1*
2013/14	*152,005*	*84,464*	*67,541*	*73.7*	*78.3*	*68.7*	*68,495*	*35,704*	*32,791*	*33.2*	*33.1*	*33.3*
2014/15	*147,031*	*80,882*	*66,149*	*76.6*	*80.3*	*72.4*	*72,560*	*37,513*	*35,047*	*37.8*	*37.2*	*38.4*
2015/16	*141,746*	*76,925*	*64,821*	*75.4*	*77.9*	*72.6*	*76,909*	*39,324*	*37,585*	*40.9*	*39.8*	*42.1*

Source: Eritrea, Essential Education Indicators 2015/16

Figure 2.3 reveals values of GER at the middle level increased to 76.6% in 2014/15 when compared to 62.3% in 2011/12. However, this trend showed a slight decline to reach 75.4% in 2015/16. The figure also indicates that the values of NER portrayed a decreasing trend from 38.3% in 2011/12 to 29.3% in 2012/13. This decrease was mainly due to the change of the school age population from age 12-14 to 11-13 in the middle level. But then the NER started to show a significant increase from 2013/14 and reached almost 41% in 2015/16.

Figure 2.3: Middle level Gross Enrolment Rate and Net Enrolment Rate by year



Source: Eritrea, Essential Education Indicators 2015/16

Secondary Level

The provision of increased equitable and good quality secondary education plays a central role in the education and employment opportunities of Eritrean youth. The Government of the State of Eritrea (GoSE) believes that the development of a modern economy in Eritrea depends to a large extent on the supply of well-educated and trained secondary school graduates. This is clearly stated in its educational policy. Secondary education prepares learners for further education and/or for the world of work. Moreover, related practical studies, with relevance to the individual learner's interests and national development needs form an integral part of the secondary education curriculum. The secondary level consists of 4 years of schooling from grade 9 up to 12 for students whose ages are 14 to 17.

As indicated in table 2.4, gross enrolment at secondary level revealed a rising trend from 95,152 in 2011/12 to 115,422 in 2013/14. But this trend started to decline between the years 2014/15 and 2015/16 and reached 87,664 (boys 46,383 and girls 41,383).

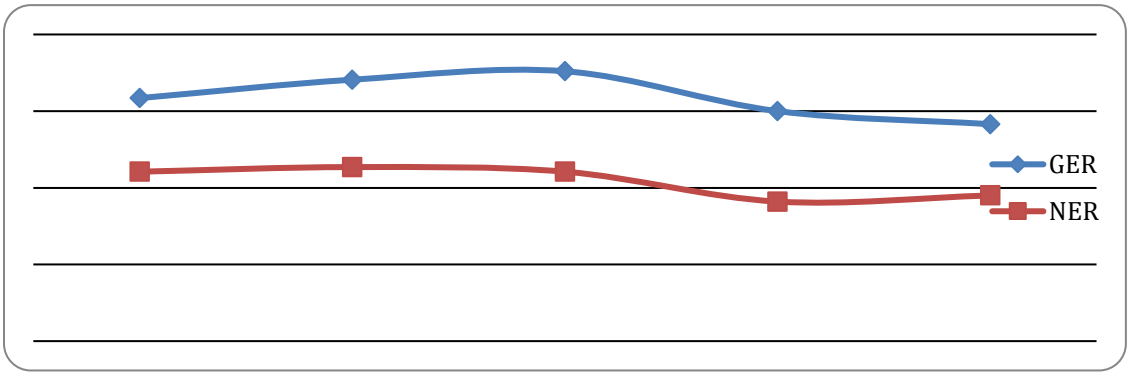
Table 2.4: Secondary Level: Enrolment, GER and NER gender by year

Year	Enrolment			GER			Net Enrolment			NER		
	Total	Male	Female	Total	Male	Female	Total	Male	Female	Total	Male	Female
2011/12	95,152	54,936	40,216	31.7	36.3	27.0	66,337	36,887	29,460	22.1	24.4	19.8
2012/13	110,369	62,881	47,488	34.1	37.9	30.8	73,729	40,506	33,223	22.7	24.4	21.0
2013/14	115,422	64,864	50,558	35.2	38.3	31.8	72,693	39,080	33,613	22.1	23.1	21.1
2014/15	97,217	53,102	44,115	30.0	31.7	28.2	58,839	30,756	28,083	18.2	18.4	18.0
2015/16	87,664	46,383	41,281	28.3	28.8	26.4	58,691	29,565	29,126	19.0	18.4	18.6

Source: Eritrea, Essential Education Indicators 2015/16

As figure 2.4 indicates, the gross enrolment rate at the secondary level increased significantly from 31.7% in 2011/12 to 35.2% in 2013/14. But then this trend started to decline in 2014/15 and reached 28.3% in 2015/16. Figure 2.1.4 also shows the Net Enrolment Rate at the secondary level. As the figure indicates the Net Enrolment Rate recorded a slight increasing trend from 22.1% in 2011/12 to 22.7% in 2012/13. Starting from 2013/14, it began to show a slight decline and recorded a value of 18.2% in 2014/15. In 2015/16 the trend improved and reached 19%.

Figure 2.4: Secondary level Gross Enrolment Rate and Net Enrolment Rate by year



Source: Eritrea, Essential Education Indicators 2015/16

2.1.5All levels Gross enrolment, GER, and NER by zoba (Region)

Table 2.5 indicates gross enrolment for all levels by zoba in 2015/16. Eritrea is divided into six Zobas(regions). As the table reveals the highest gross enrolment for pre- primary (62,114), primary (112,125), middle (49,142), and secondary (24,546) was recorded in Zoba Debub. On the other hand, the lowest gross enrolment for pre- primary (5,596), primary (5,624), middle (1,780) and secondary (1,000) was observed in DKB.

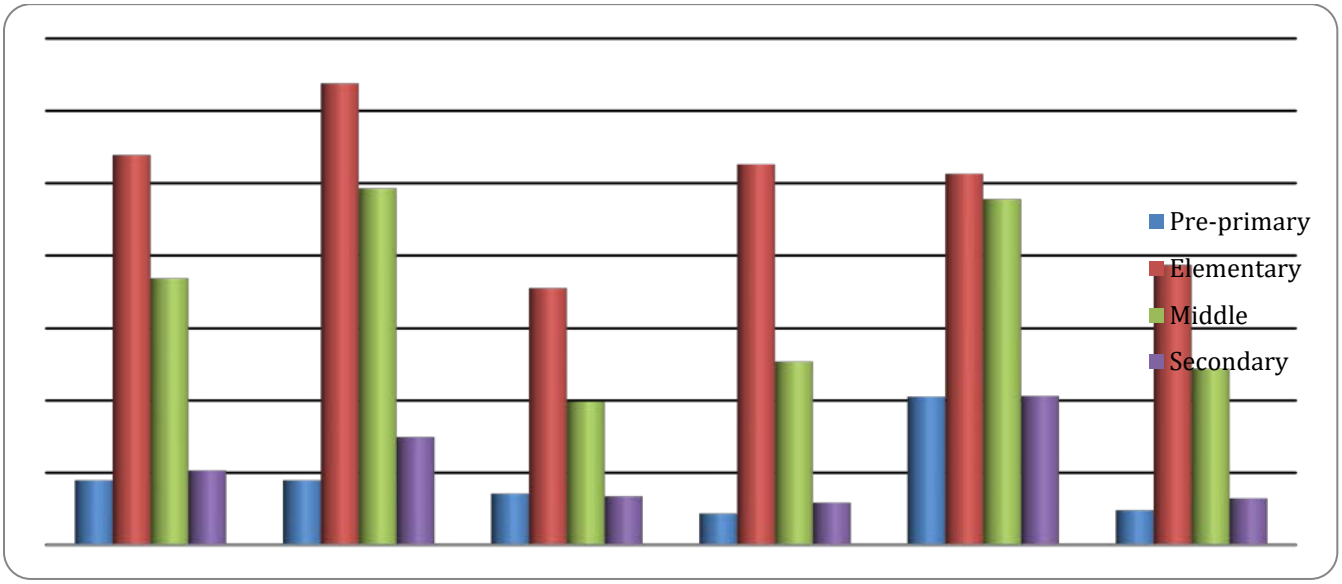
Table 2.5: All Levels: Gross Enrolment by zoba in 2015/16

ZOBA	PRE-PRIMARY	ELEMENTARY	MIDDLE	SECONDARY
Anseba	*33,474*	*51,032*	*19,794*	*9,100*
Debub	*62,114*	*112,125*	*49,142*	*24,546*
DKB	*5,596*	*5,624*	*1,780*	*1,000*
GB	*56,549*	*84,128*	*23,073*	*8,740*
Maekel	*47,805*	*69,392*	*36,646*	*26,063*
SKB	*28,842*	*31,558*	*11,311*	*4,901*

Source: Eritrea, Essential Education Indicators 2015/16

As can be seen from figure 2.5, the highest gross enrolment rate(GER) was recorded at pre-primary, primary, middle and secondary levels at Zoba Maekel (41.1%), Debub (127.6%), Debub(98.6),and Maekel (41.3%) respectively. On the other hand, the lowest GER was observed at pre-primary level (Zoba Gash Barka 8.7%), primary (Zoba DKB 71%), middle (DKB 39.7%), and secondary (Gash-Barka 11.7%).

Figure 2.5: All levels Gross Enrolment rate by Zoba 2015/16

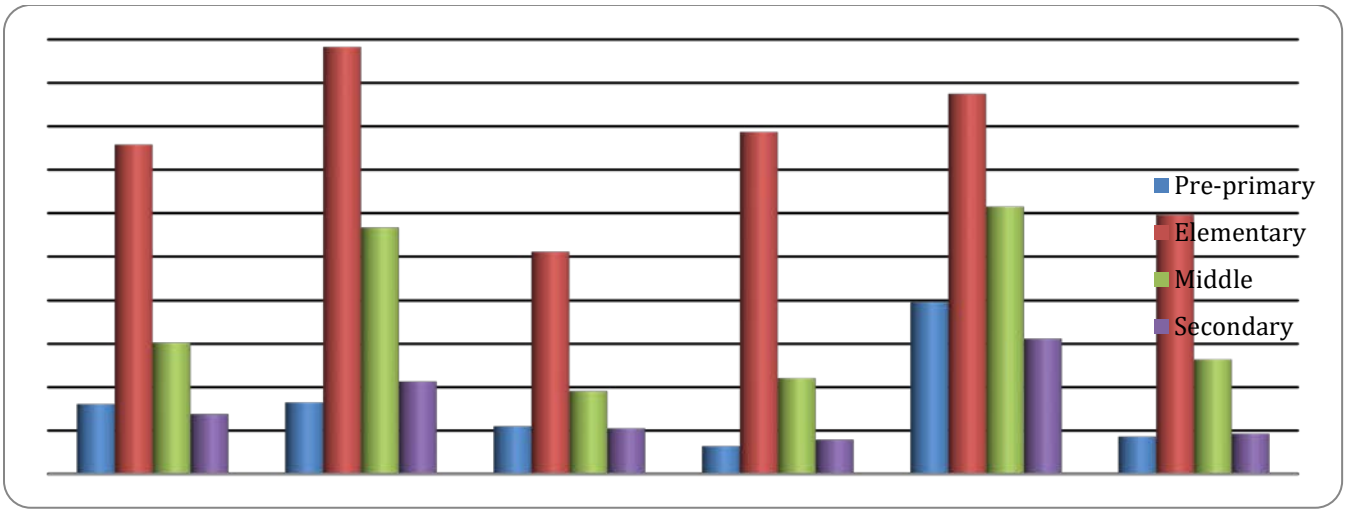


Source: Eritrea, Essential Education Indicators 2015/16

From figure 2.6 it can be observed that the highest NER was seen at pre-primary (Maekel 39.6%), primary (Debub 98.3%), middle (Maekel 61.5%) and secondary (Maekel 31.2%). But the lowest NER was

recorded at pre-primary (Gash Barka 6.4%), primary (DKB 51.1%), middle (DKB 19.1%), and secondary (Gash Barka 7.9%).

Figure 2.6: All Levels Net Enrolment Rate by zoba 2015/16



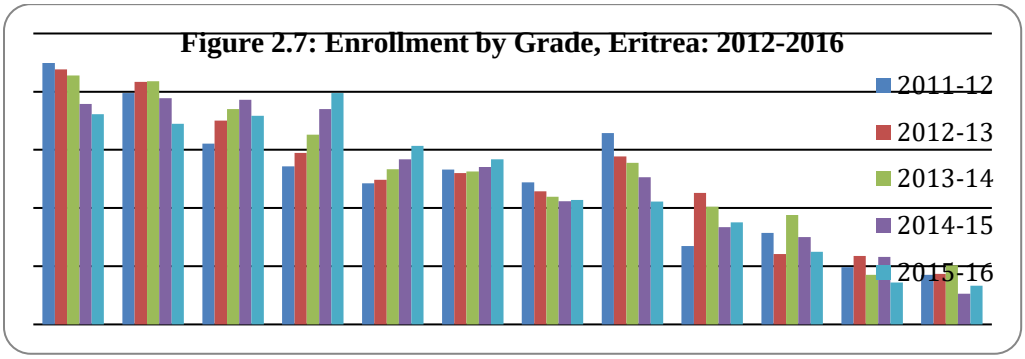
Source: Eritrea, Essential Education Indicators 2015/16

SECTION 2.2: SCHOOL COVERAGE: SCHOOLING PROFILES, SCHOOL LIFE EXPECTANCY AND EDUCATION PYRAMIDS

2.2.1 Schooling Profiles and Retention

Schooling profiles present the advantage of providing more detailed information on enrolment than the simple average offered by the GER. They give a visual representation of schooling careers, from cycle access to completion. Repetition is an important indicator of the performance of a schooling system. They also enable the analysis of retention, providing a more precise enrolment diagnosis. Since we have data on repetition in all levels, we can calculate the access rate for each grade in all levels. Before calculating the access rate for each grade, we need to see the trend of enrolment in all the levels through certain years.

Figure 2.7: Enrollment by Grade, Eritrea 2012-2016



Source: Eritrea, Essential Education Indicators 2015/16

As we can see from the above figure 2.7, there was a decrement in enrollment in grades 1, 2, 7 and 8 through the year 2012-2016. On the other hand there was an increment in grades 3 to 6, but there was fluctuations starting from grades 9 to 12.

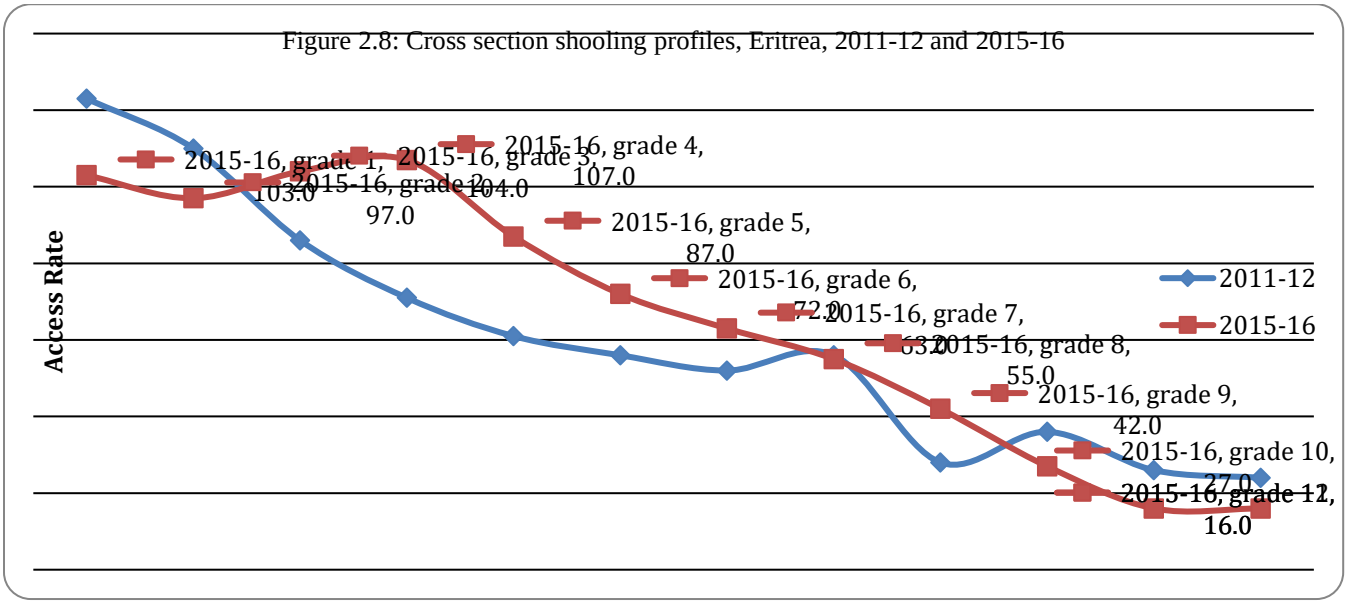
Table 2.6: Gross intake rate and Net intake rate

Year	Gross intake rate			Net intake rate		
	T	M	F	T	M	F
2011/12	*138.1*	*144.5*	*131*	*50.8*	*53.5*	*47.9*
2012/13	*111.7*	*117.4*	*105.7*	*44.8*	*45.3*	*44.2*
2013/14	*100.5*	*106.4*	*94.2*	*41*	*41.6*	*40.4*
2014/15	*102.1*	*108.1*	*95.8*	*42.9*	*43.3*	*42.5*
2015/16	*107.7*	*113.7*	*101.3*	*42.7*	*43.4*	*41.9*

Source: Eritrea, Essential Education Indicators 2015/16

From table 2.6, it can be seen that a great difference between the Gross intake rate and Net intake rate through the years and both rates are decreasing in the same magnitude. Most of the decrease is attributed to the change of the official entry age to primary education from age 7 to age 6 in 2012/13. Most students in the urban areas start at the age of 6, but those who are at the rural areas start at age 7. As the rural enrolment was greater than the urban enrolment in primary school in the country, the net intake rate also decreases as there are overage children in the first grade of primary education.

Figure 2.8: Cross section schooling profiles, Eritrea, 2011-12 and 2015-16

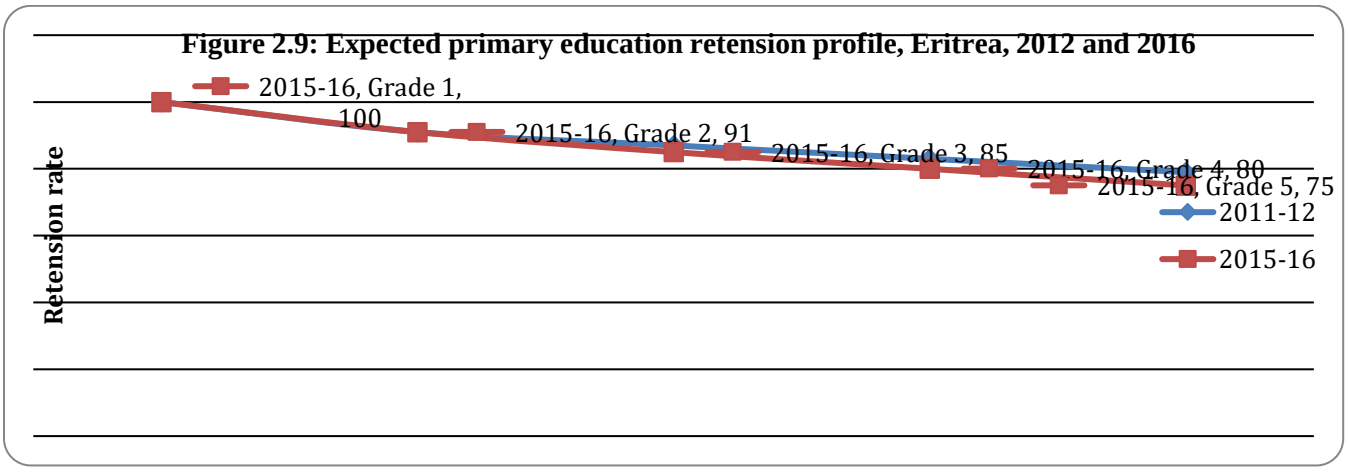


Source: Eritrea, Essential Education Indicators 2015/16

An access rate is defined as the number of non-repeaters in a given grade, regardless of age, as a percentage of the population of official age for that grade. In Eritrea the official age of entry to primary education is

age six, and the child is expected to finish at the age of 17 in secondary school. In 2015/16, grade 1 access is estimated at 103% which means all the students which are non-repeaters got access regardless of their ages as compared to 2011/12 which is higher, 123%. The access rate in grades 1and 2 decreased in 2015/16 as compared to 2011/12, however, there was a steady increase in access rates from grade 3 to 8 in 2015/16 as compared to 2011/12. The completion of the primary cycle (grade 5), measuring progress towards universal primary education, has improved, from 61% in 2011/12 to 87% in 2015/16. In 2015/16, 72% access the middle school and 55% complete it. The access rate to the first and last grades of secondary education is 42% and 16% respectively.

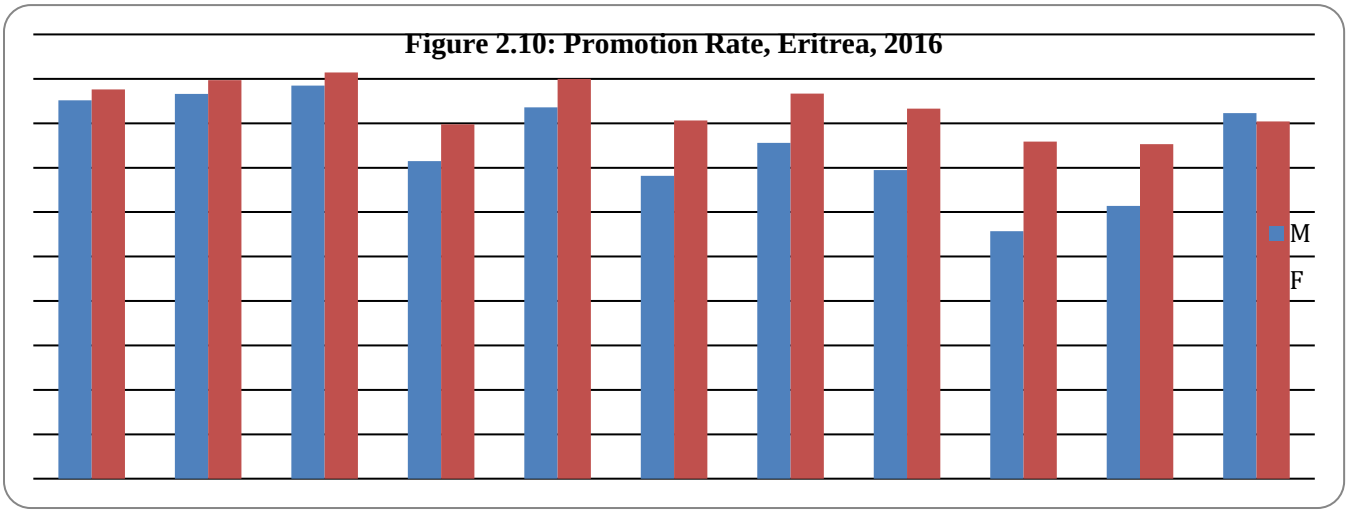
Figure 2.9: Expected primary education retention profile, Eritrea, 2012 and 2016



Source: Eritrea, Essential Education Indicators 2015/16

Retention in both years were almost stable somehow higher in 2011/12 in the last grades of primary as compared to 2015/16 academic year. Of 100 pupils entering grade 1, 75 reach grade 5. Universal primary education implies a retention rate of 100% at the last grade of primary.

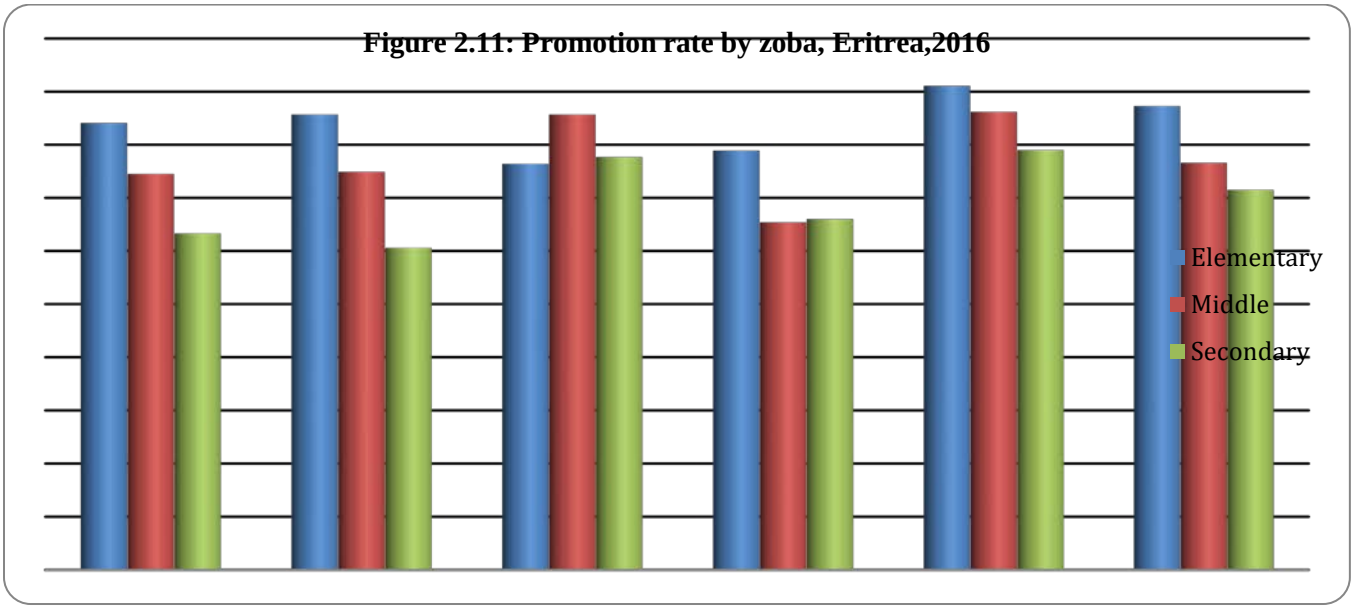
Figure 2.10: Promotion Rate, Eritrea 2016



Source: Eritrea, Essential Education Indicators 2015/16

Figure 2.10 shows the promotion rate of all levels by grade and sex. The promotion rate for females is 83% and higher than their male counterparts, which constitutes 75%. The promotion rate shows an increment in the first three grades and declines in grade 4, and shows an increase in grade 5 and steadily decreases starting from grade 8.

Figure 2.11: Promotion Rate by zoba, Eritrea, 2016



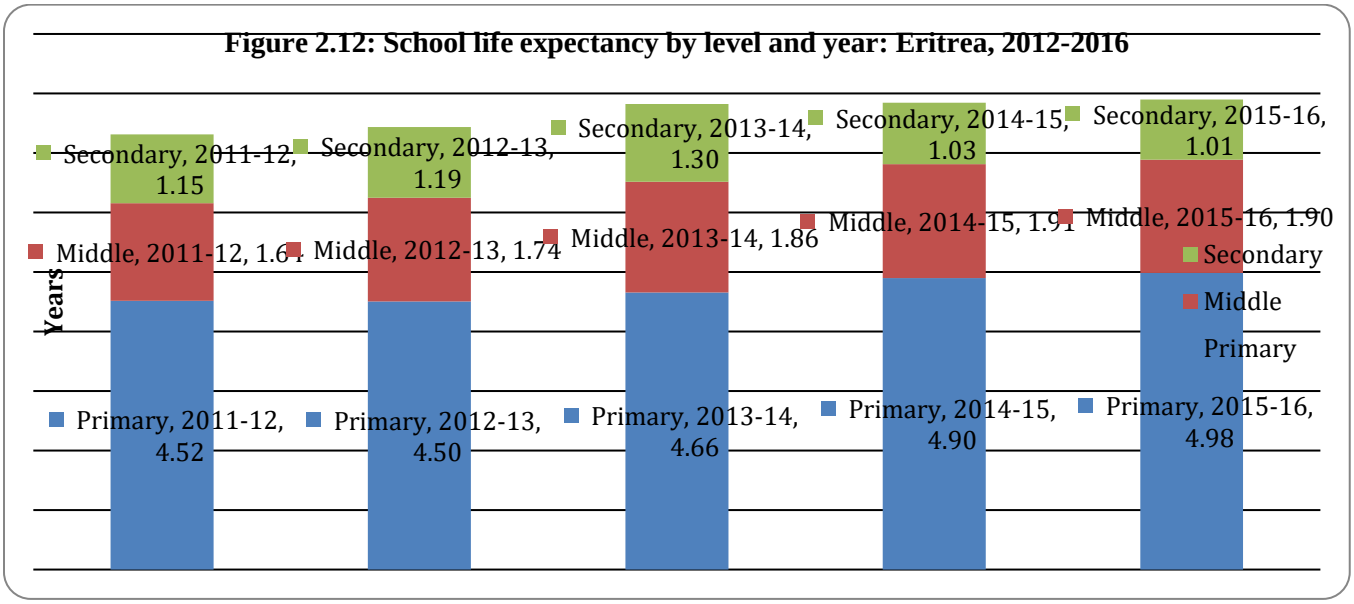
Source: Eritrea, Essential Education Indicators 2015/16

When we see the promotion rate through the zoba's, the promotion rate decreases as you go from primary to secondary education in all the zoba's except in DKB, where the promotion rate for middle school is higher than that for primary and secondary education.

2.2.2 School Life expectancy

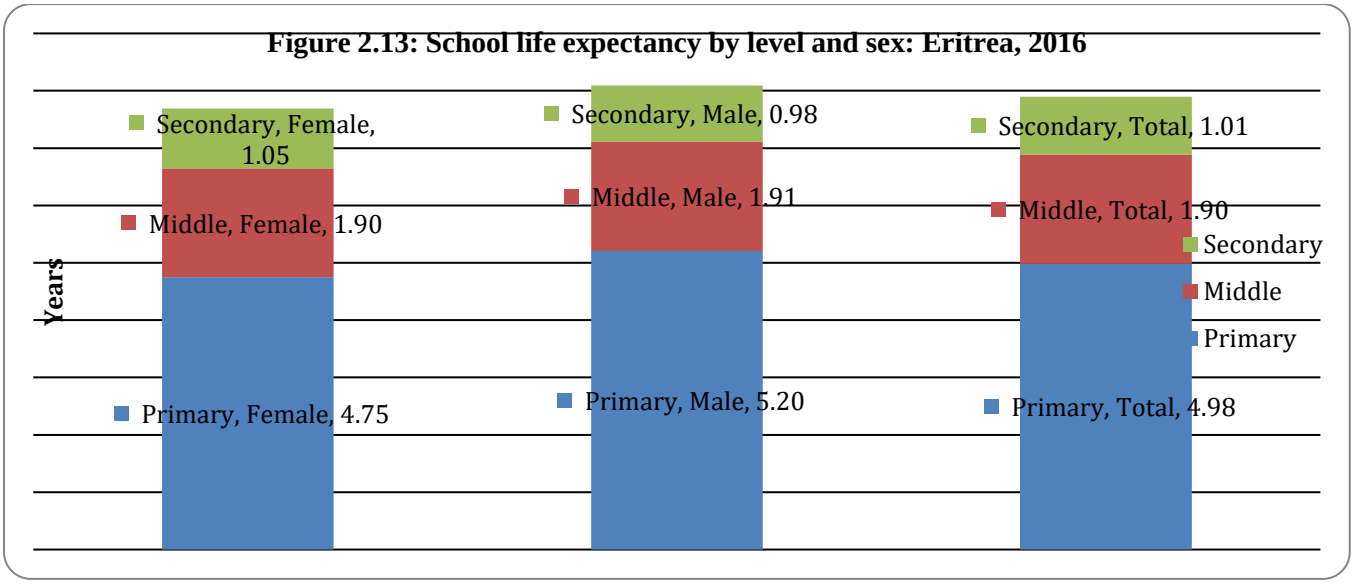
Another indicator, which can reveal important features of the education system, is the School life expectancy (SLE). School life expectancy is the average number of schooling years the children of a given country may hope to complete (repeated years are not included) giving the prevailing conditions offered by an education system. We get SLE by adding Access Rates across all grades. Just as life expectancy at birth is an indicator frequently used in demography to evaluate the level of a country's human development, school life expectancy is an indicator used to provide an aggregate measure of the level of coverage provided by a country's education system. To compute school life expectancy, the average of individuals' respective schooling career durations and information on enrolment and individuals' terminal schooling levels are required (what number or share of children finish their education at each level?). An individual who has never accessed school has a career of zero year duration; an individual accessing grade 1 but not reaching grade 2 has a career whose duration is of one year, and so on.

Figure 2.12: School life expectancy by level and year: Eritrea, 2012 - 2016



As the above figure shows, overall the SLE has shown an increment through the years. Nonetheless, it is evident that students do not graduate into higher grades easily, especially after completing primary education. The SLE for secondary education is very low as compared to primary and secondary education.

Figure 2.13: School life expectancy by level and sex: Eritrea, 2016



Source: Eritrea, Essential Education Indicators 2015/16

As can be seen from figure 2.13, if current enrolment were maintained, a six year old child could expect to remain in education for 7.9 years, an average that is built up from an expected 4.98 years in primary

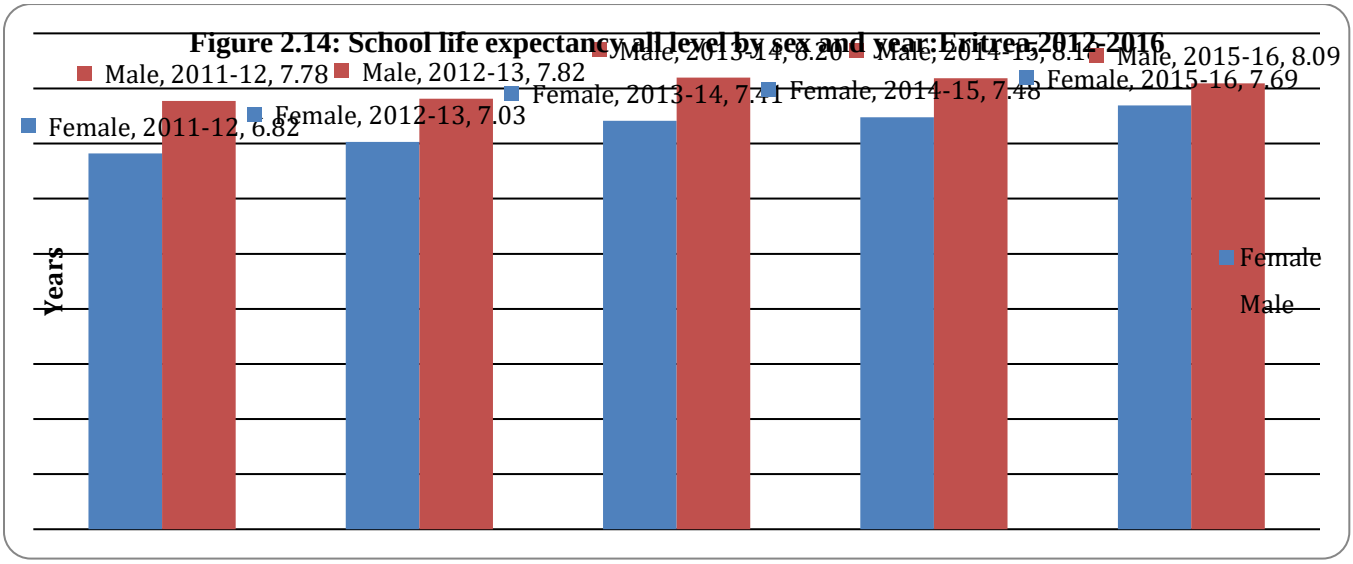
education, 1.90 years in middle, and 1.01 years in secondary education. Boys could expect to stay in education for 8.09 years, higher than girls whose SLE is 7.69.

Table 2.7: School Life Expectancy of Grade 1-12 by year and sex

Year	Female	Male	Total
2011-12	*6.82*	*7.78*	*7.31*
2012-13	*7.03*	*7.82*	*7.44*
2013-14	*7.41*	*8.20*	*7.82*
2014-15	*7.48*	*8.18*	*7.84*
2015-16	*7.69*	*8.09*	*7.90*

Table 2.7 shows the SLE of all grades starting from 2012 to 2016. It shows gradual increment from year to year in both sexes. As the target is to make a child stay for 12 years in school, still the SLE has a gap of four years on average. Much work needs to be done by the MoE in the coming years to improve efficiency and increase SLE.

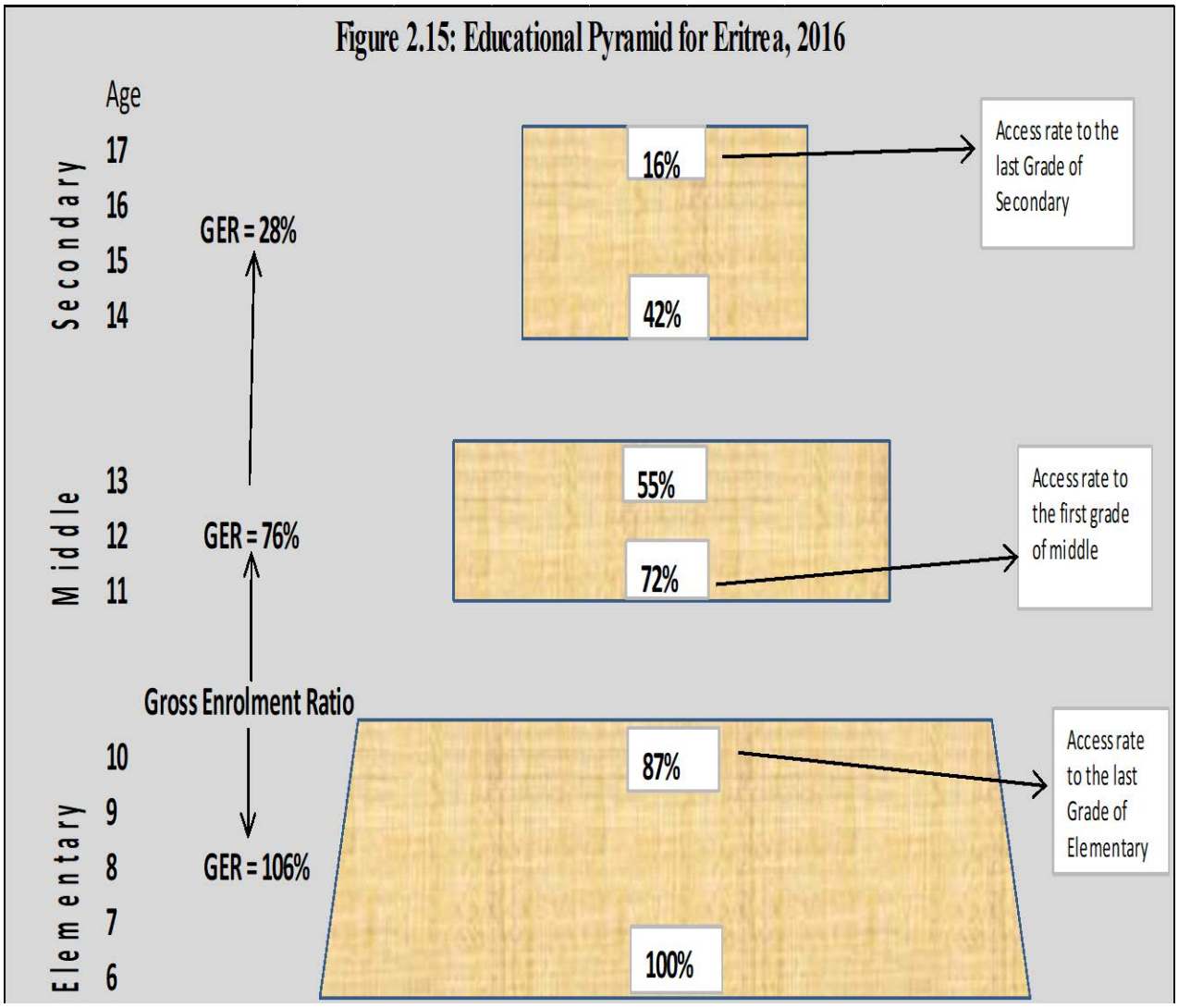
Figure 2.14: School life expectancy all level by sex and year: Eritrea, 2012-2016



Source: Eritrea, Essential Education Indicators 2015/16

Figure 2.14 shows that the SLE through the years has shown small increment. Through all the years, boys have more chance to stay in education than girls, as the SLE for boys is greater than girls starting from 2012 to 2016. But in secondary education girls have more chance to stay in education than their male counterparts.

2.2.3 Education Pyramids



Source: EMIS 2015/16

For each ten students, who start in grade one, less than 9 make it to the end of grade 5 and only two make it to the end of grade 12. The education pyramid shows how the number of students enrolled at each level of education drops as we move from lower to higher grades. Only 87% of the number of students enrolled in first grade is in schooling system at the end of primary school. This number decreases continuously until twelfth grade, where 16% of the number of students in first grade is enrolled.

Section 2.3: The Supply and Demand Issues on Access and Retention

Experience has shown that it is not sufficient to build schools and train teachers for children to attend school. There are numerous situations where a significant share of children stays out-of-school or drop out, despite the availability of adequate infrastructure and personnel.

Supply: The capacity and effective functioning of the systems required to deliver desired services or to promote desired practices among priority populations.

Demand: The geographic, financial, social, and cultural factors that encourage or discourage the use of existing services or the adoption of desirable practices among priority groups.

2.3.1 Access Related Supply and Demand

Levels of awareness and value to education

The Eritrean Government's policy documents, (PGE, 1991; GoSE, 1994; GoSE, 2002) have emphasized the principle that education is not only a basic human right but also a necessary tool for nation building. The level of acceptance of this principle, however, depends to a large extent on the level of parental and community awareness about the value of education.

The out-of-school children's study conducted in 2016 has clearly shown that there is a close relationship between parental level of education and student participation in school. A considerable proportion (76%) of children of primary school age whose parents had no education at all is out-of-school. A larger proportion (87%) of children of lower secondary school age whose parents had received no education at all is out- of- school.

This is in fact supported by empirical studies in a number of developing countries. For example, in a study conducted in Uganda, Tamusuza concluded that" parents' education is positively correlated with school attendance". In a related study in the Philippines, Maligalig et.al (cited in David and Albert) found that parents' educational level positively affects different outcome indicators, including school participation and achievement.

In Eritrea, as noted earlier, low level of parental and community awareness on the value of education is a major reason for exclusion from school, but it becomes more powerful in relation to specific profiles of out-of-school children. Pre-primary school age children, girls, children with disabilities and children from remote rural communities shoulder the heaviest costs of exclusion mainly due to parental lack of awareness on education.

The parental interest in education could be enhanced through sensitization and awareness raising campaigns (knowledge—awareness—interest). This process is a necessary but not always a sufficient condition for parents to support their children's enrolment and progression in school as this comment by the PTA chair in a primary school suggests: "There is a limit on the benefits of sensitization and mobilization programs. At the end of the day education is for those who want it".

Most of the parents who do not want to send their children to school or encourage them to stay at school tend to be poor and illiterate, struggling to live in a harsh socio-economic environment.

This brings into focus the crucial issue of education and poverty. In general, for poor households the imperatives of survival come before children's education. The interaction between lack of education and poverty breeds a self –perpetuating cycle where poverty leads to exclusion from education, and lack of education reinforces poverty.

Household Poverty

In Eritrea, as in many developing countries, household poverty is a major determinant factor of exclusion from education. As mentioned above there are more children from poor rural communities who are out-of-school as compared to children from well to do urban communities. The scale of household poverty as a barrier to student participation is examined below according to school levels.

Pre-Primary Education

Education at this level is not free for all. In urban areas, KGs are managed by local communities and private individuals. The government, for reasons of equity and social justice, has been focusing its efforts on the provision of pre-primary education in rural and disadvantaged areas. In urban areas, tuition fees range from the exorbitant (1,000 ERN per child per month) to the reasonable (80 ERN per child per month). Even the 'reasonable' fees are too much to bear for poor families.

Primary and Lower Secondary Education

Education at the primary, lower secondary and upper secondary levels is free. However, there are some indirect costs (uniforms, stationery, and transport) which affect the ability of poor families to send and keep their children in school. The cost burden becomes heavier in situations where families have to educate a number of children simultaneously.

To be sure, wearing uniforms is not compulsory in rural areas but the prospect of incurring opportunity cost as a result of children being in school and not working is a disincentive as far as some poor families are concerned. For the poorest families, the contributions from working children can be critical. Furthermore, as children grow older, the opportunity cost of schooling increases significantly along with the pressure to work or get married.

Poverty interacts with certain value systems on the ground to sharpen conflicts between the pull factor of the home culture and the push factor of the school culture.

Socio Cultural Beliefs and Practices

Socio-cultural beliefs and practices pose some barriers to school participation, particularly in the rural areas of Eritrea. In terms of gender, girls carry most of the burden of the domestic activities which causes negative socio-cultural attitudes towards education. The practice of keeping girls at home in all probability emanates from the patriarchal family structure prevalent in most parts of Eritrea. Within the framework of this traditional gendered family structure, male children are channeled to become heads of households while girls are expected to marry at an early age, become housewives and bear children. The context for the perpetuation of traditional values and attitudes inimical to the progress of women is clearly expressed in the National Education Gender Policy and Strategic Framework of Action:

> *"Eritrea is predominantly a patriarchal society where women, despite their larger labor input into the productive economic sectors and social management are marginalized citizens in all rights and benefits. Women have very limited access to assets including land and livestock. Ownership and control of the primary productive asset rest in the hands of the husbands and male heirs".*

Scattered villages and Settlements

In parts of Eritrea, there are scattered villages and settlements with low density of population. The inhabitants of these localities are not necessarily nomadic or migratory communities. Some of them live on a sedentary basis in remote and sparsely populated settlements far away from education and other social services. Some of these areas are hard to reach because of the topography (e.g. the eastern escarpments on the border between Zoba Debub and SKB). Others are geographically accessible but too isolated from main stream administrative and social services delivery points.

Scattered villages and settlements present a challenge to the provision of education services. Information obtained from annual MoE regional reports indicate that scattered settlements and hard to reach villages do not have the desired access to schooling. The problem is more acute in remote parts of Anseba, Gash-Barka, SKB, DKB and Debub Zobas of the country.

Late entry and Enrolment in school

The recent study on out-of-school children (OOSC) shows that 20.8% of children enrolled in primary schools and 56.7% of children enrolled in lower secondary school are older than the expected ages for their level. The analysis also points out to cases of children, specifically boys, aged 13-14, enrolled in primary school. In normal circumstances, these children should have been in lower secondary schools.

Late entry enrolment in school is a familiar occurrence in rural communities. It is also more prevalent in the four lowland Zobas (Anseba, Gash –Barka, SKB, and DKB) than in the two highland regions (Maekel, Debub).The National Policy on Education stipulates that the entry age for grade one is six years. However, schools in rural and disadvantaged communities are allowed to flexibly increase the age of entry to eight. In some remote rural areas, the flexibility, although not supported by official MoE regulations, is stretched further to allow older children (e.g. 9-10 years old) to enroll in grade one.

According to the EPHS 2010, helping the family at home was one of the common reasons for not "currently attending school", and this phenomenon is more prevalent in rural areas than in urban areas.

Some parents in rural areas delay their children's enrolment in school, so that children can assist them with farming and herding tasks. There is an element of opportunity cost at play in this process, and in the case of older children, there is pressure on them to work longer to support the family income. According to reports from regional education offices, prolonged engagement in household tasks also affects children who are already in school.

Although most children in rural communities are expected to perform such tasks, it is the older children who are normally assigned the heavier tasks. Coming late to school, after carrying out a heavy task, can trigger lack of concentration in the classroom, which in turn can interfere with academic progress. This in turn can lead to repetition and eventually to dropping out-of-school.

Availability of Schools and Classrooms

Within the parameter of supply side issues, the availability of schools and enrolment trends are two sides of the same coin. The more schools are available, the more students enroll and more schools are needed to cope with increases in student enrolments. Accordingly, for many countries, investment in schools and classrooms has become an essential component of the strategy to address the needs of the rapidly growing school age population.

Recent research has indicated that investment in infrastructural projects, such as school construction, yields "some of the largest impacts on education access." In the context of Eritrea, increasing the supply of schools has been a key factor in increasing the number of students and in reducing the percentage of children who have never been to school. The number of pre-primary schools increased from 104 in 2002-03 to 483 in 2012-13 (more than triple). During the academic year of 2002-03, there were 743 primary schools. This figure rose to 908 (an increase of 22%) during the academic year of 2012-13. During the same period, the number of lower secondary schools increased by over 100% from 167 to 340.

In spite of these notable increases, the supply of schools has not been able to match the demand for enrolment. There is an acute shortage of pre-primary school provision throughout the country. Almost two-thirds of pre-primary schools are located in rural areas and yet there are many rural and semi-rural localities which are currently not served by this provision. This has created a situation where there are substantial numbers of overage children in rural primary schools.

At the national level, significant progress has been made in getting children enrolled in primary and lower secondary schools. There is uneven progress in educational provision among the zobas and between urban and rural areas. Gash-Barka, for instance, is a large region with 843 villages but about half of these villages lack primary education services. In another example, in 2012, there were 14 local administrations in Zoba Anseba and 15 local administrations in Zoba SKB without educational services. The national average is one primary school per one local administration.

A number of communities in rural areas do not have access to conveniently located lower secondary schools and secondary schools. The lack of easy access to a lower secondary school and a secondary school has been a major factor for many children to drop out after completing primary education. The construction of lower secondary schools is one possible solution but this assumes the availability of adequate resources (financial and human). In some areas, local communities have taken initiatives to

construct lower secondary classrooms in primary school premises. To be sustainable, such initiatives need to be supported by local and regional administrations, and should comply with the MoE's guidelines on classroom sizes and ancillary facilities.

Even when schools are available, there could be a shortage of classrooms to accommodate all the students enrolled. Faced with the prospect of acute overcrowding in the classrooms, particularly in urban areas, the MoE has taken measures to operate the double shift system. Although the double shift system has been used as a stopgap measure to address shortages in classroom space, its long term adverse effects on the delivery of quality education (in terms of reduced instructional hours, coverage of curriculum content) cannot be ignored.

As part of the long term supply side interventions, the Ministry of Education has prepared estimates of new classroom requirements to accommodate projected increases in enrolment. These estimates are contained in the Education Sector Development Plan (2013-17). A summary of the projected requirements is given in Table 2.8 below.

Table 2.8: Projections of classroom requirements by school level

Level	**2012-13**	**2013-14**	**2o14-15**	**2015-16**	**2016-17**	**Total**
Pre-primary	*161*	*183*	*180*	*139*	*83*	***746***
Primary	*616*	*786*	*968*	*972*	*754*	***4096***
Lower-Secondary	*42*	*42*	*76*	*202*	*269*	***631***
Total	***819***	***1011***	***1224***	***1313***	***1106***	***5473***

Source: MoE (2013). Education Sector Development Plan

The figures in Table 2.8 indicate that most (75%) of the classrooms required during the five year period (2012-17) are needed for primary education, which still remains a key government policy priority. The low share of required classrooms for pre-primary and lower secondary school levels suggests that more funding is needed to facilitate more enrolment in these levels.

Perhaps one of the biggest challenges facing the MoE is the supply of learning provision for children with disabilities, particularly the ones with severe disabilities. There are three primary level special needs schools in the country. But clearly they are not enough to meet the needs of children in such circumstances. A recent Anseba Region education report referred to the case of overage children not being able to secure admission in the Primary School for the Deaf in Keren mainly because of lack of space.

The three primary level special education schools are located in two of the country's six regions (Maekel and Anseba). Although these schools accept applications for placement from all over the country, there is a need, on grounds of equity, for more or adaptations of these institutions in other parts of the country. Providing special education classes and schools with appropriately trained staff and suitable facilities is of course expensive. But not providing it is even more expensive. The social and economic costs in terms of adult care and dependency support would be enormous to families, communities and the nation at large.

Distance of school from home

In most urban areas, students walk for less than three or two kilometers to reach school. In rural areas the situation is different. As noted above, although significant strides have been made to expand access to schooling in rural areas, there are remote villages and scattered settlements which are still underserved. In such contexts, the distance of school from home emerges as a key barrier to educational participation. The EPHS 2010 lists distance of school from home as one factor affecting sustained access to and staying in school. The MoE regional education reports consider distance of school from home as a critical barrier to student participation in education in remote areas of the country. Most of the secondary schools are located in urban areas of the country. This obliges many rural students to travel long distances to get their secondary education.

This supply side problem can initiate drop out cases particularly among children with disabilities. According to a recent study conducted by the Ministry of Labor and Human Welfare (MLHW), distance of home from school is the main reason given by the large majority (77%) of children with disabilities for dropping out from school. To ease this problem, the MLHW in collaboration with UNICEF implemented the 'Donkey for School Project' between 2009 and 2010. The beneficiaries of the project were 870 children, especially girls with disabilities from disadvantaged communities. An evaluation of the project showed that the incentive scheme contributed to increased enrolment and attendance, and improved academic performance among the target group.

Distance to school from home also adversely affects girls' participation in education. For some girls in rural areas, primary education could be the end of their educational experience. This is mainly due to socio-cultural based concerns about girls' safety, if they have to walk or travel long distances to be in school.

In some areas, local communities have taken measures to spare their children from walking long distances to attend school. The initiative of the local community in Hamish-Duba, Kerkebet (Anseba) is a case in point. Parents in the village have used their resources (financial, material, labor) to build new classrooms in the primary school compound so that they can be used for lower secondary education.

Supply of Teachers

The insufficient number of teachers has been repeatedly mentioned as an obstacle to school attendance in recent regional education reports. The reports indicate that many CCGs are being closed because of lack of funds to pay the community based teacher assistants. There is also a shortage of English and mathematics teachers in primary and lower secondary schools. These shortages raise serious concerns about equitable access to education services in rural areas. The shortage of English and mathematic teachers is also worrying because these two subjects are core learning areas in the national curriculum and because English is the medium of instruction at the lower secondary school level and above it.

In the Education Sector Development Plan mentioned earlier, the MoE made an estimate of the projected number of new teacher requirements between 2012-13 and 2016-17. As in the case of classroom requirements, the majority (55%) of the teachers required were for the primary school level (details in Table 2.9).

Table 2.9: Projections of new teacher requirements by school level

Level	2012-13	2013-14	2014-15	2015-16	2016-17	Total
Pre-Primary	141	346	606	791	864	**2748**
Primary	941	958	1214	1105	1054	**5272**
Lower-Secondary	381	77	169	520	718	**1865**
Total	**1463**	**1381**	**1989**	**2416**	**2636**	**9885**

Source: MoE (2013) Education Sector Development Plan

Constraints in the flow of teacher supply are compounded by high teacher attrition rates. In the academic session of 2012-13 alone, a total of 1,306 teachers left the profession. The combined teacher turnover from the current basic education teacher training institutes is about 1,200 per annum. This may be sufficient to replace the teachers who left the service but certainly not to meet the needs of the expanding basic education school system. In situations where teachers are not sufficiently available, there is a propensity for student absenteeism which can lead to drop out.

Within the framework of teacher supply, the strategy of recruiting and placing female teachers is often linked to strategies aimed at encouraging girls to enroll and stay in school. According to a recent UNESCO report, "the presence of female teachers can improve girls' enrolment and achievement especially in more conservative settings where the movement of life chances of girls and young women is restricted". The use of such strategies was also raised by the MoE. If carefully planned and implemented, these strategies can increase the proportion of female teachers which currently stands at 37% and 17% in primary and lower secondary schools respectively.

To raise female participation in the teaching service and to fill the gap in teacher output, the MoE came up with an innovative measure at the very beginning of the new millennium. This essentially entailed the training of demobilized female National Service participants in basic teacher education (formal and non-formal). Over 3000 female candidates completed the training and were assigned to teach in various parts of the country.

In areas where there is very low enrolment of children in school, the recruitment and deployment of teachers from local communities can provide a positive role model for children to participate in schooling. Local recruitment has additional advantages "such as teachers' greater acceptance of a rural posting and reduced attrition."

2.3.2 Retention – Related Supply and Demand

Child Marriage

In many ways underage marriage is an extension of the wider negative socio- cultural attitudes towards females in general and the education of females in particular. In respect to Eritrea, Rena (2005) asserts that the country "faces generations of tradition that reinforce the belief in early marriage and keeping

women in the home". This assertion is an overgeneralization since the practice does not happen in all parts of Eritrea. However, underage marriage has been repeatedly mentioned in the annual regional education reports as a major cause of girls dropping out from school in remote parts of rural Eritrea. According to the EPHS 2010, 38.4% of females and 2.2% of males between the ages of 14 and 29 were not attending school because of marriage.

According to the documented cases of NUEW, there are50-60 underage marriages happening every January. Child marriage is essentially a rural phenomenon in Eritrea and in this context it does contribute to the multiplicity of barriers which rural girls face in accessing and staying in school. A considerable number of girls continue to be affected by this barrier. This is consistent with the low participation rates of rural girls, particularly in lower and upper secondary school levels. Even in the case where a married girl returns to school, her chance of dropping out is very high because of newly acquired family responsibilities (pregnancy, child- birth, etc.).

International human rights agreements prohibit child marriage. At the International Conference on Population and Development in 1994, participant countries agreed to enforce laws against child marriage. In addition, the African Charter on Human and Peoples Rights and the African Protocol on the Rights of Women (2004) commit governments to enact laws preventing child marriage.

In Eritrea child marriage is prohibited by law. The amended civil code (PGE: 1991) defines the legal age of marriage to be 18 for both females and males. Despite this prohibition, child marriage is still entrenched in the socio-cultural fabric of some rural communities in Eritrea. In places where child marriage is still practiced in the Debub Region, women activists have been mobilized to counter this practice as they did with the FGM. These are encouraging initiatives but the problem is that some parents may replace the "withdrawal" from school for early marriage with the withdrawal for keeping girls at home.

Nomadic, Semi-Nomadic Life Styles of communities

In broad terms, nomadic or pastoralist communities constitute ethnic and socio-economic groups who constantly migrate in large or small groups in search of means of livelihood within a local area, country or across international boundaries. Since nomadic communities are by nature migratory, providing access to equitable quality education becomes a challenge both in terms of resources and logistics.

Nomadic and semi-nomadic communities are primarily found in the four lowland regions of Eritrea (Anseba, Gash-Barka, SKB and DKB). It is estimated that they represent "5-10 % of the population." Such communities migrate from place to place in search of pasture for their cattle and other herds. Mainly because of their life style, nomads and semi-nomads find themselves excluded from social services, including education. School enrolments in the four regions inhabited or traversed by nomadic communities are considerably lower than the national average.

Globally, nomadic or pastoralist communities "remain among the most underserved" with respect to education. Educational provision within the framework of the formal school system is simply not compatible with the migratory life style of nomadic and semi-nomadic communities. Virtually, in the four zobas of the country stated above, the life style of nomadic and semi-nomadic is a barrier to their children's education.

Child work and Apprenticeships

The labor law of Eritrea prohibits child labor. In this context a legal framework is in place to protect children from inhuman and exploitative practices. The National Comprehensive Child Policy (2013) makes a distinction between ***child work,*** including domestic chores and family income supplementing tasks, which is "part of the socialization process in the Eritrean social structure", and ***child labor*** which is "hazardous, risky and exploitative… and detrimental to the normal growth and development of the child".

On the basis of available evidence and from the experience of various communities in Eritrea, it can be said that child labor in the classical sense (underage children working in harsh and degrading conditions for regular meager wages) does not exist. There are children who work either to supplement family income or to acquire practical skills by way of apprenticeships.

Perhaps the most common type of child work in Eritrea occurs at the household level. As pointed out earlier, children help their families by looking after cattle and other herds, tilling the land, and harvesting the farms. They also help their families by fetching water and firewood. Children also work in family shops and other businesses.

Poverty forces some families to use their children to generate income. This happens in urban and semi urban areas. Examples of such activity include selling peanuts, fruits, bread, chewing gum, ice-cream and water using horse/donkey carts. There are also cases of children working in teashops, restaurants and bakeries.

Some other children (mainly boys) work in vehicle repair workshops and other enterprises such as metal work, carpentry and woodwork, and tailoring and embroidery. The young workers do this within the framework of apprenticeships and skill training schemes under the tutelage of an older crafts man or technician (usually the owner of an enterprise and a family member).

Whatever forms it takes (working on family farms/ shops, looking after herds, apprenticeships in workshops, vending in the streets), child work consumes a substantial time and energy. Children are faced with the prospect of divided attention and this, as mentioned earlier, can interfere with their educational progress. There could also be occasions when children are forced to be absent from school in order to attend to 'pressing work commitments'. In general, child work, unless handled judiciously, exposes learners to risks of dropping out. According to a background paper prepared for EFA Global Monitoring Report for 2015: "The more hours children work per week, the less likely they are to attend school, and those who do attend are more likely to lag in the years of schooling they attain".

Disability

It is estimated that at the global level between 93 and 150 million children live with some form of disability. Having disability status can increase the risk of educational exclusion. In some countries the chances of a child with a disability not attending school are two times greater than a child without a disability.

There is no comprehensive data on the number of children with disabilities in Eritrea. In a survey carried out by the Ministry of Labor and Human Welfare in 2004, the number of children with disabilities was

estimated to be 23,000, “of whom many are out-of-school and live in rural areas.” Another study conducted by the Ministry in 2009 estimates that there are over 10,000 children and youth with disability in the age range 10-19.

The figure in the first study is rather outdated and the figure in the second study refers to one age group only. Accordingly, the first step in the development of an out-of-school profile for children with disabilities is to establish how many children with disability status attend primary and lower secondary schools and how many are excluded from these learning provisions. The second step is to assess children with different types and levels of disability in order to address their particular needs.

The EPHS 2010 identifies disability as one of the three most common reasons for not attending school. This by itself reflects lack of interest in the subject which is only one of the multiple barriers confronting children with disability. The others include wider societal attitudes towards disability, fears of stigmatization on the part of families, medical fees and transport costs.

The MoE has undertaken various measures through inclusive education. Additional classrooms were built in some existing primary schools in order to provide additional support to children with disabilities. Furthermore a number of short term training on Special Needs Education (SNE) was provided to veteran teachers of primary schools. Although such initiatives have been in place, a lot of effort is needed for the future. The MoE has made such initiative to be a priority area through further surveys and study to gradually fully address the multiple barriers confronting children with disability.

School Environment and Infrastructure

A safe school environment is essential to facilitate and sustain enrolment at all levels in the education system. Among other things, this requires the supply of stable school buildings, fences around school compounds and protection from exposure to noise and other distractions. According to information obtained from the Ministry of Education, out of the 483 pre-primary schools in the country, the majority (51%) do not have fences.

The situation in primary and lower secondary schools is not different. There are a number of make shift primary and lower secondary schools with insecure fences in various parts of the country. Such infrastructures serve a purpose (facilitating access) but they do expose children to risks stemming from rain, wind and other elements.

The provision of water and sanitation services is generally accepted as a stabilizing influence in terms of school participation. The provision of safe and separate sanitation facilities for girls in particular has been identified as “a key strategy for improving school attendance for girls and promoting more equitable school environments”. The rationale behind this strategy is the recognition of girls’ need for privacy, particularly during the menstrual cycle which can act as an impediment to school attendance. The School Guidelines on WASH facilities stipulate that sufficient and separate toilet provisions should be made available to girls and boys.

Availability of Educational Facilities and Materials

The shortage of educational facilities such as libraries, laboratories, workshops and special needs resource rooms has been cited as a challenge in regional education reports. While this shortage affects all children in school, it poses additional challenge to children with disabilities. The Comprehensive National Child Policy (2013) acknowledges that children with disabilities have continued facing problems with "access to communication facilities such as Braille and sign languages".

This area of exclusion is yet another barrier adding to the 'invisibility' of children with disabilities. If mainstream schools are to offer credible inclusive education, they should try to adapt whatever facility they have to the needs of children with a range of disabilities. Such needs based support can improve the accessibility of school facilities and resources to disabled children.

As in many developing countries, the textbook is the dominant learning material in Eritrean schools. Ministry of Education guidelines stipulate that textbooks in subject areas should be made available to schools on the basis of one book per child. However, this does not always happen mainly due to problems associated with logistics and distribution. In addition, information obtained from school head-teachers revealed that most textbooks are getting old and that new prints are required so that their use in the classroom and at home can be sustainable.

The provision of textbooks must not only be sustainable but also adaptable to different situations. In Eritrean primary schools, the language of instruction is the mother tongue. Accordingly, textbooks are prepared in such a way that they are relevant to local cultures and social environments. This approach makes the curriculum more accessible and learning more meaningful to children, thereby reducing the number of dropouts and those at risk of dropping out. Similar curriculum and textbook adaptations can be made to suit the needs of disabled children and children from nomadic communities.

2.3.3 Bottleneck Analysis

The bottlenecks are analysed based on enabling enviroment, supply, demand and quality.

Enabling environment: The analysis shows that in general there is a strong political will to support the policy priority of making basic education available to all. This is reflected in most of the policy documents issued by the government and in the country's commitment to the UN Convention on the Rights of the Child (CRC) and other international obligations such as the EFA, MDGs and SDGs.

Although, pre-primary education is "part and parcel" of basic education, it is apparent that this provision is not free and compulsory for all children aged four to five. This policy ambiguity has led to a two-tier pre-primary education provision with the private sector and local communities largely operating in urban areas and the government focusing its efforts in rural and disadvantaged areas.

Demand side: The determinants of exclusion or being at risk of exclusion from school are household poverty, negative socio-cultural beliefs and practices (particularly in relation to girls), low levels of parental and community awareness on the value of education, child marriage and the nomadic/semi-nomadic lifestyle of some communities. Most of these barriers affect rural communities and they do

interact to contribute to a multiplicity of barriers which rural children encounter in accessing and staying in school.

Nomadic communities tend to be largely rural, poor and with little or no education. For most of them the imperatives of survival come before children's education. Socio-cultural norms and opportunity costs weigh heavily in favor of keeping children, particularly girls, at home instead of sending them to school. Similarly, poverty, socio-cultural attitudes and living in rural areas add to the invisibility of children with disabilities.

Supply side: Shortage of schools and classrooms is a major barrier to educational participation. This is particularly so at the pre-primary and lower secondary school levels. Although efforts have been made to expand access to schooling in rural areas, there are remote villages and scattered settlements which are still underserved. In such cases, distance of school from home emerges as a key impediment to schooling. This particular barrier affects female children more than boys mainly due to socio-cultural based concerns about girls 'safety to walk or travel long distances' to be in school. The prospect of travelling long distances to school also adversely affects the participation of children with disabilities. Distance of school from home is one more example of a supply side barrier interacting with demand side barriers to generate multi-dimensional challenges to the education of girls and children with disabilities.

Another supply side barrier affecting children's participation in school is the recruitment and deployment of an inadequate number of teachers. While this is a general challenge, schools in some rural areas face the additional challenge of securing female and local teachers as role models. The inadequate supply of educational materials and resources also emerges as an obstacle to meaningful learning in classrooms.

Quality side: Learning becomes even more meaningful if quality is placed at the heart of educational provision. The analyses of data on barriers related to quality show that there are a number of make shift schools in rural areas, particularly in Anseba, Gash-Barka, SKB and DKB regions. Another challenge linked to school infrastructure is the inadequate supply of functioning water and sanitation facilities. This affects all children but particularly adolescent girls.

Shortage of professionally qualified and motivated teachers and limitations in the provision of adequately trained professional school management and supervision personnel constitute part of the quality related bottlenecks. These constraints, along with insufficient supply of appropriate learning facilities and resources, can have the effect of undermining student progression and achievement in school. Low achievement can lead to class repetition and being overage for the grade which are risk factors for dropping out.

Although, in general, the policy environment in Eritrea supports improvements in access to equitable quality education, there are still challenges to the effective implementation of relevant programs and interventions. Financial constraints have always been critical, but lack of desired coordination of efforts and shortage of appropriately trained and deployed personnel at local administration levels tend to impede the implementation of social programs targeting the needs of children excluded from schools.

Section 2.4: Internal Efficiency

The quantitative goals of education systems are not limited to increasing the number of children enrolled but also to ensure that children who begin a cycle complete it with no drop outs and repetitions; or with minimum drop out and repetition rates; as they greatly require additional human and financial resources.

2.4.1 Repetition

High repetition rates affect the internal efficiency of the education system mainly because of the cost of the extra years that repeaters spend in school. In Eritrea, the overall repetition- the percentage of students repeating a grade out of the total enrolled in that grade in the primary level has decreased between 2011/2012 academic year and 2015/16. Although it has decreased from 12.6% in 2011/2012 to 6.5% in 2013/14 it has also risen to 9% in 2015/16. Although both boys and girls performed better yet girls' repetition rate is less than boys' repetition rate as shown in the table below. The percentage repetition for boys was 10.1 and 7.6 for girls in the academic year of 2015/16.

Table.2.10: Percentage of repetition by level, 2011/12-2015/16

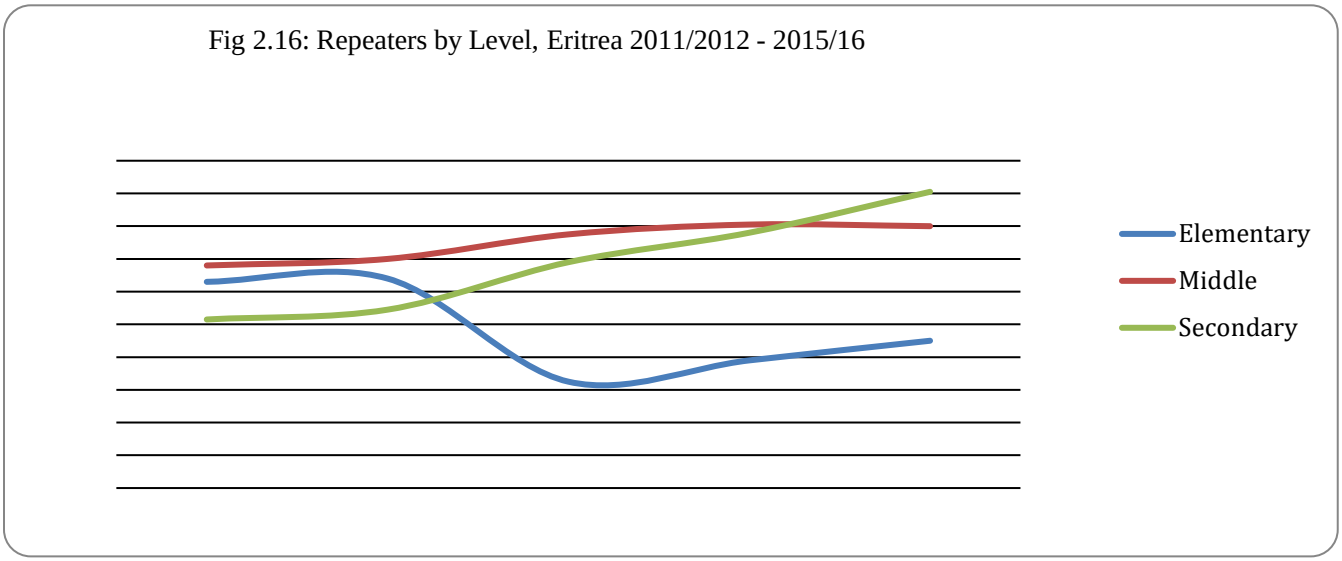
YEAR	PRIMARY			MIDDLE			SECONDARY		
	T	M	F	T	M	F	T	M	F
2011/12	12.6	13.4	11.5	13.6	15.9	10.8	10.3	12.3	7.5
2012/13	12.8	13.8	11.5	14.0	16.9	10.4	10.9	13.7	7.1
2013/14	6.5	7.2	5.7	15.5	18.4	11.8	13.8	17.5	9.0
2014/15	7.8	8.8	6.5	16.1	19.5	11.9	15.6	19.8	10.5
2015/16	9.0	10.1	7.6	16.0	19.7	11.6	18.1	23.3	12.3

Source: MoE; Essential Education Indicators, 2015/16

The repetition rate at the middle level on the other hand worsened between the two academic years; it has increased from 13.6 to 16%. The repetition rate at the secondary level also had a similar trend to that of the middle level and was even worse in the last academic year. The percentage of repeaters in the academic year 2011/12 was 10.3 but after 5 years it had risen to 18.1, which is alarming. In all the levels, girls' students' repetition rate is better than the boys although the rate is not satisfactory. Girls' repetition rate is 7.6, 11.6 and 12.3 for primary, middle and secondary levels respectively, while for boys it is 10.1, 19.7, and 23.3 for the primary middle and secondary levels respectively in the academic year of 2015/16.

As in the figure below, the repetition trend for all the levels has shown an increasing trend although the middle level has low repetition rates compared to the next two levels.

Figure 2.16: Repeaters by level, Eritrea 2011/2012 – 2015/16



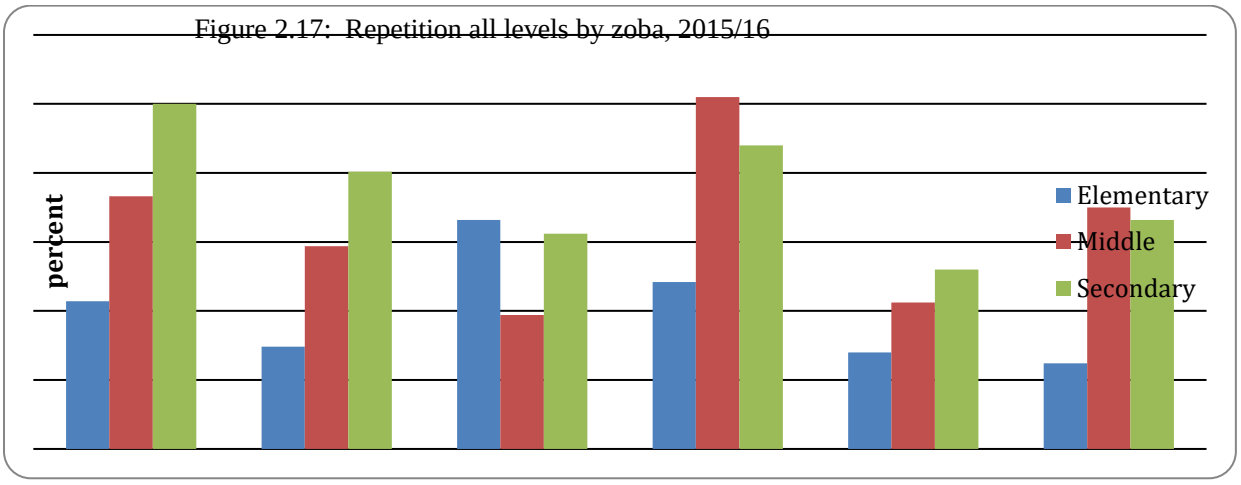
Source: MoE; Essential Education Indicators, 2011/12-2015/16

Table 2.11: Percentage of repeaters by Level and zoba, 2015/16

ZOBAS	PRIMARY	MIDDLE	SECONDARY
Anseba	*10.7*	*18.3*	*25.0*
Debub	*7.4*	*14.7*	*20.1*
DKB	*16.6*	*9.7*	*15.6*
Gash Barka	*12.1*	*25.5*	*22.0*
Maekel	*7.0*	*10.6*	*13.0*
SKB	*6.2*	*17.0*	*16.6*

Source: MoE; Essential Education Indicators, 2015/16

Figure 2.17: Repetition at all levels by zoba, 2015/16



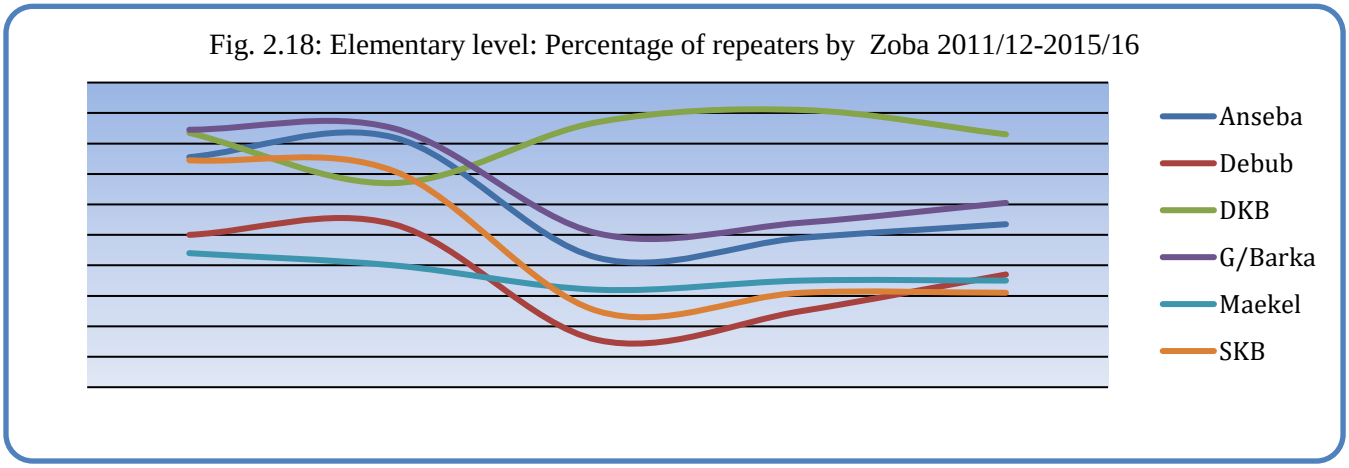
Source: MoE; Essential Education Indicators, 2015/16

The repetition rates at all levels the primary, middle and secondary levels show significant variation among zobas. Higher repetition rates are recorded in Anseba and Gash Barka The situation relatively improves in Zoba Maekel. Gash Barka (25.5%) has the highest repetition rate in middle level while Anseba (25%) has the highest repetition in the secondary level.

Table 2.12: Primary level: Percentage of repeaters by zoba 2011/12-2015/16

Zoba	2011/12	2012/13	2013/14	2014/15	2015/16
Anseba	*15.1*	*16.4*	*8.5*	*9.8*	*10.7*
Debub	*10*	*10.7*	*3.1*	*5*	*7.4*
DKB	*16.7*	*13.4*	*17.4*	*18.2*	*16.6*
G/Barka	*16.9*	*17*	*10.1*	*10.8*	*12.1*
Maekel	*8.8*	*8*	*6.4*	*7*	*7*
SKB	*14.9*	*14.2*	*5*	*6.2*	*6.2*

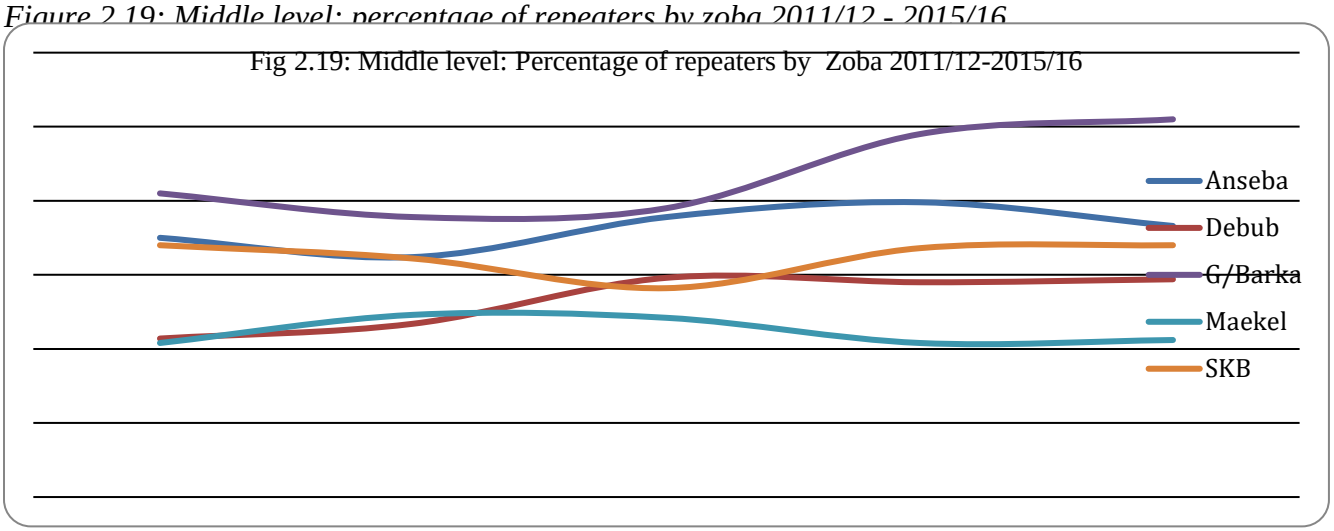
Figure 2.18: Elementary level: percentage of repeaters by zoba 2011/12 – 2015/16



Source: Eritrea, Essential Education Indicators 2015/16

The repetition rate at the primary level has decreased almost by half in all the zobas during the academic year of 2013/14 except for Zoba DKB where it has remained almost the same. However, the repetition rate has shown an increment in the consecutive academic years.

Figure 2.19: Middle level: percentage of repeaters by zoba 2011/12 - 2015/16



Source: MoE; Essential Education Indicators, 2015/16

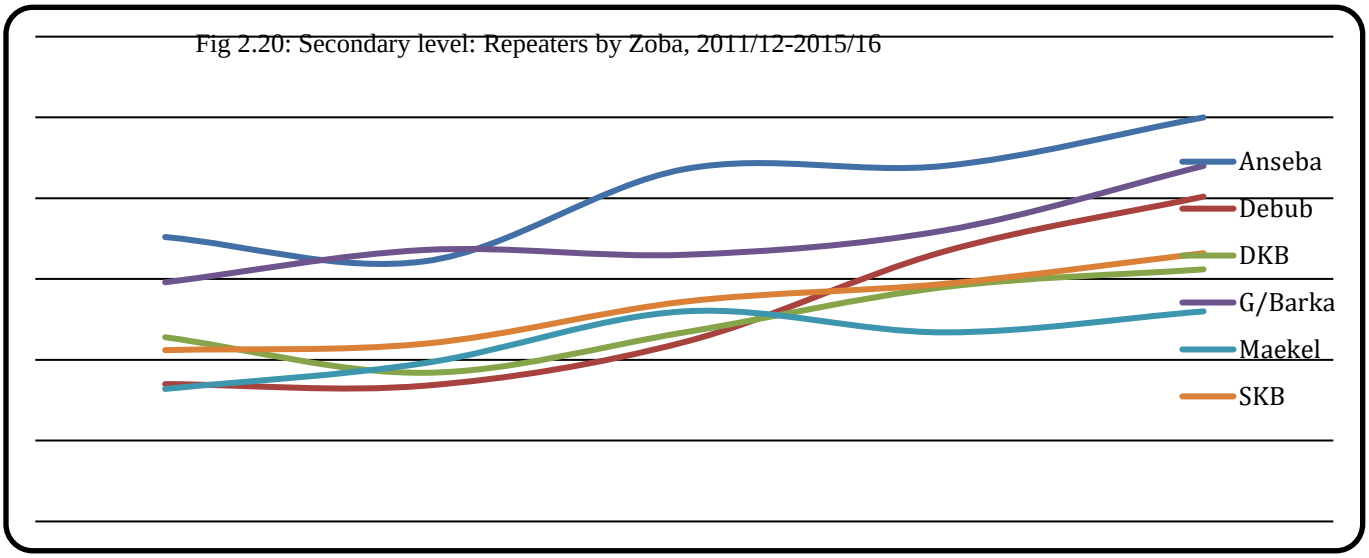
Regarding the middle level the repetition rate in the last 5 years ranges between 10 and 20% except for Zoba Gash Barka where the result exceeds 20% and reaches 25.5% in the 2015/16 academic year having the highest repetition among all the zobas. Not only that; it also has an increasing trend from 2013/14 to 2015/16. Gash Barka's repetition rate (the highest) is almost three times that of DKB's repetition rate (the lowest) in the last academic calendar. DKB's repetition rate has shown a significant decrease from 2014/15 (17.8%) to 2015/16 (9.7%) academic year.

Table 2.13: Secondary level: Percentage of repeaters by zoba 2011/12-2015/16

Zoba	2011/12	2012/13	2013/14	2014/15	2015/16
Anseba	*17.6*	*16.1*	*21.8*	*22*	*25*
Debub	*8.5*	*8.4*	*11.1*	*16.7*	*20.1*
DKB	*11.4*	*9.2*	*11.7*	*14.5*	*15.6*
G/Barka	*14.8*	*16.8*	*16.5*	*18*	*22*
Maekel	*8.2*	*9.8*	*13*	*11.7*	*13*
SKB	*10.6*	*11*	*13.6*	*14.7*	*16.6*

Source: MoE; Essential Education Indicators, 2011/12-2015/16

Figure 2.20: Secondary level: Repeaters by zoba 2011/12 - 2015/16



Source: MoE; Essential Education Indicators, 2011/12-2015/16

The percentage repetition for secondary level has generally an increasing trend in the last five academic calendars that is between 2011/12 to 2015/16. Although Zoba Maekel has the lowest percentage repetition yet it has an increasing trend like the remaining zobas as it can be seen clearly in the above picture. Three zobas namely Debub, Gash Barka and Anseba have crossed the 20% repetition rate in the latest academic year with 20.1%, 22% and 25% respectively.

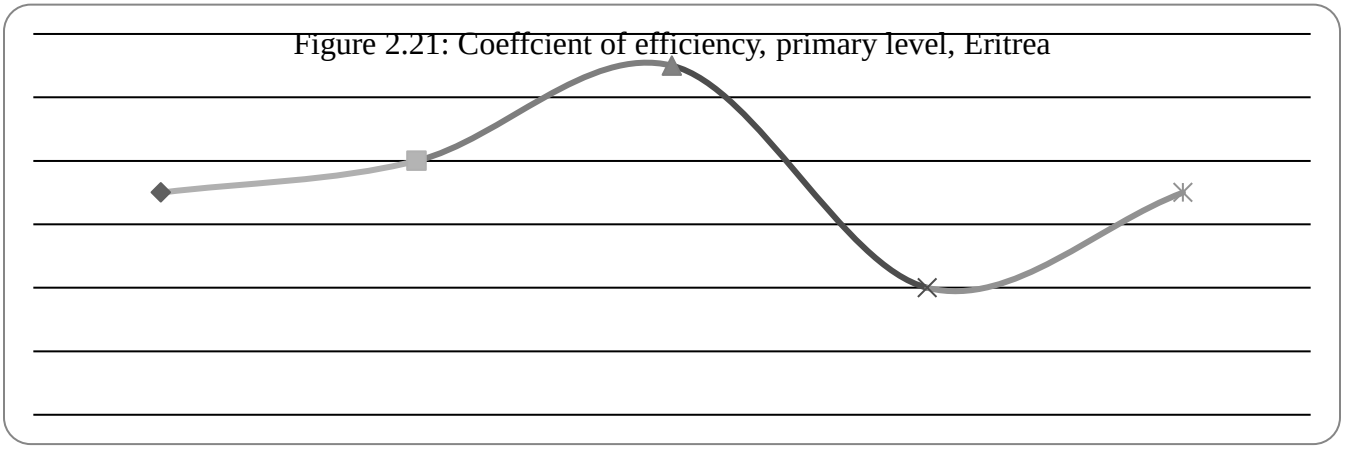
2.4.2 Internal Efficiency Coefficient

The Internal Efficiency Coefficient is constructed based on the actual flow rates of their respective academic years; as it is seen in the table below. For that year, it is calculated as 75%, this indicates that both the repetition and dropout make up 25% inefficiencies in the pupil year invested. It had an increasing trend between 2011/12 and 2013/14 but decreased to the next academic year but also has shown an increasing trend in 2015/16. But generally the trend is showing inconsistency or irregularity.

Table 2.14: Internal efficiency coefficient, primary level

Years	2011/12	2012/13	2013/14	2014/15	2015/16
COEFFICIENT OF EFFICIENCY	0.75	0.76	0.79	0.72	0.75

Figure 2.21: Coefficient of efficiency, primary level, Eritrea



Source: MoE; Essential Education Indicators, 2011/12-2015/16

Section 2.5: Out-of-School Children

A study about out-of-school children was carried out in 2012/13 academic year. The study indicated that 220,596 children aged 5-13 were out-of-school. The magnitude of exclusion is more acute at the pre-primary and middle levels where 73% and 41% of the relevant school age children respectively are out-of-school. In comparison, 19% of primary school age children (6-10 years) are estimated to be out-of-school.

2.5.1 Estimation of the Share and Number of Out-of-School Children

Based on the analysis conducted and as per the out-of-school definition provided by UIS and UNICEF, there are 220,596 out-of-school children. This amounts to 37.7% of the relevant school age population (5-13 years).

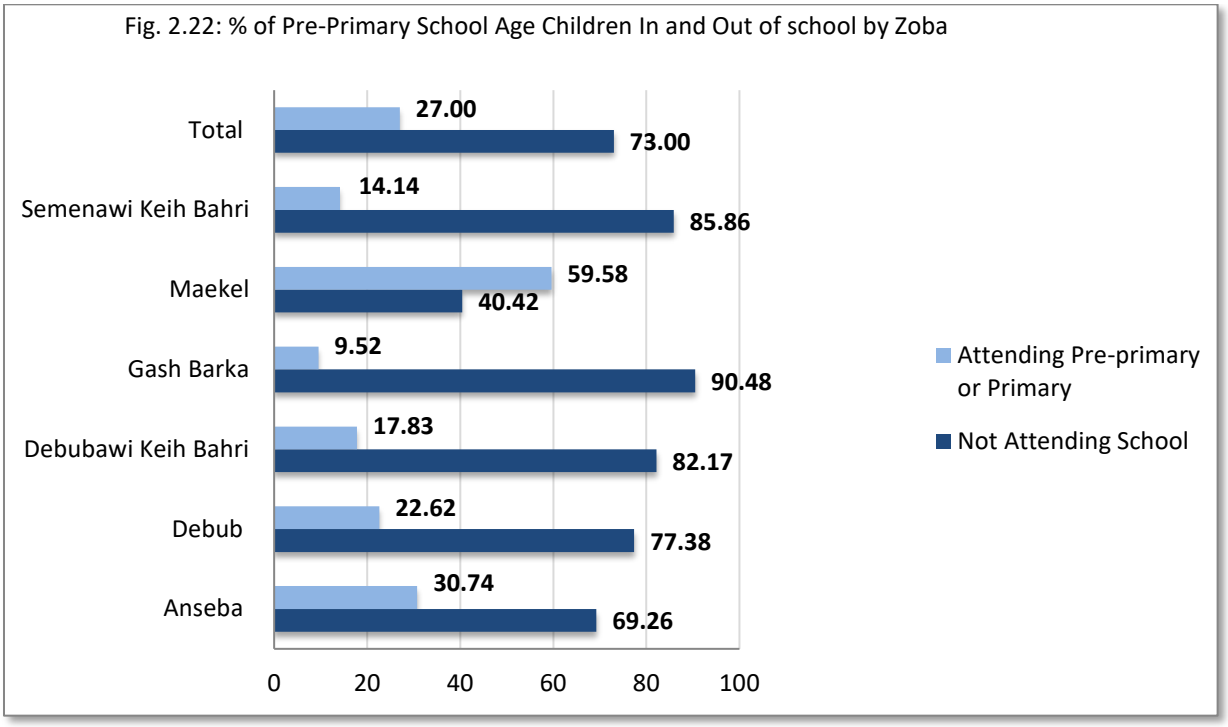
Table 2.15: Summary of School Age Population In and Out-of-school – 2013

Categories	Total Population of school age (5-13)	In School	Out-of-school	% of Out-of-school
Children aged 5 years	*87,849*	*23,726*	*64,123*	*73.0*
Children aged 6-10 years	*342,449*	*277,386*	*65,063*	*19.0*
Children Aged 11-13 years	*223,618*	*132,208*	*91,410*	*40.9*
	653,916	*433,320*	*220,596*	*33.7*

A. Profile of out-of-school children in Pre-primary level

Zoba disparities are also found to be very significant in terms of pre-primary enrolment and attendance, as it can be seen from the following figure.

Figure 2.22: % of pre- primary school age children I and out-of-school by zoba



In accordance with the research parameter of pre-primary education set by the Operational Manual of the global study of OOSC, (the single year immediately preceding the official entry age into primary education) the number of pre-primary school age children (5 years old) who are out-of-school is estimated to be 73.0% (64,123).

Based on the analysis, as shown in the figure above, the problem of pre-primary age out-of-school children is prevalent across the entire country. It is only in Zoba Maekel that the percentage of in-school pre-primary school age children (59.6%) is more than those out-of-school (40.4%). It is notable that the problem of pre-primary age children out-of-school is particularly severe in Gash Barka with 90.5%, SKB with 85.9%, DKB with 82.2%, and Debub with 77.4% and Anseba 69.67%.

Table 2.16: Percentage of Pre-primary School Age Children Out-of-School by Residence, Wealth and zoba

		Not Attending School	Attending Pre-primary School	Attending Primary School	Attending Either pre-primary or primary
Residence	Rural	*83.92*	*15.80*	*0.28*	*16.08*
	Urban	*48.53*	*51.01*	*0.46*	*51.47*
Wealth Index Quintile	Poorest	*28.54*	*71.46*	*0.00*	*71.46*
	Second	*25.74*	*74.26*	*0.00*	*74.26*
	Middle	*19.15*	*80.85*	*0.00*	*80.85*
	Fourth	*8.75*	*91.25*	*0.00*	*91.25*
	Richest	*3.88*	*96.12*	*0.00*	*96.12*
	Anseba	*69.26*	*30.74*	*0.00*	*30.74*
	Debub	*77.38*	*22.62*	*0.00*	*22.62*
	DKB	*82.17*	*17.83*	*0.00*	*17.83*

zoba	Gash Barka	*90.48*	*9.52*	*0.00*	*9.52*
	Maekel	*40.42*	*59.58*	*0.00*	*59.58*
	SKB	*85.86*	*14.14*	*0.00*	*14.14*

Largely, children who are not benefiting from pre-primary education and who may not be adequately prepared for primary education are from the poorest wealth quintiles and from rural areas. More specifically, 28.5%of children from the poorest wealth quintiles (as compared to the 3.9% children from the richest wealth quintiles) are not attending pre-primary education, demonstrating that children from the poorest wealth quintiles are seven times more likely to be out-of-school than their peers in the richest quintiles.

There is a direct correlation between place of residence (in terms of rural and urban locations) and exclusion from pre-primary enrolment and attendance. Pre-primary school aged children who reside in rural areas have a non-attendance rate of 83.9% as compared to 48.5% non-attendance rate of pre-primary school age children in urban areas, indicating children of age 5 years who live in the rural areas have a non-attendance rate of about twice more than their peers from urban areas.

B. Profile of out-of-school children of primary school level

Table 2.17: Percent and Number of Primary School-age Children Out-of-School by Age, Gender, Residence, Wealth and zoba

Table 2.17: Percent and Number of Primary School-age Children Out-of-School by Age, Gender, Residence, Wealth and zoba

		Male	**Female**	**Total**
Number of Out-of-school children		*30,613*	*34,450*	*65,063*
% of out-of-school Children		*17.06*	*21.14*	*19.00*
Age	6	*50.53*	*50.40*	*50.47*
	7	*9.68*	*11.98*	*10.78*
	8	*3.82*	*9.74*	*6.64*
	9	*5.14*	*9.81*	*7.36*
	10	*14.64*	*22.65*	*18.46*
Residence	Urban	*8.66*	*8.67*	*8.66*
	Rural	*18.04*	*28.73*	*23.25*
Wealth index Quintile	Poorest	*26.4*	*30.5*	*28.54*
	Second	*24.7*	*26.8*	*25.74*
	Middle	*18.1*	*20.2*	*19.15*
	Fourth	*7.8*	*9.7*	*8.75*
	Richest	*3.9*	*3.9*	*3.88*
zoba	Anseba	*19.04*	*19.90*	*19.44*
	Debub	*13.14*	*19.73*	*16.31*
	DKB	*19.86*	*29.87*	*24.87*
	Gash Barka	*26.77*	*28.09*	*27.39*
	Maekel	*4.40*	*5.73*	*5.05*
	SKB	*14.40*	*27.99*	*20.80*

Table above clearly illuminate the percentage and number of primary school age children out-of-school by age, gender, Zoba and residence. Based on these analyses, 19.0 % (65,063) of primary school age children, comprising 17.06% (30,613) males and 21.14% (34,450) females are out-of-school. The overall primary Gender Parity Index (GPI) of 0.86 implies that girls are under-represented in primary levels and the percentage of primary school age out-of-school female children overweighs that of their male counter parts.

Furthermore, as can be noted from the Table above, zoba disparities in primary level exclusion rates are high. With the exception of Zoba Maekel which has 5.05% (2,485) out-of-school children, the highest proportion of children in this level are found in zobas recognized as the domiciles of most of the nomadic and semi-nomadic communities, such as Zoba Gash Barka with 27.39%, DKB with 24.87%, SKB with 20.80% and Anseba with 19.44%. In Zoba Debub, although the proportion of children under primary level is lower than the national average, the number of out-of-school children is significant among the remote rural communities, which is 16.31%.

The analysis presented in the table above also clearly indicates that there are larger proportions of out-of-school children in rural areas (23.25%) than in urban areas (8.66%). In rural areas the likelihood of girls to be out-of-school (28.73%) is significantly higher than their male counterparts (18.04%). Furthermore, there are clear disparities in rates of exclusion from primary education by wealth index quintile. The figures in Table 2.5 show an inverse correlation between the proportion of out-of-school children and family wealth status. While the proportion of out-of-school children at primary school age stands at 28.54% among the poorest households, it is only 3.88% among the richest households.

C. Profile of out-of-school children in the middle school level

Table 2.18: Percent and number of Middle School-age Children out-of-school by Age, gender, Residence, wealth and zoba

Table 2.18: Percent and number of Middle School-age Children out-of-school by Age, gender, Residence, wealth and zoba

		Male	Female	Total
Number of Out-of-school children		*42,913*	*48,497*	*91,410*
% of out-of-school Children		*36.85*	*45.25*	*40.88*
Age	11	*31.76*	*38.30*	*34.88*
	12	*37.39*	*46.04*	*41.54*
	13	*40.74*	*50.42*	*45.40*
Residence	Rural	*52.47*	*62.58*	*57.32*
	Urban	*9.20*	*11.30*	*10.60*
Wealth index Quintile	Poorest	*80.55*	*88.45*	*84.25*
	Second	*59.99*	*65.59*	*62.79*
	Middle	*27.26*	*30.76*	*28.76*
	Fourth	*8.10*	*7.10*	*7.60*

	Richest	*3.57*	*3.57*	*3.57*
zoba	Anseba	*36.95*	*42.31*	*39.48*
	Debub	*15.75*	*27.79*	*21.55*
	DKB	*61.47*	*81.91*	*71.40*
	Gash Barka	*83.15*	*85.99*	*84.48*
	Maekel	*1.86*	*3.67*	*2.75*
	SKB	*44.32*	*59.78*	*51.62*

The Table above illustrates the proportion and number of middle school age children out-of-school by age, gender, residence, wealth index quintile and Zoba.The percentage of middle school age out-of-school female children (45.25%) overweighs that of their male counter parts (36.85%) significantly. Moreover, the overall middle school gender parity index (GPI) of 0.80 implies that girls are under-represented in middle school level.

The analysis reveals that Zoba disparities in middle school exclusion rates are remarkable. The proportion of out-of-school middle school age children in the disadvantaged Zobas such as Gash Barka, DKB and SKB is as high as 84.48%, 71.40% and 51.62% respectively. The percentages of middle school age out-of-school children in Anesba (39.4%) and Debub (21.25%) are smaller than the national average (40.88%), while the figure for Zoba Maekel is markedly smaller (2.75%)

The analysis presented in the table above clearly indicates that the percentages of excluded middle school age children from rural areas (57.32%) are significantly higher than those from urban areas (10.60%). Rural children of middle school age are nearly six times more likely to be out-of-school than their urban counterparts. Besides, in rural areas the likelihood of the girl child to be out-of-school (62.58%) is higher than her male counterpart (52.47%).

Disparities analysis in rates of exclusion from lower secondary education by wealth index quintile reveals an inverse correlation between the proportion of out-of-school children and family wealth status. While the figure of out-of-school children at lower secondary school age stands at 84.25 % per cent among the poorest households, it is only 3.57% per cent among the richest households.

A. Profile of out-of-school children in the Secondary school level

Table 2.19: Percent and number of Secondary School-age Children out-of-school by gender, Residence, wealth and zoba

		Age 14-17					
		IN SCHOOL		OUT-OF-SCHOOL		TOTAL	
		Number	%	Number	%	Number	%
Sex of household member	1 Male	88416	53.3	77471	46.7	165887	100
	2 Female	67318	42.5	90915	57.5	158233	100
	Total	**155734**	**48.0**	**168386**	**52.0**	**324120**	**100**
	1 DKB	1621	43.3	2122	56.7	3743	100

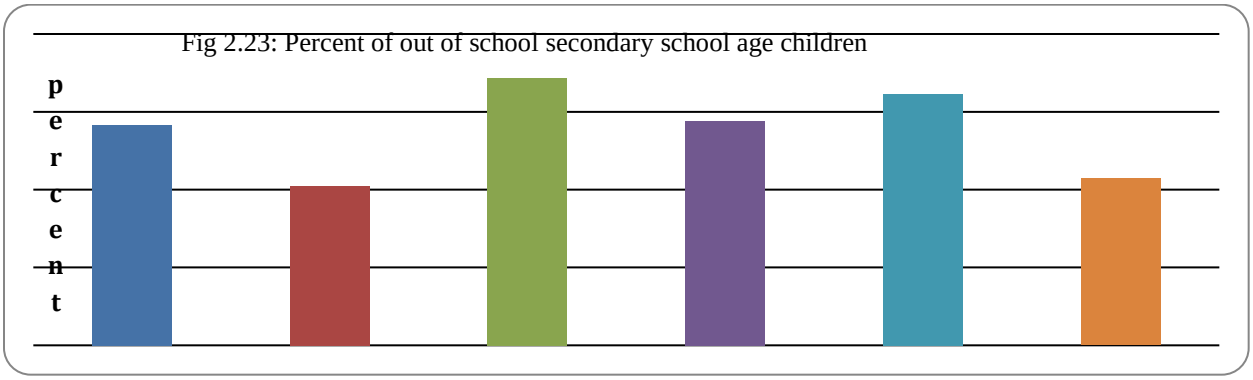
zoba	2 Maekel	41531	59.1	28689	40.9	70220	100
	3 SKB	10519	31.3	23129	68.7	33648	100
	4 Anseba	22339	42.4	30361	57.6	52700	100
	5 Gash-Barka	22822	35.5	41396	64.5	64218	100
	6 Debub	56902	57.1	42689	42.9	99591	100
	Total	**155734**	**48.0**	**168386**	**52.0**	**324120**	**100**
Type of place of residence	1 Urban	96109	78.8	25795	21.2	121904	100
	2 Rural	59625	29.5	142591	70.5	202216	100
	Total	**155734**	**48.0**	**168386**	**52.0**	**324120**	**100**
Wealth index	1 Poorest	241	0.3	70003	99.7	70245	100
	2 Poorer	10489	18.3	46871	81.7	57360	100
	3 Middle	29309	51.2	27929	48.8	57237	100
	4 Richer	55707	79.9	13993	20.1	69700	100
	5 Richest	59988	86.2	9591	13.8	69579	100
	Total	**155734**	**48.0**	**168386**	**52.0**	**324120**	**100**

Source: MoE; Essential Education Indicators, 2011/12-2015/16

Out of the total number of secondary school age children (324,120) more than half of them 52% (168,386**)** are excluded from school.

Females are more prone to be out-of-school 57.5% (90,915) compared to their male counterparts 46.7% (77471).

Figure 2.23: Percent of out-of-school secondary school age children



Source: MoE; Essential Education Indicators, 2011/12-2015/16

There is also high variation among the zobas where SKB with the highest number of out-of-school children to the secondary school age level 68.7% followed by Gash Barka 64.5% are out-of-school. The variation is also well substantiated by their place of residence, 70.5% (142,591) were out-of-school in the rural areas compared 21.2% living in urban areas but out-of-school. Based on the wealth index, 99.7% (70,003) of the poorest are out-of-school, suggesting that the poorest groups are almost completely out-of-school, compared to the richest 13.8% (9590).

2.5.2 Who are the Out-of-School Children?

- Nationally, (64,123) 73% of pre-primary school age children (age 5) are estimated to be out-of-school.
- Household wealth, zoba and place of residence affect 5 year old children's participation in school.
- There are more out-of-school children at the middle level (91,000) compared to the primary level (65,000) suggesting largely supply side constraints.
- There are more female children of primary and middle school age who are out-of-school in comparison to male children.
- Pre-primary, Primary and middle school age children from rural areas are more likely to be out-of-school than urban children of the same age groups.
- More children of primary and middle school age from poorer families tend to be out-of-school in comparison with children from richer families.
- There is a strong correlation between parental level of education and school enrolment at pre-primary, primary and lower secondary school levels (i.e. increases in parental education lead to decreases in out-of-school cases)
- In the primary and middle school age group, the profiles of the children who are at risk of dropping out include:

    - Children with no early learning opportunities.
    - Overage children (particularly those who are older than the grade level by 2 or more years).
    - Children with disabilities
    - Repeaters.
    - Children travelling long distances to school.

The reasons why many children are out-of-school and their where about may require further study and analysis. However, from the previous studies made (as of the year 2013) and the annual reports from zobas, there has been dropouts across the levels of the education system. This definitely swells the size of the number of out-of-school children in the country.

The alternative education program called Complementary Elementary Education (CEE) was introduced in 2007 to create access mostly to the over aged children who had never been to school based on the survey conducted in 2005 jointly by the MoE and UNICEF. Furthermore, many nomadic communities are residing in remote areas far away from the nearest formal education unable to send their children to schools. This is to say that from the 220,000 out-of-school children, majority of which had never been to school while some are dropouts.

These two possible conditions for being out-of-school for many school age children requires different approaches to address and solve it. One is to plan to improve internal efficiency to enable enrolled learners remain in the education system and complete their studies successfully (decrease and control dropouts by setting targets). And the other approach is to introduce alternative educational routes for children who could not attend in the formal education for different reasons. The introduction of CEE and nomadic education serves for this purpose and many children got access in the past 10 years. For instance, in the provision of the CEE program, access has been increased from 79 learning centers in 2011/12 to 107 in

2015/16 where a total of 12,476 (43% girls) enrolled in the program in the past 4 years since 2013. Average annual enrolment was about 5600 learners in the past 10 years since 2007 in CEE program. Effort will be made to raise it at least to more than 7,000 in the coming 5 years creating second chance for many out-of-school children with emphasis to girls reducing greatly the existing number of out-of-school children in the country.

CHAPTER 3

COST AND FINANCING

INTRODUCTION

This chapter examines the level and distribution of public spending on education in Eritrea. It shows that the government has allocated large budget to the education sector by considering it a priority. Further it shows that the country had received funds for education development from its development partners, such as the African Development Bank (ADB), the Global Partnership for Education (GPE), UNICEF and the Norwegian Refugee Council (NRC). These funds were small in comparison to those provided to other countries in a similar situation.

Real economic progress was made in Eritrea between 1992 and 1997, when broad-based macroeconomic reforms caused average annual GDP growth rates of 7%. But this promising start came to a halt in 1998 when the border conflict with Ethiopia escalated into a full-fledged war between 1998 and 2000. During the war years and the immediate aftermath, macroeconomic conditions were affected negatively. The border conflict also put a strain on the government budget. As a consequence, education spending declined and the needs arose for the support of development partners to supplement and sustain the government's efforts to development education in Eritrea.

However, after 2000, the government, in collaboration with its development partners made significant efforts to develop the education sector by taking it as a priority, particularly during 2002 – 2012. During this period, the government implements the Education Sector Development Programme (ESDP). Among other things the ESDP addressed the formulation of policy, provision of increased access in all zobas through the construction of many schools, equipping schools with furniture, equipment and laboratories, upgrading teachers, development and printing of text books and teachers guides, and management capacity development.

Enhancing social and economic progress will require (i) a broad education sector reform, (ii) establishment of sustainable sector financing, accompanied by a modern budgeting process, (iii) strengthening the central and zoba management and skill bases, and (iv) building public-private partnerships at all levels of education.

In line with its commitment to national and international development programs, the GoSE, in collaboration with development partners, has extensively invested in education since independence and has achieved significant progress in improving the education sector. The development partner support in the education sector is in line with agreed budget plans. Thus, to achieve the full budgeted plan for the education sector, strong coordination with line ministries, the improvement of the absorption of the sector, as well as the strengthening of management in the areas of planning, procurement, monitoring and evaluation will be necessary and should be given due attention.

This chapter, therefore, provides detailed information, as much as data would permit, on how much funding resources (recurrent and developmental) has been allocated for and used in the various education sub-sectors, such as primary, middle, secondary, TVET and adult education.

SECTION 3.1: PUBLIC EDUCATION SPENDING

3.1.1 Government Spending

Table 3.1 below shows the analysis of expenditure on education between 2013 and 2016. This analysis indicates the total government spending and total education spending in terms of GDP. Further, it provides the separate recurrent and capital expenditures and their sums. It also highlights the percentage of the expenditure on education in comparison with the total government expenditure. The table shows that, the education expenditure in comparison to the total government spending ranges between 10.49% in 2013 and 10.06% in 2016. The table also indicates that the recurrent expenditure dominates the expenditure pattern throughout the period of analysis. This is an indication that the development expenditure was relatively very small.

The government allocates substantial funds for recurrent and development expenditure on education. As shown in table 3.1 the total expenditure on education over the period 2013 to 2016 has been at levels ranging 10.49%, 12.33%, 10.50% and 10.06% of total government expenditure respectively. Education expenditure as a percentage of the GDP accounted for 1.45%, 1.39% and 1.14% from 2013 to 2015 and dropped to 0.94% in 2016. Even though the spending on education as a percentage of total government expenditure was maintained during these years it was observed that the budget allocated to education had declined. The decline was mainly attributable to the significant decline in the quantity of goods and supplies.

Total public spending on education in relation to GDP was estimated at 13.79% in 2013, 11.30% in 2014, 10.85% in 2015 and 9.31% in 2016, which is illustrated in Table 3.1. The total spending on education in relation to the total public expenditure was highest in 2014 at 12.33%. It declined from 2014 to 2016 and reached the lowest rate of 10.06 in 2016.

Table 3.1: Spending on Education in Eritrea as a Percentage of GDP and Total Government Spending, 2013 – 2016

Year	Total Govt. Spending	Total Education Spending	Education Spending (% of Total Government Spending)		
	(% of GDP)	(% of GDP)	Total Education	Recurrent	Development
2013	*13.79%*	*1.45%*	*10.49%*	*9.61%*	*0.88%*
2014	*11.30%*	*1.39%*	*12.33%*	*10.76%*	*1.57%*
2015	*10.85%*	*1.14%*	*10.50%*	*9.16%*	*1.34%*
2016	*9.31%*	*0.94%*	*10.06%*	*9.86%*	*0.20%*

Source: (Ministry of Finance) Computed from different source

The apportionment of the education sector spending is examined across education sub-sectors and in terms of its use for recurrent and development expenditures. The analysis is undertaken for the period 2013 to 2016, with the more detailed analysis being that for 2015. Government Expenditure in the education sector has decreased from the period 2013 to 2014 and similarly from 2015 to 2016. Moreover, the total government expenditure declined from 2013 to 2014 and similarly from 2015 to 2016. This decline is mainly due to low absorption capacity particularly the delay in construction, centralized procurement procedure, ineffective banking system and the process of changing the local currency notes in early 2016.

Due to lack of detailed data, making disaggregated analysis has not been possible, and where this occurs, it has been noted. One outcome is to illustrate where further studies and detailed assessment work is required. The detailed tables prepared are included in this chapter. The data presented in this chapter has been obtained from a number of institutions: MOE (EMIS), NSO (NSO), Ministry of Finance (MOF), budget papers, development partner assistance database, MOE's published reports, joint sector reviews and draft education strategic plans, IMF, and of our partners in education.

Over the period 2013 to 2016, expenditure on education at the Primary, Middle, and Secondary levels of formal education, as well as in TVET and Adult education has shown ups and downs. To provide resources and ensure students' learning, there has been an increase in the number of teachers and schools. For this reason, increasing the numbers of students (candidates) entering the teacher training institutions, has been given more attention.

3.1.2 Allocation by Sub-sector

3.1.2.1 Recurrent Expenditure

As Table 3.2 shows, both primary and secondary education has benefited more from recurrent expenditure, whereas middle school, TVET and Adult education have had small percentages of recurrent expenditure. Middle level's recurrent expenditure decreased from 8.83% in 2013 to 5.53% in 2016. The recurrent expenditure for secondary education also declined from 29.63% in 2015 to 23.58% in 2016. However, TVET recurrent expenditure increased slightly from 6.63% in 2013 to 6.90% in 2016, Adult Education recurrent expenditure increased significantly from 1.95% in 2013 to 6.72% in 2016. Similarly, primary education recurrent expenditure increased from 25% in 2013% to 29.91% in 2016. The main reason for increasing the share of secondary education is the huge cost of living and learning for students in boarding schools. Similarly, the increasing share of primary education indicates the government' commitment to expand access to primary education.

3.1.2.2 Development (Project) Expenditure

Table 3.2 shows that the development expenditure on public education was not allocated to all sub-sectors of education in the years of 2013 and 2014, but only to TVET with 10.09% and 38.48 respectively, and adult education with 1.05% in 2014. The share of development expenditure for TVET then dropped to 7.23% and 5.41% in 2015 and 2016 respectively. Similarly, for adult education it declined to 3.23% and 1.47% in 2015 and 2016 respectively. On the other hand, while primary education obtained 0.12% and 4.60%, middle school education obtained 0.25% and 1.49% in 2015 and 2016 respectively for development expenditure. Nonetheless, secondary education did not have any share in development

expenditure during 2013 – 2016. Overall, this reflects that the government budget allocation for education has mainly been focused on recurrent expenditure.

Table 3.2: Percentage Distribution of Public Education Expenditure, by Nature and Subsector, 2013-2016

Sub-sector	Recurrent				Development			
	2013	**2014**	**2015**	**2016**	**2013**	**2014**	**2015**	**2016**
Primary	25.00%	24.57%	27.27%	29.91%			0.12%	4.60%
Middle	8.83%	8.23%	8.21%	5.53%			0.25%	1.49%
Secondary	29.63%	28.35%	26.68%	23.58%				
TVET	6.63%	6.67%	7.61%	6.90%	10.09%	38.48%	7.23%	5.41%
Adult	1.95%	2.08%	2.23%	6.72%		1.05%	3.23%	1.47%

Source: Ministry of Finance

3.1.3 Evolution of Public Spending by Type of Spending: MoE Expenditure

The MOF currently requires individual units in the departments in MoE, the regional offices (zobas), and individual schools to report their planned expenditures separately. Approval of budget requests is then done per item by item through a committee in the MoF. Thus, the current budgeting norms are not conducive to rational financial planning and setting priorities. The MoE began keeping track of spending across educational levels and zobas in 1999. However, it is still not easy to distinguish how much of the non-salary recurrent spending is committed to the primary, middle and secondary levels, since MoE does not procure by level. Procurement is conducted collectively for all schools and for all zobas. Therefore, there is a need to simplify the reporting mechanisms and coordinate program execution.

The sector's accounting system is improving, but still requires further improvements. This manifests itself in three ways. First, there is a non-transparent classification of expenditures. Second, there is program fragmentation, due to lack of development partner coordination. Capital spending, which includes donor support in all education sub-sectors, has been erratic from year to year. Third, there are inconsistencies among the records kept at the Treasury Department, the MoF and line ministries. Moreover, the MoF still uses single entry accounting system.

Neither the recurrent budget not the development budget is utilized fully as planned. This indicates that the implementation capacity is very low. The low utilization is mainly not due to lack of implementation capacity in MoE, but due to other shortages and bottlenecks, such as lengthy procurement procedures, the highly extended duration of civil works, and the insufficiency of foreign exchange at the national level. Due to such unutilized public budgets, the MoE carries forward the development budget from a previous year to that of the next year.

The share of salary payment in recurrent spending has remained high, during 2013 – 2016, ranging from 64% to 70% of the total education sector expenditure, and this has resulted in only a small amount remaining for spending on non-salary items, accounting for 36% to 30% of total education expenditure. The composition of these expenses indicates that the expenditure on materials and supplies (which includes teaching materials) has remained constant at 25% of the total education expenditure over the

period of 2013 to 2015. However, it dropped to 18.13% in 2016. The acquisition of non-financial assets incurred expenditures of 6.02%, 8.92%, 7.98% and 2.66% respectively from 2013 to 2016. Similarly, there was a very low expenditure on administrative tasks (operations and maintenance) which consisted of 1.68%, 2.19%, 1.92% and 1.69% of the total education expenditures over the period of 2013 to 2016 respectively. The evidence indicates declining expenditure for non-salary items and this constitutes a risk both to quality and sustainability. Overall the spending pattern indicates that the salary component dominates the budgets, with limited resources left for capital expenditure for materials, construction and maintenance of infrastructure.

Table 3.3: Distribution of public spending on education by economic purpose

Year	Salaries	Materials and Supplies	Non-Financial Assets	Other Administrative Tasks
2013	*67.34%*	*24.96%*	*6.02%*	*1.68%*
2014	*63.91%*	*24.91%*	*8.92%*	*2.19%*
2015	*64.99%*	*25.05%*	*7.98%*	*1.92%*
2016	*77.05%*	*18.13%*	*2.66%*	*1.69%*

Source: Ministry of Finance

Table 3.3 indicates that the share of spending on items has been quite low over the past few years. This pattern of expenditure is generally not consistent with the plan for improving education quality. The recent increase in teachers' salaries has had the effect of increasing the proportion of the GDP allocated to education. Moreover, this increment in teachers' salaries is expected to improve their standards of living and to have a positive effect on the quality of education.

3.1.4 The Distribution of Spending Across Sub-Sectors

Over the period of 2013 to 2015 MoE's recurrent expenditure decreased from 91.63% to 87.27% of the total education sector recurrent expenditure. However, in 2016 MoE accounted for 97.39% of the total education sector recurrent expenditure. Over the period of 2013 to 2014 the recurrent expenditure had increased whereas, it decreased in 2015 and 2016. During this period the number of students also decreased in general education (primary, middle and secondary) from 605,932 to 583,269, in TVET from 3,613 to 2,228 and in adult education from 39,469 to 38,417.

As table 3.4 indicates, 54.29% of total government spending on education was allocated to general education (primary, middle and secondary) in 2015. The proportion of expenditure on primary education was 23.81%, middle school education 7.19% and secondary education 23.28%. TVET and adult education accounted for 7.56% and 2.35% of the total expenditure respectively in 2015. It would be reasonable to conclude from this that primary education was relatively better funded by the government. The shares of expenditure in middle school education and TVET also seems to be equal. Among the five major education categories adult education receives the lowest share of government spending. Further, the share of spending in the Adult education is significantly lower in the other categories.

Table 3.4: Government Spending on Education by category

Year	Primary	Middle	Secondary	TVET	Adult Education	Total
2013	*22.91%*	*8.09%*	*27.15%*	*6.92%*	*1.79%*	*66.86%*
2014	*21.45%*	*7.18%*	*24.74%*	*10.72%*	*1.95%*	*66.04%*
2015	*23.81%*	*7.19%*	*23.28%*	*7.56%*	*2.35%*	*64.19%*
2016	*29.42%*	*5.45%*	*23.12%*	*7.75%*	*6.62%*	*72.37%*

Source: Ministry of Finance

The above table also implies that around 34% of the total spending for education in 2015 was used for administrative services.

3.1.5 Detailed Analysis of Public Recurrent Spending for the Most Recent Year

Since 1993, public spending on education in Eritrea has risen dramatically. Basic and secondary education spending more than doubled between 1993 and 2000, increasing on average by more than 12% per year. While the recurrent budget more than doubled during this period, the capital budget increased four times. Spending on basic and secondary education increased by 148% over this period or increased by 18% per year. The "decline" in sector spending for the year 2000 is due to the conflict with Ethiopia. The patterns shown indicate that the sector has increased significantly over the past decade. However, this is not matched by a corresponding rapid increase in net enrolment and improved quality of service delivery (Eritrea: Education and Training Sector Note, 2002).

From 2013 to 2016 total public education expenditure as a percent of GDP declined from 1.45% to 0.94%. Similarly, government spending as a percentage of GDP dropped from 13.79% to 9.31%. This is mainly due to the reasons described above in relation to the utilization rate.

In 2015, total expenditure on primary, middle school and secondary education was 0.27%, 0.08%, and 0.27% of GDP respectively. The ratio of recurrent expenditure to GDP also shows similar percentages in primary, middle and secondary education. This is mainly to the very low development expenditure towards education.

Table 3.5: Ratio of Recurrent Expenditure to GDP by category

Year	Primary		Middle		Secondary		TVET		Adult	
	Total	Recurrent	Total	Recurrent	Total	Recurrent	Total	Recurrent	Total	Recurrent
2013	*0.33%*	*0.33%*	*0.12%*	*0.12%*	*0.39%*	*0.39%*	*0.10%*	*0.09%*	*0.03%*	*0.03%*
2014	*0.30%*	*0.30%*	*0.10%*	*0.10%*	*0.34%*	*0.34%*	*0.15%*	*0.08%*	*0.03%*	*0.03%*
2015	*0.27%*	*0.27%*	*0.08%*	*0.08%*	*0.27%*	*0.27%*	*0.09%*	*0.08%*	*0.03%*	*0.02%*
2016	*0.28%*	*0.27%*	*0.05%*	*0.05%*	*0.22%*	*0.22%*	*0.07%*	*0.06%*	*0.06%*	*0.06%*

The 1.14% of GDP should produce a satisfactory performance and relatively high net enrolment rates of primary and middle schools with 82.0% and 37.8% respectively, and an enrolment ratio of around 18.2% for the secondary age group. As table 3.6 indicates the reality of net enrolment rates were 82.1% in

primary, 40.9% in middle and 19% in secondary in the year of 2016 and the accompanying low quality, leads to a conclusion of low internal efficiency (level of repeaters and dropouts) and performance.

Table 3.6: Net enrolment by level of education

Year	PRIMARY		MIDDLE		SECONDARY	
	Net Enrolment	Net Enrolment Ratio	Net Enrolment	Net Enrolment Ratio	Net Enrolment	Net Enrolment Ratio
2012/13	*276,762*	*81.1%*	*65,621*	*29.3%*	*73,729*	*22.7%*
2013/14	*286,457*	*81.7%*	*68,495*	*33.2%*	*72,693*	*22.1%*
2014/15	*283,815*	*82.0%*	*72,560*	*37.8%*	*58,839*	*18.2%*
2015/16	*272,188*	*82.1%*	*76,909*	*40.9%*	*58,691*	*19.0%*

Source: Eritrea: MOE: Essential Education Indicators 2015/16

3.1.6 External Funding

Compared to most other developing countries, Eritrea has progressively become less dependent on foreign support since independence, but the contribution of external partners to the education sector still remains significant. Most of the external funding contributes to the project development budget, mainly to input for infrastructure, equipment and training.

In 2003 – 2011, the MoE implemented the (ESDP). This program was intended to improve the access, equity and quality of education as well as the institutional capacity of the MoE. The program was largely financed by the World Bank (WB), the European Union (EU), the African Development Fund (ADF) and UNICEF. However, in 2011 – 2016, external funding to education declined, although ADB, GPE and UNICEF funding partially filled the financing gap.

External funding plays an important role in overall spending on education in Eritrea. The table below shows the level of commitment of the development partners in 2013-2016. There were several development partners with widely varying commitments in this period. 87% of the commitments came from only two development partners (ADB and GPE). The African Development Bank (ADB), the largest development partner, accounted for almost half of the total external during the last five years. The external funding for primary, middle school, secondary, TVET and adult education was mainly used for capital spending. External funding spending has focused on basic education, TVET and adult education, whereas none of these development partners has contributed to secondary education.

Moreover, lack of development partner coordination has led to unbalanced and fragmented development within the sector. For example, the neglect of support to general secondary education by development partners has affected access to and quality of education at this level

Table 3.7: External Funding for Basic, Secondary and TVET Education in Eritrea in USD, 2013 – 2016

Name of donors	Amount in million USD	Share of Total Donor Contribution (%)
ADB	28.22	46%
GPE	25.30	41%
UNICEF	4.76	8%
NRC	3.30	5%
Grand Total	**61.58**	**100%**

Source: Ministry of Education

Table 3.7 shows the contributions of the external development partners over the past five years and their firm commitments up to 2017. As per the above table, ADB contributes 46% of the funds. Most of this contribution is used for TVET, mainly for equipping technical schools with workshop equipment, rehabilitating and constructing of technical schools and upgrading the professional capacity of TVET teachers and management staff.

GPE is also one of the biggest development partners to Education which contribute 41%, in addition, UNICEF and NRC also contribute 8% and 5% of the total development partner contribution. In addition to this UNICEF is also active to support the education sector, similarly NRC started to contribute in the skill development program with small percentage.

The MoE has well experienced staff in managing the fund with good financial and management performance, procurement, absorption capacity, and internal planning and coordination capacity which drastically and rapidly improved. This institutional capacity helps to make meaningful usage of the external funding by development partners. Funds from development partners are used for the capital budget. The management of donor funding is under the responsibility and follow-up of the MoF and MoND.

SECTION 3.2: PUBLIC EDUCATION RECURRENT UNIT COSTS

3.2.1 Macro Estimation of Public Recurrent Expenditure per Pupil

Per pupil spending fluctuates significantly, mainly due to the fluctuation in student enrollment. Student unit spending at Middle education (390) is lower than at primary (523), secondary (1910), adult education (475) and TVET (1670). Recurrent cost per student at the middle level is less than half that of secondary level in 2015 and 2016. Lower unit costs in middle and TVET implies lower quality of educational provision. Further, though the spending per student in secondary seems fine, large amount of money is spent in boarding and para-boarding schools to address equitable access to education for disadvantaged communities.

However, most of the secondary schools lack basic learning materials, equipment and facilities for laboratories and libraries (along with qualified staff) and sufficient textbooks. According to Essential Education Indicators 2015/16 the average student to teacher ratio in 2015/2016 at primary school is 42, at middle school is 40 and at secondary school 34 (higher in some urban schools). The MoE has formulated

a strategy which intends to address the quantitative and qualitative input imbalances in education and training. But the resources required for the government's Sustainable Development Goals (SDG) strategy will need to be practiced.

Table 3.8: Unit Spending by Level of Education in Eritrea, 2015 – 2016

Level of Education	**Student enrolment (in, 000)**		**Total Spending on Education (million ERN)**		**Total Spending per student (ERN)**	
Year	**2015**	**2016**	**2015**	**2016**	**2015**	**2016**
Primary	*361.68*	*353.86*	*189.95*	*221.07*	*525.17*	*624.74*
Middle	*147.03*	*141.75*	*57.38*	*40.99*	*390.29*	*289.17*
Secondary	*97.22*	*87.66*	*185.71*	*173.75*	*1,910.23*	*1,982.00*
TVET	*3.61*	*2.23*	*60.29*	*58.27*	*16,701.68*	*26,128.43*
Adult	*39.47*	*38.42*	*18.77*	*49.72*	*475.60*	*1,294.19*

Note: Total spending includes recurrent and capital expenditures

Table 3.8 shows that education spending per student varies widely across the levels and types of education. The table also shows that the education system has a much skewed cost structure. There was a decrease in student enrolment at all levels of education and the total expenditure per student generally decreased from 2013 to 2016. For the different levels of education, the period (2013 to 2016) is characterized by a reduction in expenditure that responded to the decreased student numbers. The unit costs shows in the above table for secondary and TVET education are large because of boarding schools.

MOE data is required to enable the detailed analysis of costs and expenditures on these programs. The estimates made per program are only based on the EMIS data and as such do not provide a meaningful figure. Given the data available on each of the programs and the lack of disaggregated financial data, it is not possible to provide realistic estimates on the unit costs of different sub-sectors. The unit costs per pupil (recurrent expenditure per student) are estimated for the different education levels.

3.2.2 Breakdown of Public Recurrent Unit Costs

The unit cost per pupil is dominated by teacher and non-teacher salary costs, leaving a little percentage for operational costs (materials, operations and maintenance). The sector wide cost for educational management adds another small percentage to the total cost.

For TVET, further analysis is required on the breakdown of the goods and services expenditure category to examine in detail the amount incurred for student living costs including meals, and operational costs (materials, operations and maintenance). Mainly, the unit costs are dominated by salaries (teacher/non-teacher) and living costs provided by public TVET that account for the major expenditure under non–salary operational costs.

Output based criteria should be established to improve the equitable allocation of resources. The MOE norm based allocation of operational expenses to the zobas is a complicating factor, constraining both the equitable allocation and utilization of these limited funds.

For such a review to be effective it will require the ministry to have detailed disaggregated physical and financial data, so as all cost areas salary (teaching/nonteaching), administration staff (central and provincial) and other non-salary costs can be thoroughly assessed. In this environment a review of all expenditure areas for possible efficiency improvements and improved prioritization should be undertaken. This suggests further improvements in financial and human resources are required.

3.2.3 Analysis of the Status and Remuneration of Teachers

As in most countries, in Eritrea the salaries of teachers represent the greatest share of public recurrent spending at all education levels. In 1997 – 2015 the salaries of teachers and other staff remained constant, on a par with the all salaries of other servants. During these years' the salaries of all Government employees had remained unchanged, and this had affected teachers' motivation negatively. Thus, there was a high attrition rate among teachers and this had kept the number of teachers low.

Teachers for primary, middle, secondary and TVET are paid by the same scale according to the qualification they hold. Thus, teachers' salary constitutes a key component of unit cost of education through the pupil-teacher ratio and is also a major parameter for education policy making. Total spending on salary is determined by the number of teachers and distribution of their qualifications.

Since July 2015 the salary of teachers has increased. This increment in salary is intended to improve teachers' motivation and retention and to attract suitable new candidate teachers. This will subsequently enhance expanding access to and improving quality of education at all levels, and eventually contributes to the achievement of SDG-4 by 2030. The attractiveness of qualified teacher should be assessed to enrich strategies to better retain teachers.

Higher teacher salaries can be justified when it will lead to improved motivation and quality of learning outcomes. It can also be used for creating incentives, for example to allow posting teachers in rural and remote areas. Thus, the increment of teacher salary gives an indication that teacher moral is to be high. This is expected to improve retention of teachers and subsequently enhance the quality of education provision.

Table 3.9: New Salary by Level of Qualification in Eritrea

Qualifications of Levels	Previous Salary	New Salary	Salary Increment	Percentage of Increment
Certificate	910	2000	1090	120%
12+1	910	2000	1090	120%
12+2	1200	2500	1300	108%
12+3	1200	3000	1800	150%
12+4	1420	3500	2080	146%
12+5	1420	4000	2580	182%

With the MoE programs, there is a range in the salary component (as a share of each program's total recurrent expenditure). Salary component dominate the recurrent expenditure with high percentage, to all education sub-sectors. In total 70% of the MoE personnel are teachers and the rest 30% are non-teaching/ administration staff.

3.2.4 Overall Efficiency in the Use of Public Resources

This section assesses the efficiency with which available resources are utilized properly. Efficiency in the utilization of resources is assessed in terms of the extent of access to and quality of educational provision. When resources are utilized inefficiently, a much higher proportion of the public resources are invested to result in relatively low education access and quality. By referring to the poor result of MLA findings and other national assessments, Eritrea is among countries with inefficient utilization of resources allocated to the education sector, though the country has shown better coverage of educational access.

Since there is significant wastage through high repetition and dropout rates per grade at primary, middle and secondary levels, the actual total unit costs per graduate are comparatively higher. For example, it takes an average of nine years to produce a basic education level graduate. There is also considerable variation between zobas, and the range of years increases. This again indicates gross inequity in the system.

The foregoing discussion identifies two sources of high costs in service delivery in Eritrea's education system. The first is the prevalence of grade repetition and dropout. The second is the high cost of teacher salaries. The high cost of grade repetition and dropout ratios and its solution is well understood by the government. The government needs to discourage or even consider abolishing class repetition in order to maximize the use of space in primary schools. Cost savings can be realized in schools with small class sizes in remote areas, by a more rational use of teaching staff such as multi-grade teaching, curriculum adaptation, developing more systematic and balanced teacher training and allocation strategies.

3.2.5 Financing Research and Development (R&D)

It is imperative that investing in knowledge creation and innovation is one of the key strategies towards improving educational planning and management and provision of quality education. However, compared to other countries, Eritrea allocates very little resources to research and development. The country also records a much lower level of research output in journal articles.

SECTION 3.3 HOUSEHOLD CONTRIBUTIONS TO EDUCATION

3.3.1 Private Unit Costs by Education Level

Enrolment in private schools in Eritrea is very low at all levels of the education system. School fees paid by students in non-government schools vary by grade, but range between USD 20.00 – 30.00 (300.00 – 450.00 ERN) per month. Teacher salaries in private and community schools are financed entirely by student fees. Cost sharing in capital spending requires that communities contribute 5 to 10 percent of the costs of new schools to encourage responsibility and ownership of the school. The contribution can be in-kind or cash, with the majority of communities choosing in-kind contributions. The government's position is that no child should be denied a place in school for lack of school fees. Therefore, in government schools

students from poor families are exempted from paying nominal fees such as registration, textbooks, uniforms etc. Further, whenever private schools found it difficult to continue to fund schools, the government usually shoulders the responsibility.

A possible alternative to school fees is a loan scheme for higher education at lower or no interest. Such schemes are practiced in many countries, but characterized by low recovery rates and substantial administrative costs. Thus, higher education remains free in Eritrea. Another possibility is recovery costs through income generation from industrial and enterprise attachment programs. This is particularly applied in technical and vocational education and training and would include direct costs of training provision. However, this is not being practiced given the current economic situation and the scarcity of private industries and enterprises with sufficient income. The third strategy is to promote initiative from schools to diversify their sources of funding through fund raising from development partners. The government can encourage funds by private investors through tax subsidies and incentives. However, prevalence of poverty constrains private contributions. Households are believed to contribute a substantial amount of their income to the education of their children. Efforts to enhance their participation would ease the government's fiscal burden without comprising the progress of education development.

3.3.2 Education Cost-Sharing between the Government and Families

In terms of household direct education expenditures, and the impact of these costs on the child's school attendance, survey work should be conducted so that to indicate the key impact of poverty rates, the opportunity cost of education to the household in terms of foregone income, and the associated need for child labor as key factors in non-attendance.

In its human resource development policy, the government identifies three ways to involve households in sharing the cost of education investments. The first involves cost sharing which, in the Eritrea context, includes nominal fees and parental contribution towards construction of schools and school facilities. In addition, parents pay for school uniforms, transportation to and from school, essential learning materials such as pens, erasers and exercise books. Textbooks at primary and middle levels are free, but secondary students buy the books at subsidized prices. And although rare, extra contributions may be asked from communities by parent-teacher associations (PTA), especially in urban areas, whenever the revenues from nominal fees fail to meet the costs of the non-salary recurrent costs. Uniforms are not required outside the major urban areas and many students walk to school, in part to avoid transport costs.

3.3.3 Breakdown of Average Private Unit Costs by Spending Item and Level

A structured household survey is required across the education sector to provide a sound quantitative base for analysis of private unit costs. Currently there is lack of data to provide a breakdown of unit costs by spending item and education level.

SECTION 3.4 SCHOOL INFRASTRUCTURE

3.4.1 The Cost of School Infrastructure

The government and development partners have come up with large investments for school infrastructure. However, there are still major shortfalls in the provision of schools which have adequate buildings and facilities to provide a sound learning environment. As a result, the school population and resulting school infrastructure demands have increased rapidly since 2009. Development and improvement of school infrastructure by both government and development partners reflects the continued involvement in planning, implementation and sustainability of the school program.

As in many developing countries, lack of school building and other infrastructure is one of the main challenges in the Eritrean education sector. The number of classrooms are inadequate and with poor condition. The shortage of school infrastructure has become progressively worse with an increasing commitment for other social sectors and at the same time rapidly growing populations. As a result, many schools are running without rehabilitation and renovation and at some point will become unusable unless timely measures are taken. Therefore, it is important to have a system and criteria by which budgets can be allocated efficiently for school infrastructure development.

Fund allocation for construction of schools from both government and development partners is less adequate to meet the requirement of infrastructure (standard functional requirement) and to cover basic materials, equipment, and general operating and maintenance costs. However, in collaboration with the development partners, infrastructure investment for improvement and expansion is one of its highest priorities given the increased demands for classrooms, laboratories, libraries, offices, and dormitories that is required with the large increase in student numbers and faculty staff.

While lack of adequate quality classroom places exists, their general provision is a well justified part of education sector support. Where those deficits become more localized or related to other specific conditions such as gender, then developing selection criteria for site intervention quickly becomes an important issue. In this case, the existing EMIS is fairly reliable for the provision of social statistical data that helps for suitability of site targeting.

A significant number of the schools were classified as having less than adequate basic facilities, such as sanitation and water facilities, and were lacking a secure school walls or fences. For example, the total number of schools has increased from time to time. However, the cost of school construction has increased with time and reached over USD 15,000.00 per classroom in 2015. However, concern has been expressed about a lack of comparability of construction costs in Eritrea with typical costs of other countries in general. To this end, some observations of cost implications in design that might be modified have been noted.

The identified fiscal constraints emphasize the critical importance of achieving value for money in school construction design, in contract tendering and award, and in contract construction supervision. The estimates of the investment required greatly exceed government and development partner current and planned future investment levels. Given the expanding population and the demand for new schools with

supporting facilities, and the need to invest and improve the existing school infrastructure there is a large capital investment required over the medium to long term.

In terms of achieving infrastructure quality standard and value for money, influential factors were: (i) community participation that had a significant impact on ownership and cost; (ii) planning and design, especially where it included disaster risk reduction; (iii) consistent quality construction supervision by the Ministry of Public Works and supervision firm. Thus, the current practice ensures that the continuous coordination and supervision issues in infrastructure work are highly required. Further, as there was major inconsistency in construction costs throughout the country on the area of construction quality and performance, the issues related to monitoring and cost control systems should be in place for those school construction activities being undertaken.

For costs per classroom, the MoE has an indicative unit cost per classroom which is USD 15,000.00 since 2013, and this is used as a basis for the construction budget allocation. This cost base needs to be used carefully, given the variability in cost that occurs, with use of procured of local or imported materials and the standardization of school design and materials for all type of schools. The lifespan of construction also determine the cost of classroom. Further, there are some more factors affect the cost of construction such as the learning facilities like laboratories, libraries, sport facilities, supporting facilities such as sanitation and water, and the use of local contractors, international contractors or community participation. Moreover, the MoE should be able to address the disaster risks and environmental conditions in designing the schools.

In terms of school and classroom maintenance, the recurrent budget and expenditure on operations and maintenance is low, and inadequate to maintain the school infrastructure. As a result of delay in making routine maintenance there should be allocation for school rehabilitation and this can be calculated by identifying certain percentage of the existing schools in zobas per year.

Given the large expenditure and budget increase required to implement a sustainable policy and practice in the ministry, there will need to be an overall investment in existing government systems, with major institutional capacity enhancement to cost effectively manage on the required scale.

Therefore, the construction of the new schools is vital particularly in areas where access is low. Moreover, additional classrooms are important to reduce large class sizes in existing schools.

3.4.2 Community Participation in School Construction

The MoE has significant experience in the construction of schools through Community Participation (CP) in all zobas. Implementation of the construction of the elementary and few middle schools from 2008 – 2012 would have been impossible without the introduction of community participation (CP) and the full participation of all the beneficiaries. The concept of community participation and building schools through the Rapid Results Approach (CP-RRA) proved to be very effective. It has also assisted the programme to catch up with the delays incurred at the commencement and was considered to be cost saving. The accomplishment of the construction activities during the last few years was quite remarkable and successful.

Experience has shown that active and dedicated participation of the key stakeholders in the design and implementation of projects, especially those at the grassroots level, contribute significantly to the sustainability of development activities, through increased workshop and more effective use of grassroots level inputs. In the context of education in Eritrea, social justice is the provision of equitable access to relevant education of high quality to all citizens invariably, ensuring that those enrolled are retained and complete a certain level of education or acquire employable skills. Equity is therefore an enduring commitment of the government. Those disadvantaged in any way should be supported to complete their education by various means of affirmative action or positive discrimination as a bridging measure until a level playing field is created.

Conclusion

The key challenges in financing education sector in Eritrea can be summarized as pertaining to limited funding and inefficiency in resource utilization. Overall, the relative higher proportion of government spending on education shows the commitment of the government to the education of the citizens.

CHAPTER 4

QUALITY, SYSTEM CAPACITY AND MANAGEMENT

INTRODUCTION

COMPONENTS AND FOCUS OF THE ANALYSIS

This part attempts to analyze the sub-sections focusing on variables/factors that influence students' learning achievement. The determinant factors that affect students' learning achievement are numerous. UNESCO (2005, p. 35) has asserted this reality in its publication, EFA Report 'The Quality Imperative'. As to the variations of factors, Crosnoe, et al, 2004; (cited in Farooq, et al. 2011, p. 2) categorized the factors as *student factors, family factors, school factors and peer factors*.

However, it is common sense that research endeavors do not treat all factors at the same time. Normally, factors that are relevant and appropriate to the scope and socio-economic status of the context being studied are taken into consideration. Thus, the factors which are relevant and related to the data available in the national assessment called Monitoring of Learning Achievement (MLA), the end-of-basic education national examination, and household survey are selected for this purpose. These are:

- Student factors – sex, age, and repetition time in the national exam;
- Family factors –Socio-economic status (SES);
- School factors – location and type of governance.

These variables are here analyzed with regard to students' mean scores and the minimum mastery level (MML) attained in the national assessments (MLAs), national examinations, and literacy surveys.

SECTION 4.1: ASSESSMENT OF STUDENT LEARNING

4.1.1 National Examinations and Admission Tests

In the Eritrean education system, two National Examinations are administered at two exit points: 1) exit from basic education in grade eight, and 2) exit from secondary education in grade 12. The national examinations serve multiple purposes – evaluation of the teaching and learning process, certification of completion of a specified level of education, and admission to the next level of education. Thus, this topic focuses on the two national examinations mentioned above.

End-Of-Basic Education National Examination (EBENE)

The end of basic education national examination is administered at the end of grade eight. The data for the last three years of the grade eight national examination (2015-2017) are taken as samples for the purpose of this analysis.

The following sections provide analysis of achievement in terms of pass rates, mean scores and mastery levels; and analysis of disparities among influencing factors – sex, location, school type, age groups, and status in number of exam attempts.

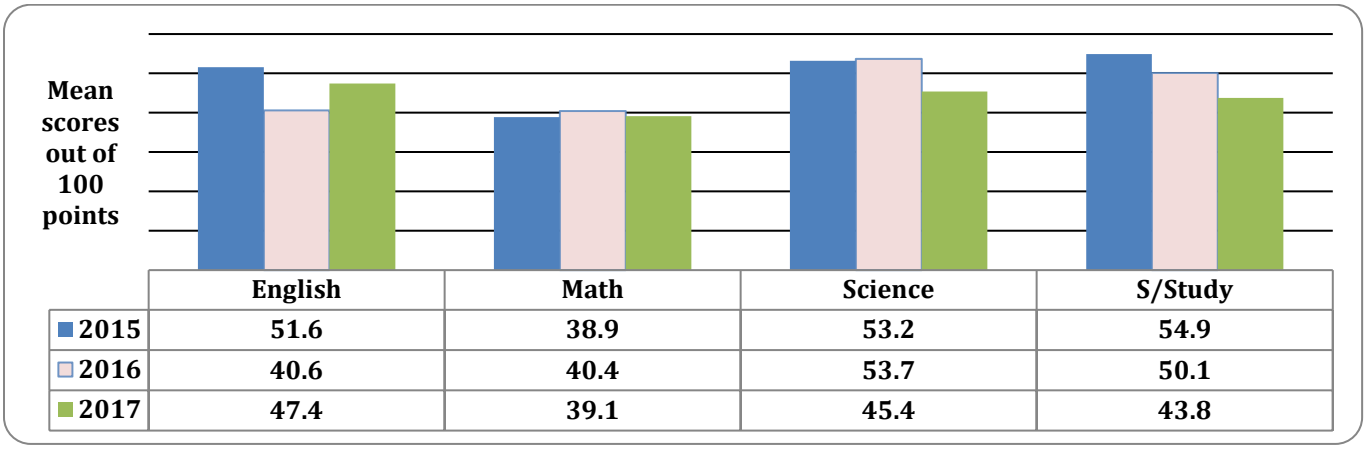
Table 4.1: Pass Rates from basic to secondary education

Exam Years	No of Examinees		No of Passes		Percent of Passes	
	Total	Female	Total	Female	Total	Female
2015	*44267*	*21309*	*30884*	*14962*	*69.8*	*69.3*
2016	*40050*	*19408*	*25709*	*12335*	*64.2*	*63.6*
2017	*45302*	*22344*	*23511*	*11216*	*51.9*	*50.2*

Sources: National Examinations Annual Reports (2015-2017), MOE.

Table 4.1 shows that the overall pass rates of students have had a declining trend from 69.8% in 2015 down to 64.2% in 2016 and 51.9% in 2017. The female pass rates also showed a similar pattern.

Figure 4.1: Mean scores by subjects and examination years



	English	Math	Science	S/Study
2015	51.6	38.9	53.2	54.9
2016	40.6	40.4	53.7	50.1
2017	47.4	39.1	45.4	43.8

Source: National Examination Annual Reports (2015-2017), MoE.

Figure 4.1 shows that, in all the three years and four subjects, the mean score had never reached 55%. The highest mean-score, 54.9%, is observed in 2015 in social studies; and the lowest mean score, 38.9%, is in mathematics in 2015. Overall, the lowest mean-scores in the 3-years were that of mathematics, ranging from 38.9% to 40.4%.

Attainment of Mastery Levels

The concept of Mastery Levels is adopted from the first Monitoring Learning Achievement (MLA-I), conducted in Eritrea, in 2001. The MLA-I project had set a benchmark for the Minimum Mastery Level (MML) score and the satisfactory level of performance by stating that "***at least 80% of the candidates should attain at least 50% correct answers from the given tasks***" (Eritrea MLA-I, 2001). Based on these standards, the analysis of students' learning attainment with regard to different independent variables/factors that could influence learning achievement is presented below:

Figure 4.2: Percent of students who scored MML, by Sex and Exam years

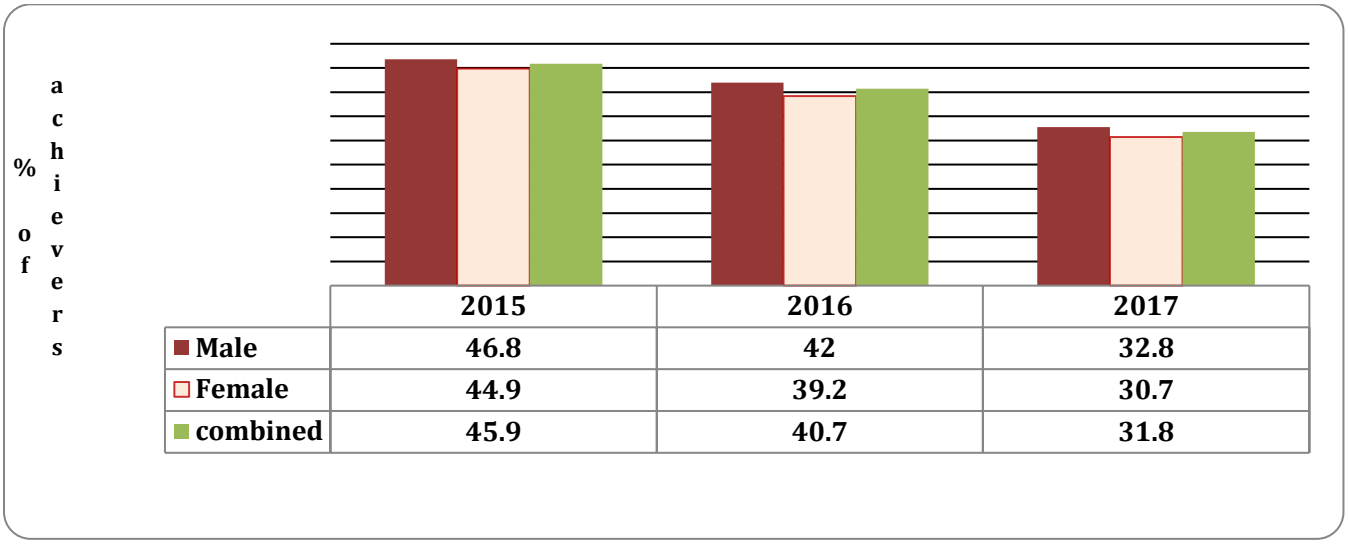


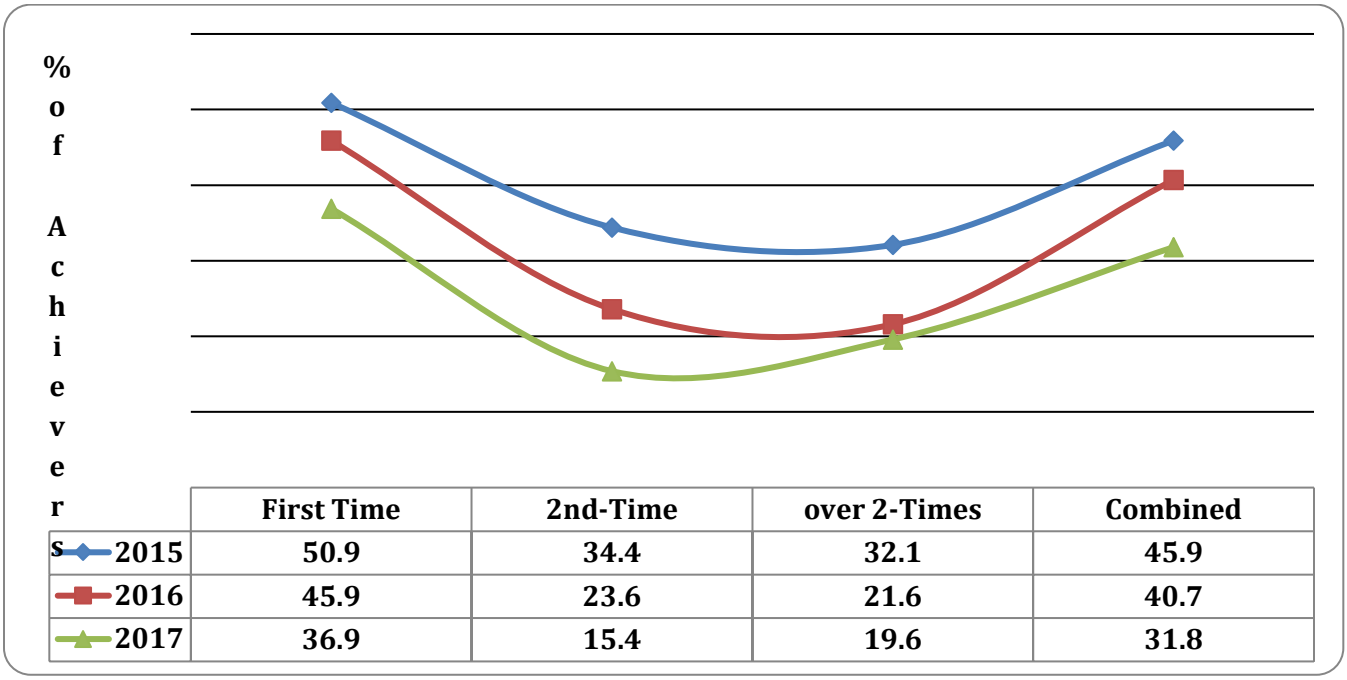
Figure 4.2 indicates that the benchmark for MML had not been reached in any of the examination years. Even though the disparity between male and female is insignificant (parity index of 0.93, in 2016) across the years, males had performed slightly better than females.

Table 4.2: Percent of Students who reached the MML score in English & Mathematics, by Age-group and Exam years

Age groups	Examination Years					
	2015		2016		2017	
	English	Math	English	Math	English	Math
≤14 years	*59.4*	*31.9*	*48.8*	*35.7*	*50.6*	*34.3*
15 years	*46.6*	*22.6*	*32.6*	*24.6*	*34.1*	*20.9*
≥16 years	*40.6*	*20.0*	*27.7*	*22.1*	*28.2*	*18.1*
Combined	*50.0*	*25.6*	*38.9*	*29.2*	*40.0*	*26.3*

Table 4.2 shows the percent of students who had attained the Minimum Mastery Level (MML) scores in literacy (English) and Numeracy (Mathematics). The results of the past three years (2015, 2016, and 2017) for the End-of-Basic Education National examinations, in both literacy and numeracy, have also indicated that students examined at their appropriate age level (≤14 years) performed relatively better than the older age groups. However, Hungi et al (2014), cited in UNICEF, 2016), found that in developed countries older students generally outperform their younger colleagues; while in developing countries, especially in Africa [*including Eritrea*], younger students achieve better than their counterparts.

Figure 4.3: Percent of students who attained MML by the Number of Times the Students had Repeated National Examination (NTSRNE) and by Examination Years



	First Time	2nd-Time	over 2-Times	Combined
2015	50.9	34.4	32.1	45.9
2016	45.9	23.6	21.6	40.7
2017	36.9	15.4	19.6	31.8

Figure 4.3 shows the percent of students who had attained MML on average score by the Number of Times the Students Repeat National Examination (NTSRNE), in the three exam years. As the table indicates, the students who took the exam for the first time performed better in achieving the Minimum Mastery Level on average score.

Table 4.3 below provides the findings by cross-tabulating Age and NTSRNE Groups, in the 2017 exam to see the correlation of achievement between the two groups.

Table 4.3: Cross-tabulation of Age group vs NTSRNE for 2017 Exam

NTSRNE	Age Group			Total
	Age≤14 yrs	Age 15 yrs	Age ≥16 years	
First time	*8548*	*2061*	*1919*	*12528*
2nd time or more	*381*	*464*	*1023*	*1868*
Total	*8929*	*2525*	*2942*	*14396*

Table 4.3 shows age-group vs. NTTNE, cross-tabulation. The shaded part of the table indicates that out of the 8929 students that had attained MML, 8548 (95.7%) were students who had taken the national exam for the first time. Moreover, they were students who were tested at their appropriate age (≤14 years).

4.1.2 National Learning Assessments

Background

The Ministry of Education has undertaken several evaluative initiatives aimed at identifying problems and proposing solutions. Among others, the Eritrea National Reading Survey (ENRS) and the Monitoring Learning Achievement (MLA) could be mentioned. This section focuses on MLA.

The MLA assessment is a large scale ***systemic assessment*** that provides education systems with useful information on the status of the quality of learning and the factors that influence learners' achievement in particular. In Eritrea, three MLA assessments – MLA-I in 2001, MLA-II in 2008 and MLA-III in 2015 - were conducted at the primary school level.

The MLA assessments focused on basic learning competencies in the domains of literacy and numeracy. This report is an outcome of the experiences and lessons learnt from the latest project (MLA-III). At the end of the section, findings of MLA-I, MLA-II and MLA-III are presented for comparison.

Table 4.4: Participants in MLA-III by school type and grade (2015)

By school type		**Gov**	**Non-Gov**	**Total**
Grade 3	**Count**	*2798*	*276*	*3074*
	Percent	*91.0*	*9.0*	*100*
Grade 5	**Count**	*2587*	*225*	*2812*
	Percent	*92.0*	*8.0*	*100*

Table 4.5: Participants in MLA-III by school location and grade (2015)

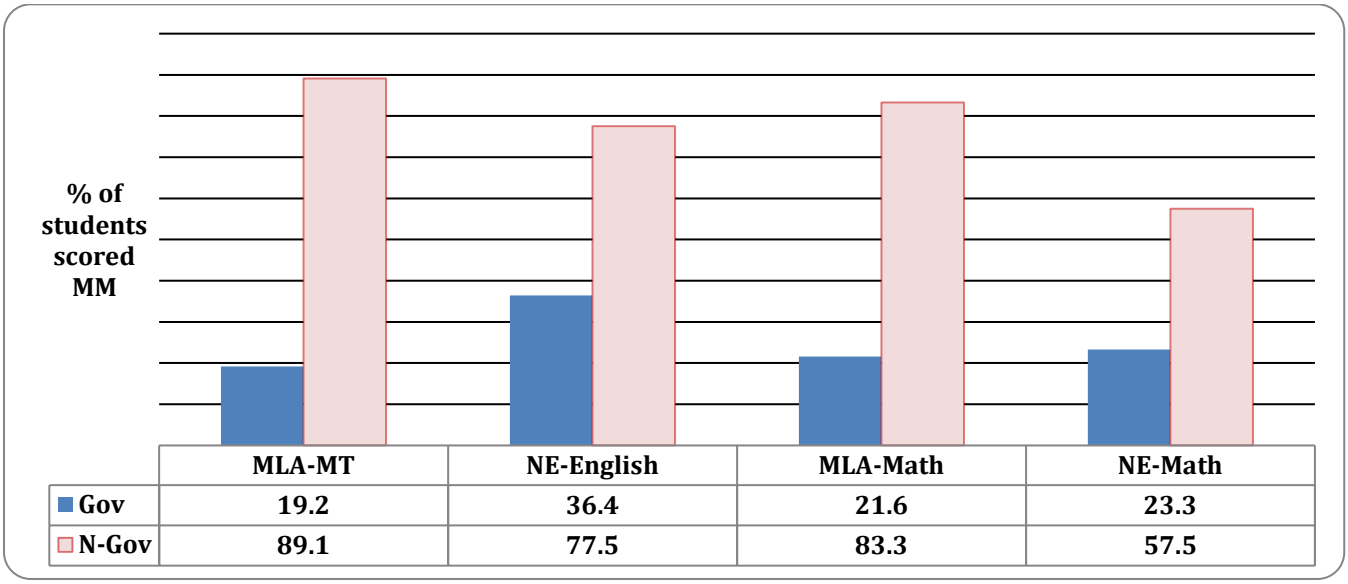
By School Location		**Urban**	**Rural**	**Total**
Grade 3	**Count**	*879*	*2195*	*3074*
	Percent	*28.6*	*71.4*	*100*
Grade 5	**Count**	*759*	*2053*	*2812*
	Percent	27.5	72.5	100

MLA-III was conducted in 2015 in six regions (zobas), 59 schools and eight learning languages. As shown in tables 4.4 and 4.5, a total of 3074 students in grade-3 and 2812 students in grade-5 sat for the competence tests. Moreover, the tables show that the majority of participants in both grades were from rural schools and public schools.

Benchmarks

The benchmark set for the Minimum Mastery Level (MML) of performance on a given set of assessment tasks was "80% of learners should attain at least 50% correct score." For the Desired Mastery Level (DML), learners are expected to exhibit an "achievement of 70% or above on the assessed tasks." Thus, based on the MML benchmark, some factors that affect the learning achievement of grades 3 and 5 learners are analysed in the following sections.

Figure 4.4: Percent of students who attained MML in Literacy and Numeracy by School Type (2015)



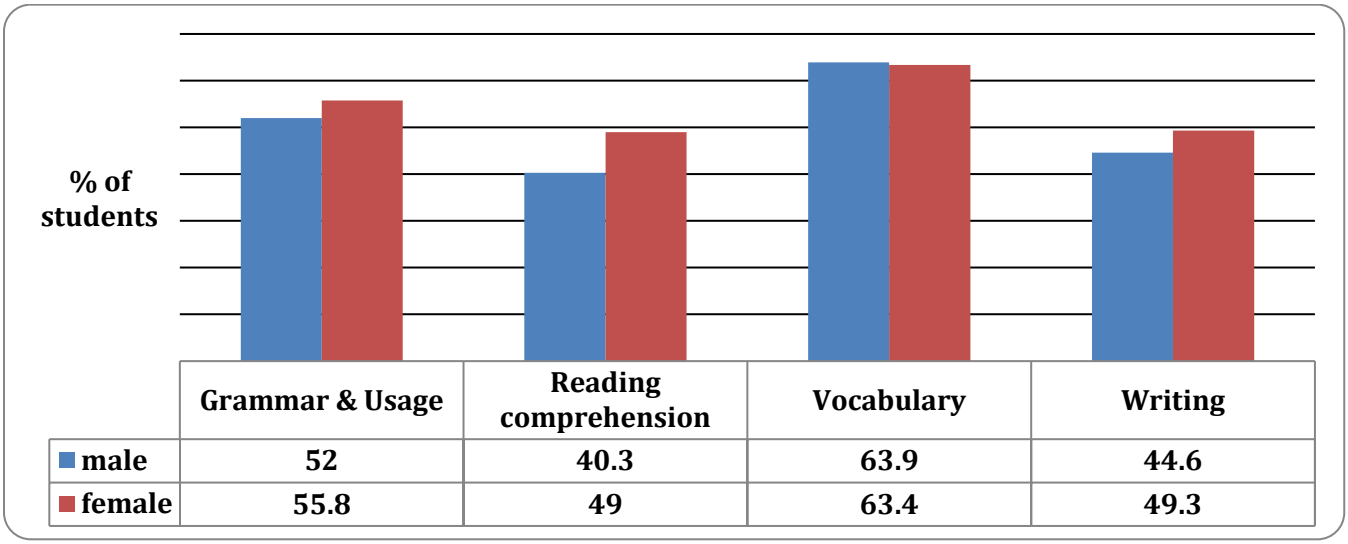
	MLA-MT	NE-English	MLA-Math	NE-Math
Gov	19.2	36.4	21.6	23.3
N-Gov	89.1	77.5	83.3	57.5

In the context of the Eritrean education system, the synonyms for public and private schools are government (Gov) and non-government (N-Gov) respectively. N-Gov schools are those run by communities. Unlike in the Gov schools, where education is free and teaching staff are government employees, in the community schools, students pay schooling fee and majority of staff are employed by school management bodies.

Taking school type (by governance) as a factor that determines students' learning achievement, a number of international studies and assessment findings in Eritrea revealed that students in N-Gov schools performed better than students in Gov schools.

As illustrated in figure 4.4, in both the MLA-III and the National Examination assessments, non-government school students overwhelmingly outperformed government school students. While 89.1% of N-Gov school students attained MML in Mother Tongue (MT) in MLA, only 19.2% of government school students attained MML. The variations are also observed in the National Examinations and the learning areas assessed. This calls for an in-depth study to identify the factors associated with these variations in achievement.

Figure 4.5: Percent of Students who had attained MML in Literacy Learning Domains, by Sex (Grade 3, MLA-III)



	Grammar & Usage	Reading comprehension	Vocabulary	Writing
male	52	40.3	63.9	44.6
female	55.8	49	63.4	49.3

Figure 4.5 shows the percentage of grade 3 students who had attained MM score in the literacy learning domains, in MLA-III. Though, achievement in vocabulary in both sexes is relatively better (male 63.9 and female 63.4), the benchmark for MM, had not been accomplished. After 3 years in school, reading and writing competences of the majority (over 50%) of the students were below average.

Figure 4.6: Percent of Students who had attained MML in Literacy and Numeracy by School Location (Grade 5, MLA-III)

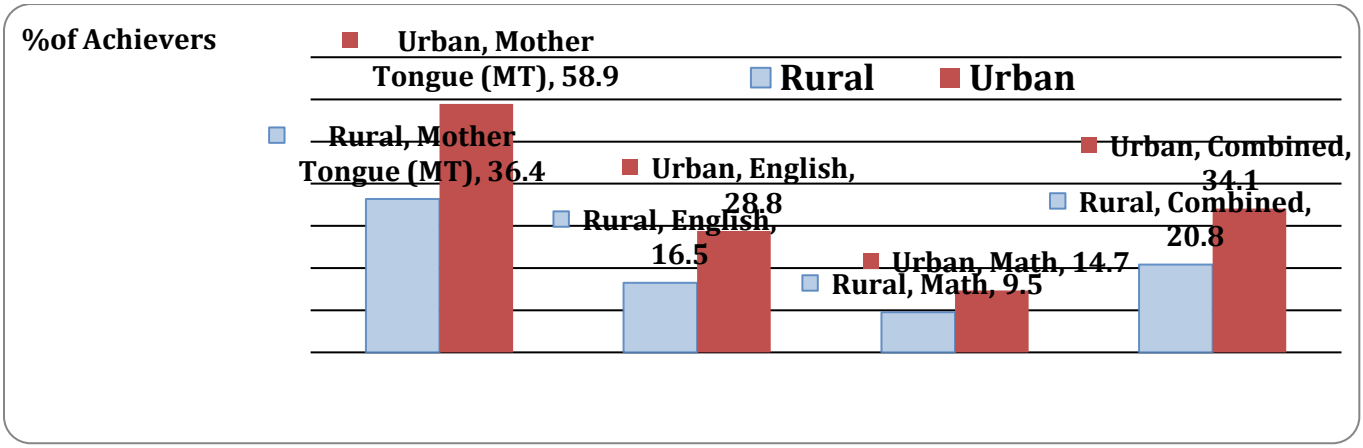


Figure 4.6 shows that in none of the learning areas and school location, had the MML benchmark been reached. The gap of learning achievements between urban and rural 5th grade students in Mother Tongue was found to be 22.5 percentage points (parity index = 0.62). In mathematics, the percentage of students who attained the MML score was very low in both urban and rural schools. However, the disparity is slightly narrower in math than in MT. The parity index of rural over urban percentages (9.6/14.7) is equal to 0.65, which is not far from that of Mother Tongue.

Table 4.6: Percent of students who had attained MML in MLA-I, MLA-II, and MLA-III

Grades	Subjects	MLA-I 2001	MLA-II 2008	MLA-III 2015
3	**Mother Tongue**	*72.8*	*73.3*	*44.5*
	Mathematics	*42.2*	*14.1*	*24.5*
	English	*58.2*	*54.8*	*21.3*
5	**Mother Tongue**	*73.3*	*62.0*	*44.2*
	Mathematics	*14.1*	*20.7*	*11.3*
	English	*54.8*	*67.2*	*20.8*

The findings presented in table 4.6 indicate that, in none of the MLA assessments had the MML benchmark been reached. Among the subjects assessed, students did relatively poorly in mathematics.

4.1.3 International Standardized Learning Assessments

Since 2001, Eritrea has adopted and implemented three monitoring of learning achievement assessments namely: MLA I, II and III of international standards, with initial external technical assistance in MLA-I. However, Eritrea has not yet participated in any other internationally or regionally recognized assessment programs, such as SACMEQ, PISA, etc. The ministry of education recognizes the importance of participating in such regional and/or international standardized learning assessments in order to gauge the quality and standard of education in Eritrea against internationally recognized benchmarks.

SECTION 4.2: ANALYSIS OF SYSTEM CAPACITY

Introduction

This section mainly focuses on the evaluation of the relationships that exist between human and material resources on the one hand and the improvement of learning outcomes on the other. Here an attempt has been made to analyze how effectively the resources are converted into outputs, through proxy indicators, factors associated with learning outcomes and the institutional capacity of the administrative organs in the MoE.

4.2.1 Assessment of System Capacity

As part of the educational transformation process launched in 2003, the MoE had embarked on an Education Sector Development Program (ESDP). The planning process of the ESDP had focused on four broad pillars, namely: (i) access and equity in the distribution of education services; (ii) quality and relevance of educational provision; and (iii) institutional capacity of the education sector.

During the course of 2004 – 2005, the MoE undertook a comprehensive capacity assessment of the education sector. This was intended to analyze the institutional capacity at the time in relation to the capacity required for achieving the objectives of the ESDP. Thus, it was also necessary to identify the gaps and propose a capacity development plan for improving the efficiency and effectiveness of the system. After identifying the major clusters of institutional capacity, the MoE made efforts to fill the capacity gaps and enhance the overall system capacity and commendable achievements have been recorded. However, much more remains to be done to make the system capable of delivering the full range of educational services. The following are among the major areas of institutional capacity considered in the ESA.

Policy and Legal Framework

The MoE is guided by many policy and legal frameworks in the process of planning and management of the education sector. The macro level policy orientation for education in Eritrea is framed under the umbrella of the Eritrean Macro Policy which governs all national development plans and programs in the country. Following this guiding policy framework, the MoE developed many education related policies and guidelines. These include, among others, The National Education Policy, the National Curriculum Framework, Teacher Education and Development policies and guidelines, and many more sub-sector policies and guidelines. However, given the dynamic nature of education and taking into consideration emerging developments and commitments, these documents need continuous review and updating. There is also a need to prepare some more policy papers on some aspects of education.

Organizational Structure:

As depicted in figure 4.11, the organizational structure of the MoE is very bulky with a lot of overlapping functions and tasks. As a result, there is lack of clarity in the mandates of many of its organs. Moreover, the organizational structure at the central (national) level is not properly reflected at the zoba level, further exacerbating the lack of clarity in mandates, hierarchical structure as well as top-down and bottom-up communication. Thus, although detailed job descriptions have been developed for each position in the MoE, it has timed out and thus very difficult to properly implement the various tasks under the given circumstances. However, the MoE has been continuously assessing and reviewing its organizational structure along with the functions its main and has submitted a revised version to the government. This is awaiting government endorsement.

Decentralization

Subsequent to the Decentralization Act of 1996, the Central MOE became responsible for sector policy development, overall planning and budgeting, setting standards and pedagogical guidance and regulation, human resources development and research as well as monitoring and evaluation. The operational responsibilities for education service delivery of the management of education services were transferred to the Zoba education offices. Accordingly, the Education Offices in the six Zobas are responsible for the

overall administration and management of the education sector in their respective Zobas, except for the TVET sub-sector and teacher training, which are managed centrally. School management has progressively been transferred to local communities and has been carried out in collaboration with Parents Teachers Students Associations (PTSAs). The implementation of the decentralization scheme is still in progress and the three levels are working in a spirit of collaboration and support among themselves.

Staff and Skills Development

The MoE has critical shortages of skilled human capacity in a broad range of education areas. These include the lack of qualified teachers, school directors, sub-zoba and zoba officers, supervisors, as well as support staff, including in finance, logistics, general service, etc. This shortage cuts across all levels of the sector. Moreover, some specialized areas of expertise, such as curriculum development, teacher education and research face critical shortages. Thus, it is imperative that the intervention in staff and skills development is undertaken by upgrading the capacities of the existing staff to the required levels on the one hand, and producing more professionals in the respective fields on the other.

Procedures, Rules and Regulations (PRRs)

Procedures, Rules and Regulations (PRRs) are among the essential tools for the MoE to maintain harmony and uniformity in the planning, implementation, management and monitoring of the education process at all levels and across all its organs. For this purpose, the MoE has been developing a number of PRRs for its internal undertakings. These are related to curriculum implementation, pedagogical activities, school organization regulation, and the like. Some PRRs, however, have a national character, since the MoE had to adopt them from pertinent stakeholders, such as the Civil Service Administration, the Ministry of Finance, etc. Such PRRs include include, among others, human resource administration and management, finance, planning and budgeting, etc. Given that education is a dynamic process, many of the existing PRRs need reviewing and updating, new ones also need to be developed to meet emerging demands of the ever expanding educational provision.

Logistics and Equipment

Logistics and equipment are directly related to the achievement of an institution’s objectives. Thus, sufficient supply as well as proper allocation and management of logistic services and equipment is essential for the successful implementation of planned activities. The MoE had been making efforts to prioritize the supply, allocation and management of essential logistic amenities and equipment. Among the most essential ones are communications, transportation, electricity and water supply, and other general services. Extensive efforts have been made to deliver the necessary supplies in the required amount and time. However, this component of the education process has been among the most critically underserved. This calls for a comprehensive review and revitalization of the logistics and equipment management process, as well as sizeable extra investment.

Information Systems and Management Tools

This component of the education sector is an essential planning and management tool of the education provision process. The major part of these tools that covers the whole education sector is incorporated in the Educational Management Information System (EMIS). As such, detailed description and analysis of EMIS and other accompanying tools and systems is given in relevant sections of the ESA.

4.2.2 Analysis of the Factors Associated with Learning Achievement

Crosnoe, Johnson & Elder (2004) cited in Farooq et al (2011), categorized the factors as: student factors, family factors, school factors and peer factors – and termed them collectively demographic factors. Generally these factors include (ibid) age, gender, geographical belongingness, ethnicity, marital status, socioeconomic status (SES), parents' education level, parental profession, language, income and religious affiliation.

Thus, based on the commonly addressed independent variables - Age and sex of student, location and type of school, and Socio-economic Status (SES) of a student's family - students' learning achievements (dependent variables) are investigated. Here, SES encompasses the economic, social, cultural, and attitudinal dimensions of students' parents.

Researchers: Garzon, 2006; Kahlenberg, 2006; Kirkup, 2008 (cited in Farooq et al., 2011) had stated that, "The students with high level of SES perform better than the middle class students and the middle class students perform better than the students with low level of SES." In line with the above scholars, Hijazi, et al (2006), stated that, "Family income as one element of SES, is positively related to quality learning, as it is assumed [*that*] affluence gives more facilities to learn."

Age Differences

Figure 4.7: Percent of students who had attained the MML, in MT, Math, English by Age-groups; MLA-III, in Grade 3

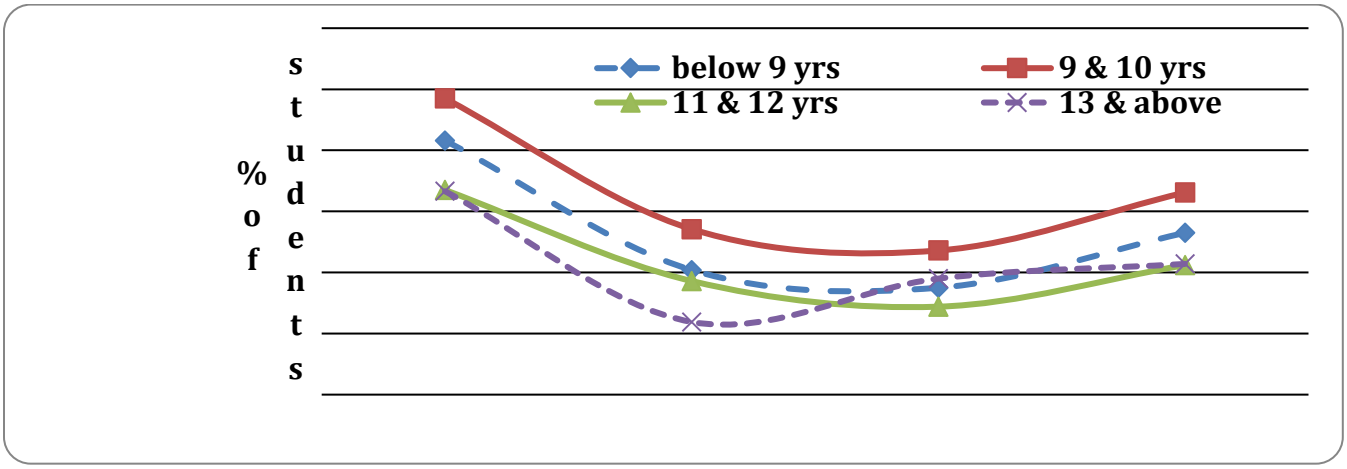
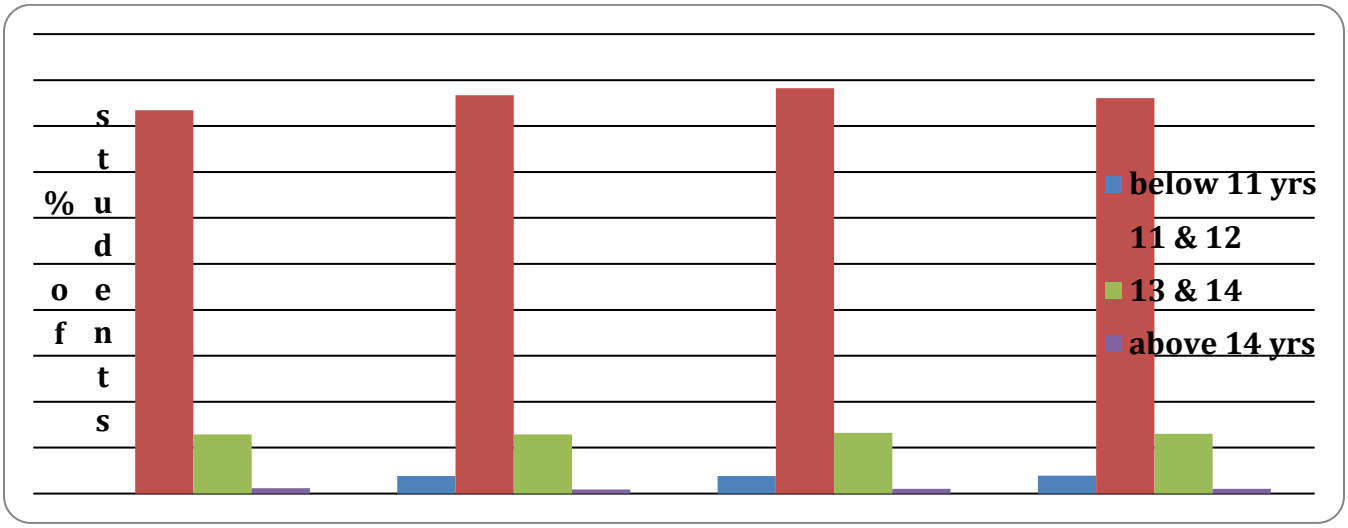


Figure 4.7 shows the percent of students who had attained the Minimum Mastery Level (MML) in literacy (English) and Numeracy (Math). The benchmark for MML as stipulated in MLA-I (2001) is *"at least 80% of assessed students should score a minimum of 50% in a given test/exam."*

The National Assessment (MLA-III, in grade 3), exhibited in Figure 1, indicates that, in none of the age-groups or subjects, had the MML target been reached. Although, in all the age groups, the percentage of the students who attained the minimum mastery level is below 50, the students examined at their appropriate age-level (9, 10 years) followed by students below 9 years, performed relatively better than the other age groups.

Hungi et al (2014) (cited in UNICEF, 2016) had earliers found that, in developed countries older students generally outperform their younger colleagues; while in developing countries, especially in Africa [*including Eritrea*], younger students achieve better than their elders. Indeed, the findings of MLA II in Eritrea are in agreement with the findings of Hungi et al. (2014).

Figure 4.8: Percent of students attained MML in MT, Math and English by Age-groups (MLA-III, in Grade 5)



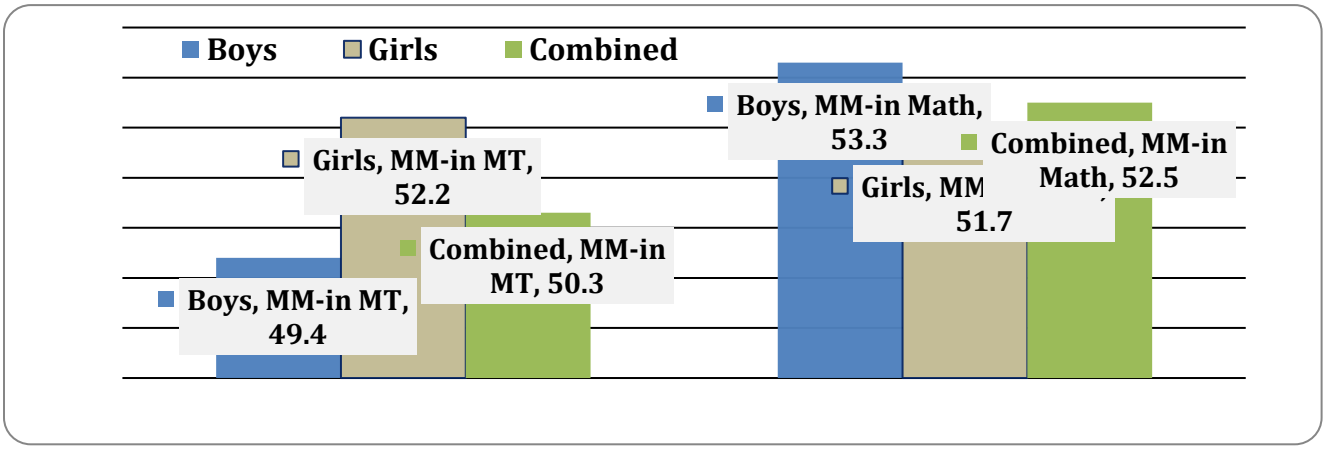
Unlike in grade 3, the MML benchmark attained in all the subjects was in grade 5, in the appropriate age-cohort (11 & 12 years). In all the subjects, this age-group's attainment was well above 80%. However, the achievement of the other age groups was low, as low as 10% to 15%.

Disparity of Achievement by Sex

Internationally recognized assessment programs, such as PISA (2009) have shed light on gender disparities in learning outcomes. Assessment surveys at primary and secondary levels indicate distinct patterns that vary by learning areas. While girls perform better in reading (literacy), boys, in general outperform girls in mathematics (numeracy) (UNESCO, 2004).

Similarly, in the case of Eritrea, as measured by MLA III (2015), the disparity of grade 5 students in Mother Tongue (MT), is relatively more in favor of girls, while in mathematics with insignificant difference (parity index = 0.97) boys did slightly better than girls. Let us observe the following graph.

Figure 4.9: Percent of 5th grade students who had attained the MML in MT and Maths by Sex



Even though, the difference is statistically insignificant, a pattern like that of MLA is also depicted in the End-of-basic Education National Examinations. In the English language (except in 2016) girls performed better, while in mathematics boys performed better.

Table 4.7:- Percent of examinees who had achieved the MML in English and Mathematics during the last three years.

	English Language			Mathematics		
	Boys	**Girls**	**Parity Index**	**Boys**	**Girls**	**Parity Index**
2015	*49.8*	*50.2*	*1.01*	*26.1*	*25.1*	*0.96*
2016	*39.1*	*38.6*	*0.99*	*30.1*	*28.2*	*0.94*
2017	*39.9*	*40.1*	*1.01*	*27.1*	*25.6*	*0.94*

School Location as a Factor of Disparity

Research indicates the influence of school location (urban/rural) on student learning achievement. UNESCO (2004) in its publication, regarding to the SACMEQ participant countries, articulated the advantage of schools located in urban settlement. The publication stated that, "Even in countries that had achieved some degree of equity in the provision of material resources, the teachers in urban schools tended to be better qualified and more experienced than those in rural areas. Some schools did not even have enough seats for all pupils. On average, for all fifteen SACMEQ countries, 10% of pupils lacked a place to sit."

In the Eritrean context, findings from MLA-III and end-of-basic education national examination indicate that there is disparity due to school location. To show that there is evidence of disparity in attainment between urban/rural students, analysis of the grade 8 national examinations in English and Math, and literacy (Mother tongue) and numeracy (math) in grade 5 MLA assessment, are presented below.

Table 4.8: Percent of Examinees attained MML by subjects, National Exam years, and School locations (2015 – 2017)

School Locations	English			Mathematics		
	2015	**2016**	**2017**	**2015**	**2016**	**2017**
Rural	*45.9*	*33*	*33.3*	*26.1*	*27.5*	*22.3*
Urban	*56*	*45.7*	*46.7*	*28.1*	*32*	*30.4*
Combined	*50*	*38.7*	*40*	*25.6*	*29.2*	*26.3*

Sources: National Examination Annual Reports, MOE (2015 – 2017)

As observed in table 4.8, in both learning areas (English & Math), and in the three national exam years (2015, 2016, & 2017) the percentage of urban school students who attained Minimum Mastery is higher than those of students learnt in rural schools.

Table 4.9: Percent of 5th grade students attained MML by location and subjects in MLA-III (2015)

School location	Mother Tongue (MT)	Math	English	Combined
Rural	*36.4*	*9.6*	*16.5*	*20.8*
Urban	*58.9*	*14.7*	*28.8*	*34.1*

Like that of the 8th grade national examination, MLA-III also showed disparity of learning achievement between urban and rural students. In Table 4.9, we observe, the variation of attainment between 5thgrader students in all the subjects. The disparity in Mother Tongue was found to be 22.5% (parity index = 0.62). In mathematics, the percentage of students attained the MM was low in both categories; however, the disparity to some extent gets narrower in mathematics than that of MT. The parity index of rural over urban percentages (9.6/14.7) is equal to 0.65, which is not far from that of Mother Tongue. English also showed similar trend.

Intervention from lessons learned

Despite all the efforts done by the MoE to improve the teaching learning process, the learning achievement of students remained very low and this challenge has been a big concern in all levels of the school system. As a manifestation of these, the exam results of students in all levels of the school system has been deteriorating from time to time. For instance, the results of students in all Monitoring Learning Achievement (MLA) studies conducted in the years 2001, 2008 and 2015 at primary level (Grades 3 and 5) in mathematics, English and Mother Tongue were very poor. Similarly, when we see the results of the national examination at the end of middle level (Grade 8) for the past three years, the trend was declining: 69.8% in 2015, 64.2% in 2016 and 51.9% in 2017. Among the main causes, the major one identified for the low achievement of students was lack of solid foundation of students at lower primary.

In response of the challenges stated above the MoE has started to take concrete measures. In year 2017, the MoE conducted a national workshop on MLA III report and based on the recommendations of the study strategies and action plans were drafted with the consensus of all the participants. Following this, workshops were conducted in each zoba where the action plans were reviewed considering zoba specific

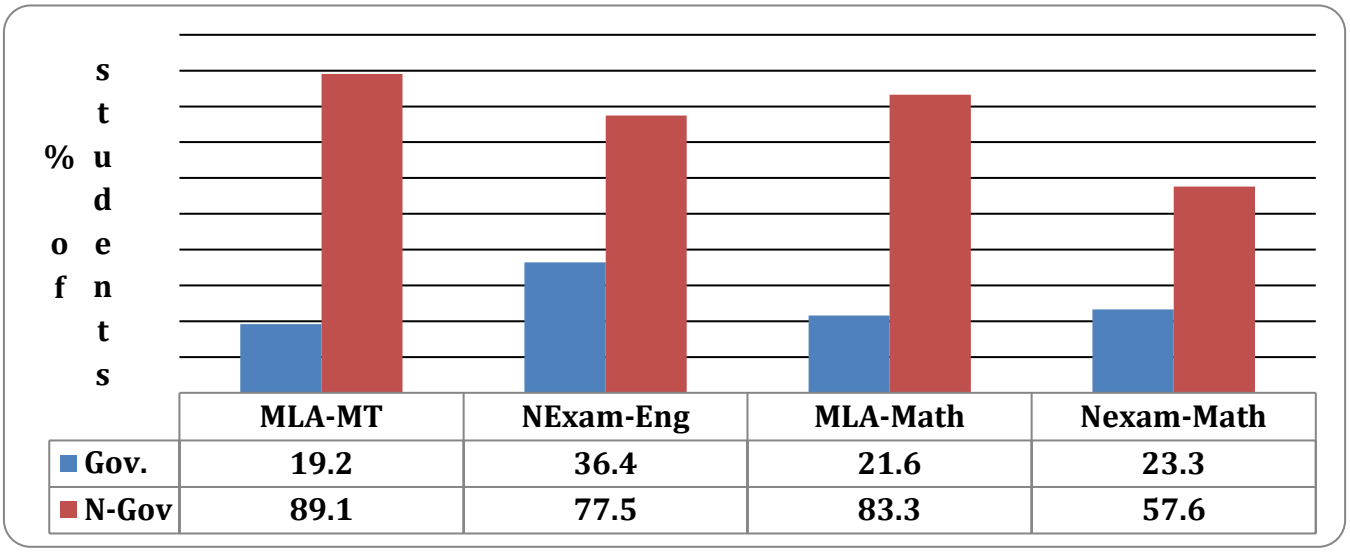
situations and then finalized for implementation. The agreed action plan, where each one of the 6 zobas is committed to implement include the following:

- Assigning competent and experienced teachers at lower primary (Grade 1-3) in each school
- Upgrading of unqualified teachers in primary
- Provision of school/cluster based continuous professional training with focus on subject teaching methodology of mathematics, English and Mother Tongue
- Promote reading culture among pupils, and enhance reading clubs
- Making schools child friendly through concrete efforts and mobilization of the community
- Establish/strengthen PRCs as a major forum for delivering training at cluster level
- Advancement of female teachers into leadership position,
- Monitoring the implementation of the curriculum
- Conducting enhanced and sustained supervision and support in schools
- Periodic evaluation on the progress of the agreed action plan at zoba and national level

Disparity due to School Type

A school is classified as either public or private according to whether a public agency or a private entity has the ultimate power to make decisions concerning its affairs (OECD, 2005). Type of school (by governance) as a factor of determining students learning achievement, in a number of studies and assessment findings in Eritrea, revealed that, students in non-government schools (schools run by community, religious organizations, sole- proprietors) performed better than students in government run schools. The analysis of the recent past of MLA-III project (2015) and end-of-basic education national exams are presented below for comparison.

Figure 4.10: Percent of students attained MML by School Type



	MLA-MT	NExam-Eng	MLA-Math	Nexam-Math
Gov.	19.2	36.4	21.6	23.3
N-Gov	89.1	77.5	83.3	57.6

As indicated in Figure 4.10, in both MLA-III and National Examination, non-government (N-Gov) school students overwhelmingly surpassed government (Gov) school students. While 89.1 of private school

student attained MML in the MLA, in Mother Tongue (MT), only 19.1 of public school students reached the MML. The variations are also observed in the National Exams and the learning areas assessed.

Socio-Economic Status as a Determinant Factor:

A number of research endeavors, supported the relationship between SES and students' learning achievement. Farooq et al (2011), in their study of 'Factors Affecting Students' Quality of Academic Performance', have investigated the positive relationship. The study findings stated that, "the higher level of SES is the best indicator contributing towards the quality of students' achievement."

As a proxy indicator of the findings, evidences from the analysis of the End-of-Basic Education National Exams (EBENE), in Eritrea, 2017 could be viewed. 'High-achievers' or students scored 75% to 100% in the EBENE were identified.

Table 4.10: Very-Good Performance (Average score of 75% to 100%)

	Examinees	High achievers	% of High achievers	% of total high achievers (2650)	% of MT
Total National	45302	2650	5.80	100	
Zoba Maekel Total	13189	1450	10.90	54.7	100
N-Gov-Zoba Maekel	1818	560	30.80	21.1	38.6

Table 4.11: Excellent Performance (Average score of 90% to 100)

	Examinees	High Flyers (HF)	% of HF	% of THF (485)	% of MT
Total National	45302	485	1.0	100	
Maekel Total (MT)	13189	310	2.0	63.9	100
N-Gov-Maekel	1818	149	8.0	30.7	48.1

From tables 4.10 and 4.11 it can be observed that 1818 non-government school students completed the 2017 national tests from Zoba Maekel. This number is 13.8% of students of Zoba Maekel, and 4% of the total candidates at national level. However, the percentages of high achievers of the 1818 non-government candidates from those of Maekel are 48.1% and 38.6% in the excellent and very-good performances respectively.

The skewedness of high performance toward the N-Gov school could be due to favorable socio-economic environmental factors. Because of their relatively 'high' social, economic, attitude towards education, these parents are proactive and invest more financial, material, and time resources into their children's education.

Reference to EPHS (wealth quintile) supports this argument. But there is no survey conducted to investigate the SES of parents of Non-government schools students. Hence, further study is needed.

Aligned to this advantage that private (N-Gov, in the Eritrean context) school students deserve, factors such as that described by WHO, 1997 (cited in UNESCO. 2004) - nutritional and health conditions of the

student can foster or discourage the quality of learning. The organization (ibid) further detailed the relationship as follows:

- The link between health and learning is well established.
- Ill health affects attendance, retention, cognitive development and academic performance.
- There is strong evidence that poor nutrition and health in early childhood severely affect cognitive development in later years.

Sammons (2006) has supplemented the description saying that, "In most systems students from disadvantaged backgrounds (…especially those experiencing a range of social disadvantages such as low income, parents lacking qualifications, unemployed or in low Socio-Economic Status work, poor housing, etc.) are more likely to experience educational failure or under-achievement.

4.2.3: Institutional Analysis

Introduction

This section attempts to assess the capacity and efficiency of the administrative structures in the Ministry of Education which are in charge of implementing education policies and guidelines. Within this section, several factors like the skills and performance of the staff, performance of the administrative structures, functioning of the public administration, and political, economic and social contexts are worth to be analyzed if the sector analysis is to be complete and comprehensive. It is recalled that the Ministry had conducted a survey and analyzed its institutional capacity in the year 2005 (MoE Capacity Assessment, 2005) which serves the Ministry as a baseline. The Ministry strongly believes such an analysis would enable to identify its strengths, weaknesses and gaps, and thereby ensures better performances of its administrative structures and personnel. However, due to the unavailability of sufficient data no in-depth analysis has been conducted since 2005. Hence, the MoE commits itself to undertake an extensive and in-depth institutional capacity assessment in the near future.

Organization Structure and Administration

The MoE central office is responsible for Education policy formulation, Education Sector Planning and Development, Curriculum development, Human capacity development, setting standards, Monitoring and Evaluation.

The organization structure of the Ministry of Education is composed of the Minister's Office, five Departments and six Regional education offices. The five departments are: (1) Department of General Education, (2) Department of Adult and Media Education, (3) Department of Technical and Vocational Education and Training, (4) Department of Research and Human Resource Development and (5) Department of Administration and Finance.

Decentralization

According to the decentralization Act of 1996, the Education Offices in the six zobas are responsible for overall administration and management of the education sector in their respective zobas, except for TVET sub-sector and Teacher Training Institutes, which are managed centrally. The school management, together with the Parent Teacher Student Association (PTSAs), is responsible for overall school management and school development.

Educational Management Information System (EMIS)

The basis for EMIS is relatively well established at the school, zoba and Central levels for formal and non-formal education, and TVET. However, staffing, training and equipment are needed to further develop, expand, and manage the EMIS. The capacities for using the information produced by the system, at all levels, for policy, planning and management purposes are still limited and need to be developed. Targeted EMIS publications, to fill the information needs of users, should be developed with timely dissemination. EMIS is consolidated and expanded in to formal education, adult education, TVET in order to improve policy, planning, budgeting and monitoring for the education sector at the national and zoba levels. Continuous capacity development of education officers at Sub-zoba, zoba & Central levels is undertaken for effective use of EMIS outputs for Planning and Management. However, previous assessment showed that a large part of needed information for managerial purposes is not timely & accurately provided from lower levels. Similarly, data analysis and reporting take too much time that some critical information is released too late for timely decision making.

Database for human resource management is available but not efficient. Personnel administration still uses manual files that are not regularly updated; management information for payroll preparation is not yet fully established. Teacher & pedagogical staff deployment, training & promotion are not yet functional and not based on updated information on their qualifications & evaluation. Project management & reporting is not yet well organized at zoba levels. Database for project management is not fully equipped. Project accounting & reporting is organized in specific projects units according to the donor specific requirements. This calls for improving the overall EMIS data collection, processing and reporting system by integrating contemporary technology solutions and accompanying network infrastructure.

A) Performance of Administrative Structures

The central office of the MoE shoulders an immense responsibility in planning, coordinating, implementing and regulating educational matters in the country. As indicated in table 4.12 below, even though there is disparity in the placement of skilled personnel among the departments, out of the 490 staff in the central office, only 200 (40.8 %) have Bachelor's degree and above. This indicates that there is a need for extensive professional capacity development programs to be undertaken to enhance the efficiency and effectiveness of management and operations staff of the MoE at all levels.

Table 4.12: Profile of manpower by qualification in the administrative structures of MoE Central Office

Department	Total Staff	Under 12	12	12+1	12+2	12+3	12+4	12+5	M.A/ MSc	Ph.D
Administration and Finance	186	55		38	43	4	28	7	2	0
Research and Human Resource Development	30	0		2	5	1	6	1	15	0
General Education	84	9		9	9	2	14	0	41	0
Technical Education and Vocational Training	19	0		2	2	0	6	1	8	0
Adult and Media Education	49	6		10	15	1	11	0	6	0
Minister's Office	122	16		28	17	7	38	5	11	0
	490	86		89	91	15	103	14	83	0

Source: HRM-MoE

Table 4.13: Profile of manpower by qualification in zoba Education Offices

Zoba	Total Staff	Under 12	12+1	12+2	12+3	12+4	12+5	M.A/ MSc	Ph.D
Anseba	***2719***	*470*	*1205*	*704*	*69*	*237*	*13*	*9*	*0*
Debub	***5786***	*638*	*2466*	*1452*	*91*	*1105*	*28*	*6*	*0*
DKB	***587***	*86*	*242*	*149*	*4*	*58*	*4*	*1*	*0*
Gash Barka	***3677***	*609*	*1705*	*899*	*86*	*358*	*16*	*1*	*0*
Maekel	***4079***	*362*	*1265*	*1555*	*131*	*730*	*21*	*15*	*0*
SKB	***2208***	*359*	*1103*	*468*	*30*	*184*	*10*	*1*	*0*
Total	***19056***	***2524***	***7986***	***5227***	***411***	***2672***	***92***	***33***	***0***

Source: HRM MoE

Table 4.14: Qualification of teachers by level of school

Level	Total	9- 12	12+1	12+2	12+3	12+4	M.A/M.Sc
Primary	***8321***	*1834*	*5488*	*755*	*54*	*189*	*1*
Middle	***3456***	*37*	*495*	*2462*	*163*	*296*	*3*
Secondary	***2549***	*0*	*44*	*229*	*204*	*1982*	*90*
	14326						

Source: HRM MoE

Table 4.14 shows the overall manpower capacity of zoba education offices. Out of the total work force, 13.2% are less than grade 12; 71.5% have certificate to diploma (12+1, 12+2 and 12+3); 14.5 % first degree (12+4 and 5), and only 0.17% have masters' degree. From these figures, it can be easily deduced that the majority of the work force (71.5%) is in the range of certificate to diploma. This is normally expected due to the large number of primary and middle schools which requires big number of certificate and diploma holders. According to MoE's requirement of minimum standard needed to teach basic education is a two year basic education teaching diploma and for the secondary level a minimum of Bachelor's degree. Table 4.14 shows that 9.7%, 75.9% and 81.3% of the teachers fulfill the standards of qualification required to teach for primary, middle and secondary schools respectively. Hence, more effort will be needed to upgrade the teachers teaching at the respective levels in general and primary level in particular. Moreover, particularly for those who are teaching at secondary level, further analysis is required as how much of them are teaching in their fields of specialization.

On the other hand, the analyses of the qualification of the administrative staff in schools also reveal that, only 24.2% and 47.4% of the administrative staff at primary and middle levels respectively have a diploma and above. Similarly, 34.1% and 11.5% of the administrative staff at secondary and TVET schools respectively have first degrees and above. Moreover, in congruency to these findings, the reports from zoba education offices indicate that most of the existing school management personnel do not have

adequate training on school leadership and management. Thus, if school managers are to serve their purpose and make the schools effective learning organizations, provision of continuous professional development on school leadership and management is crucial.

Table 4.15: Administrative staff at school level (director, Pedagogic head, Administrator)

Level	**Total Staff**	**Less Or Equal To 12**	**12+1**	**Greater 12+1**	**12+2& 12+3**	**Greater 12+3**	**Less 12+4**	**12+4& 12+5**	**M.A/ M.S./ M.Ed.**
Primary	***884***	*80*	*590*	*214*					
Middle	***719***	*378*	*0*	*0*	*324*	*17*			
Secondary	***713***	*0*	*0*	*0*	*0*	*0*	*470*	*239*	*4*
TVET Schools	***130***	*84*	*14*	*0*	*17*	*0*	*0*	*14*	*1*

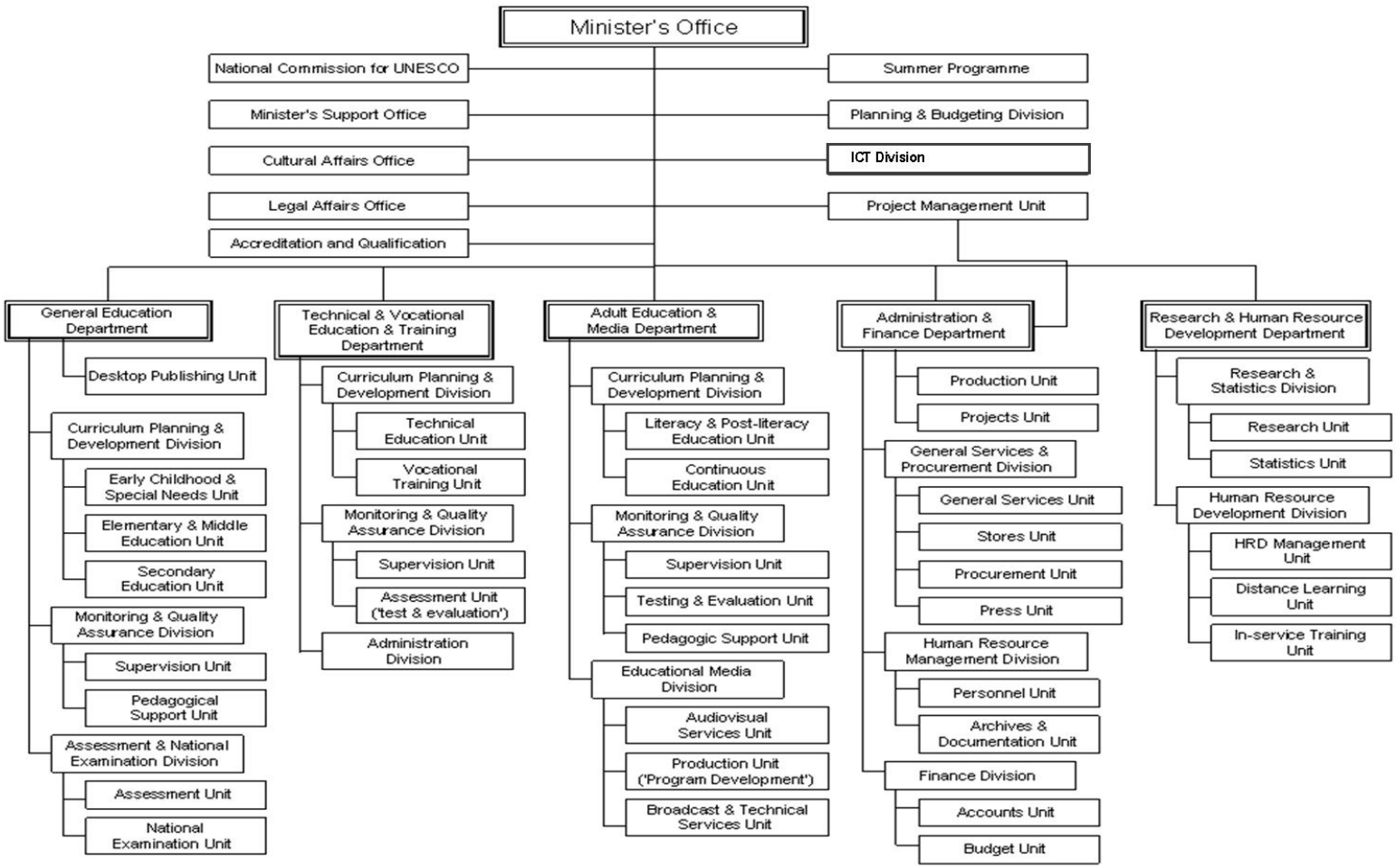
Source: HRM-MoE

In conclusion, with the existing limited professional capacity and skill at various levels of the Ministry and the availability of very limited material and financial resources, the performances of the administrative structures within the ministry cannot be undermined. By and large, the commitment and dedication of the staff is very encouraging. The findings reveal that quite substantial performances have been achieved.

Challenges

Despite the achievements mentioned above, there were several challenges noted by the administrative structures which need due attention in order to improve the institutional capacity of the ministry.

Figure 4.11: Organizational Structure of the Ministry of Education



4.3: MANAGEMENT OF TEACHERS

4.3.1 Quantitative Analysis of Teacher Management

Number of teachers

During the academic year 2011/12 a total of 14,887 teachers were employed in all levels, out of which around 30% were females. As shown in table 4.16 below, the number of male teachers is much greater than that of female teachers especially at the middle and secondary levels.

During the academic years 2011/12 to 2015/16 the number of teachers didn't show a significant increase although a slight increase was observed in the academic year 2013/14. Overall, there has not been a significant increase in the number of teachers in the last five academic years.

Table: 4.16: Number of teacher by level from 2011/12 to 2015/16

Level	Gender	2011/12		2012/13		2013/14		2014/15		2015/16	
		Total	Gov	Total	Gov	Total	Gov	Total	Gov	Total	Gov
Primary	**Total**	***8166***	***7421***	***8680***	***7813***	***9023***	***8124***	***8346***	***7366***	***8524***	***7532***
	Female	*3318*	*2979*	*3252*	*2880*	*3367*	*2965*	*3002*	*2575*	*3275*	*2834*
Middle	**Total**	***3867***	***3601***	***3905***	***3622***	***3882***	***3609***	***3563***	***3222***	***3507***	***3181***
	Female	*632*	*594*	*672*	*639*	*727*	*695*	*675*	*629*	*658*	*602*
Secondary	**Total**	***2854***	***2740***	***3076***	***2974***	***3177***	***3055***	***2800***	***2645***	***2567***	***2404***
	Female	*457*	*441*	*557*	*543*	*641*	*617*	*631*	*609*	*536*	*515*
Total	**Total**	***14887***	***13762***	***15661***	***14408***	***16082***	***14788***	***14709***	***13233***	***14598***	***13117***
	Female	*4407*	*4014*	*4481*	*4062*	*4735*	*4277*	*4308*	*3813*	*4469*	*3951*

Pupil/Teacher Ratio

Pupil/Teacher Ratio by level

Pupil–teacher Ratio (PTR) is the number of students, who attend a school divided by the number of teachers in the school. This ratio for primary level has been fluctuating over the period 2011/12 to 2015/16 reaching 42 in 2016. This indicates that there is one teacher for 42 students at the primary level. The pupil-teacher ratio at the middle level is around 40 while for the secondary level, it is 34 (table 4.17).

Table 4.17 Pupil-teacher ratio by year and level: 2011/12-2015/16

	Primary			Middle			Secondary		
	Pupil	**Teacher**	**PTR**	**Pupil**	**Teacher**	**PTR**	**Pupil**	**Teacher**	**PTR**
2011/12	*334,245*	*8,166*	*41*	*167,928*	*3,867*	*43*	*95,152*	*2,845*	*33*
2012/13	*349,652*	*8,680*	*40*	*155,526*	*3,905*	*40*	*110,369*	*3,076*	*36*
2013/14	*361,604*	*9,023*	*40*	*152,005*	*3,882*	*39*	*115,422*	*3,177*	*36*
2014/15	*361,684*	*8,346*	*43*	*147,031*	*3,563*	*41*	*97,217*	*2800*	*35*
2015/16	*353,859*	*8,524*	*42*	*141,746*	*3,507*	*40*	*87,664*	*2567*	*34*

Pupil-teacher ratio by zoba and level

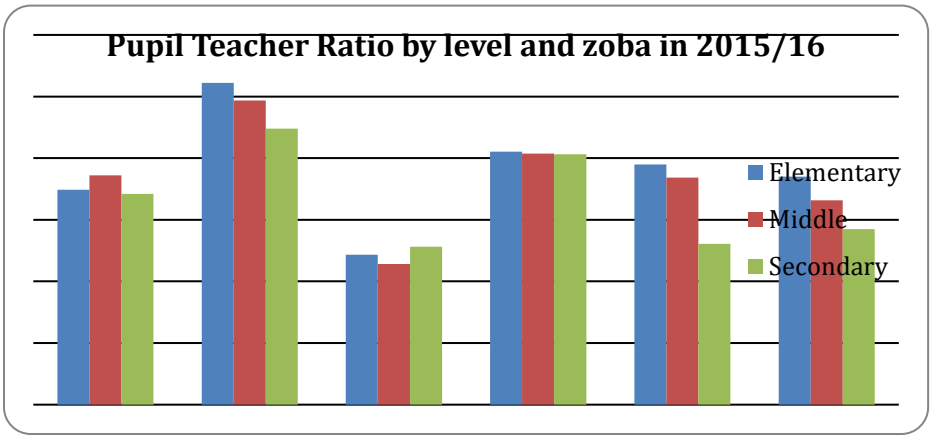
As shown in table 4.18 and figure 4.12 below, the pupils-teacher ratio varies from zoba to zoba in all levels. The highest pupil-teacher ratio is in zoba Debub in all levels with ratios of 52, 49 and 45 in primary, middle and secondary levels respectively. These ratios exceed the standard pupil-teacher ratio which is 42. The lowest pupil-teacher ratio is in zoba DKB which is 24, 23 and 26 in primary, middle and secondary levels respectively. These ratios are much lower than the standard pupil-teacher ratio.

Table: 4.18 Pupil-Teacher ratio by zoba and level in 2015/16

Zoba	**Primary**	**Middle**	**Secondary**
Anseba	*35*	*37*	*34*
Debub	*52*	*49*	*45*
DKB	*24*	*23*	*26*
Gash Barka	*41*	*41*	*41*
Maekel	*39*	*37*	*26*
SKB	*37*	*33*	*28*

The PTR in most zobas is almost the same in all levels except for zoba Maekel and SKB where the PTR shows large disparities among the levels.

Figure 4.12: Pupil Teacher ratio by zoba and level in 2015/16



4.3.2 Qualitative Aspect of the Management of Teachers

Teacher Qualification and placement

The Ministry of Education has adopted a three band structure (National Education Policy, 2010) consisting of basic education (that comprises pre-primary, primary and middle school), secondary education, and tertiary education. In addition to two years of pre-school, basic education lasts for 8 years and is split into grades 1-5 (primary) and grades 6-8 (middle). Secondary education lasts for four years (Grades 9-12) and it provides general secondary education in arts and sciences. Teachers in the primary level are considered professionally qualified if they are graduates of the Asmara Community College of Education (ACCE) or have equivalent qualification. Teachers in the middle level are considered professionally qualified if they have a college diploma (12+2) or its equivalent. Teachers in the secondary level are considered professionally qualified if they have a minimum qualification of Bachelor's degree.

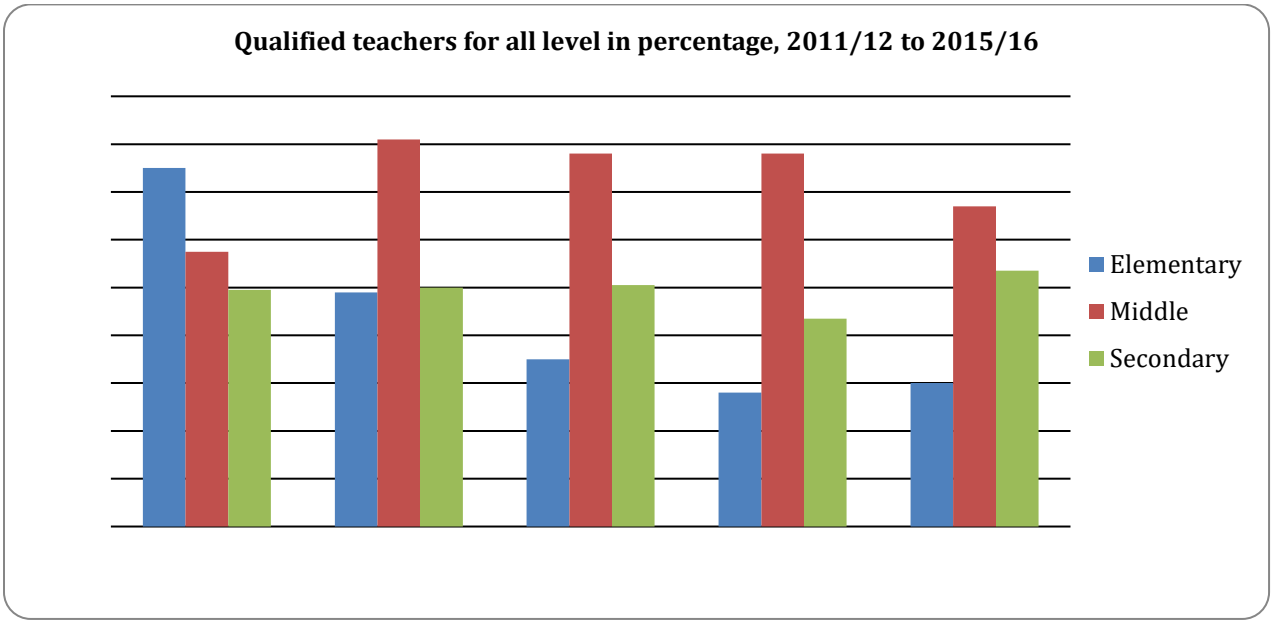
Table 4.19: Qualification of Teachers by level in 2011/12 to 2015/16

A/Year	Primary Level			Middle Level			Secondary level		
	Total	qualified	Percent	Total	qualified	Percent	Total	qualified	Percent
2011/12	8,166	6,945	85	3,867	3,152	81.5	2,845	2,273	79.9
2012/13	8,680	6,932	79.8	3,905	3,365	86.2	3,076	2,461	80
2013/14	9,023	6,945	77	3,882	3,323	85.6	3,177	2,544	80.1
2014/15	8,346	6,309	75.6	3,563	3,049	85.6	2,800	2,203	78.7
2015/16	8,524	6,487	76	3,507	2,924	83.4	2,567	2,072	80.7

Source: essential education indicators, 2015/16

However, as shown in table 4.19, the number of unqualified teachers in all levels is yet roaming around 20%. This shows that there is a shortage of qualified teachers across all levels. Figure 4.13 shows percentage of qualified teachers between 2011/12 and 2015/16. The percentage of qualified teachers for primary level was higher in the 2011/12 academic year than 2015/16, indicating that there is an urgent need to address this issue. The qualification of teachers in the middle level is higher than the other two levels. This can be attributed to the Middle School Upgrading Program (Open Distance Learning Program) which was conducted between 2006 and 2010. In this upgrading program around 2000 unqualified teachers were upgraded to diploma level in two batches.

Figure 4.13 Qualification of teachers



Teacher Motivation and Retention

Teacher motivation and retention is influenced in many ways, such as:

- From 2015 the government has more than doubled teachers' salaries. This is expected to motivate teachers to stay in the profession.
- The government is planning to introduce a salary system corresponding to qualification and experience in order to boost teachers' performance for better quality of education.
- The lack of criteria for teacher career development in the system has been affecting teacher motivation negatively.
- The poor working and living conditions, especially in the countryside, and those teachers who stay in the remote areas without incentives or hardship allowances.
- The promotion of female teachers to positions of middle and upper management is at minimum level.
- Low perception of the public on the value of the teaching profession undermines teacher s' motivation.
- The mismatch between the subjects taught and the teacher's field of specialization demotivates teachers.

Teacher Training and supply

Inadequate teacher supply exerts constraint on the capacity of the Ministry to expand and improve enrolments, particularly at the middle and secondary levels. At present, only the Asmara ACCE is mandated with the responsibility of preparing teachers for the primary school system.

The College of Education at Eritrea Institute of Technology prepares teachers for the Middle and Secondary levels.

Pre-service Training System

The ACCE has been offering a one year pre-service teacher training program for secondary school graduates by way of preparing them to teach at the primary level. But starting from the academic year 2014/15, the system has changed. This system involves the admission of student teachers from grade 10 completers who are willing to join the teaching profession. These student teachers attend two years of academic and pedagogical training. At the end of their studies, they are provided with certificate and teach in the primary level. In addition, the ACCE has also started to upgrade teachers to the diploma level.

The College of Education at the Eritrea Institute of Technology provides a two-year diploma program for middle school teachers and Bachelor's degree program for secondary school teachers. Since the College of Education could not meet the demands for middle and secondary school teachers it has been a common practice to recruit graduates of other fields from various colleges in the country, as a transition strategy'. These recruits, however, do not have solid ground in educational theory and practice. Therefore, either the two colleges of education need to increase their intakes to fulfil the demand or the other colleges, as a transitional measure, need to introduce education related courses.

In-service Training System

As already indicated, the Asmara Community College of Education does not produce sufficient primary school teachers. As a result the ministry of education recruits direct teachers (high school completers) in remote areas to cover the shortage of teachers. To certify these teachers, the MoE provides a two summer training and one year self-study program at ACCE. In the last three years from 2014/15 to 2015/16 around 2400 teachers were thus certified.

Supervision and Support

Supervision and support is an essential element of improving the teaching and learning process. The supervision system in the MoE is organized at national, regional, sub regional and school levels. It is believed that an improved system of supervision and support enhances the quality and standard of educational provision.

Supervision is conducted through:

- Systematically collecting and analyzing information, and relating it to explicit educational and occupational standards, criteria and values;
- Class room observation of the teaching-learning process, and providing feedback and support to teachers and school managers to ensure the provision of quality education.

The following are among the major supervision activities conducted:

- Monitoring the implementation of policies, standards and guidelines at all levels;
- Monitoring the implementation of the curriculum;
- Providing training to teachers and school directors;
- Conducting surveys and researches on quality of education;

- Proposing and/or implementing different intervention programmes that help to improve the quality of education;

However, there are many factors that limit the effectiveness of supervision, these include:

- Shortage of transportation facilities for zoba and sub-zoba supervisors;
- Inadequate training and support for supervisors;
- Inadequate mechanisms employed to evaluate teaching/learning effectiveness and teacher performance;
- Under developed systems of school based supervision;
- Supervisory practice usually focuses on inspection rather than on providing feedback and support.

SECTION 4.4: THE MANAGEMENT OF OTHER RESOURCES AND TEACHING TIME

The provision and effective utilization of resources other than teachers mainly curriculum materials, educational infrastructure and facilities, as well as the effective use of teaching time are among the factors that determine the quality of teaching and learning. Requirements and standards about these resources and about teaching time are explicitly indicated in various guidelines of the Ministry of Education. The existing situation about these resources and about teaching time are analyzed and summarized below.

4.4.1 Management of Resources Other than Teachers

4.4.1.1 Curriculum materials and School Support System Materials

Curriculum materials mainly consist of textbooks, teacher's guides and supplementary reading materials. The implementation of the curriculum demands different school support facilities that encompass libraries, laboratories, computers, and different kinds of teaching-learning aids including facilities for students with Special Educational Needs (SENs).

Textbooks are fully prepared, printed and distributed to schools by the MoE. A complete set of textbooks is provided to each student in Basic Education free of charge. However, secondary school students have to share a portion of the cost, which is subsidized by the government.

The production/printing of textbooks and teachers' guide puts into consideration a number of factors including: expected increase in the number of students, expected damage/life span and loss of material, storage and others. Periodic reprinting of the curriculum materials is in place to ensure their continuous availability.

The guidelines of MoE indicate that the textbook-student ratio in each subject in any grade is 1:1. A teaching-learning survey conducted by the MoE (2011) and the annual work reports of all zoba education offices and the findings of Monitoring Learning Achievement Survey (MoE, 2015) show that the textbook-student ratio in the majority of schools is 1:1. However, there are also schools, especially in remote areas, that face shortages of textbooks, mainly due to poor distribution.

The school support system is among the essential inputs for the effective realization of the objectives of the curriculum. The provision of sufficient, appropriate and functional school support facilities offers learners opportunities to relate theory with practice, to develop practical skills, to demonstrate and consolidate their conceptual learning and to develop skills of investigation and innovation. Moreover, they enhance the implementation of Learner Centered and Interactive Pedagogy. They are also instrumental in ensuring quality education.

The Ministry of Education has been working hard to establish an effective support system for schools. Along with the development and implementation of the curriculum, the Ministry has made efforts to expand and strengthen the support system in a significant number of schools, especially at the secondary level.

School Library:

Table 4.20: Number of middle and secondary schools with libraries

Zoba	Middle		Secondary		Grand Total	
	Available	Total	Available	Total	Available	Total
Anseba	*32*	*64*	*14*	*16*	*46*	*80*
Debub	*58*	*58*	*23*	*23*	*81*	*81*
DKB	*6*	*7*	*3*	*3*	*9*	*10*
Gash Barka	*19*	*74*	*13*	*17*	*32*	*106*
Maekel	*38*	*44*	*22*	*28*	*60*	*104*
SKB	*21*	*59*	*10*	*13*	*31*	*90*
Total	**174**	**364**	**75**	**100**	**249**	**464**

Source: Department of General Education, Schools Library Service (2017)

According to the Library Services Unit reports of the MoE, only 47.8% of middle and 75% of secondary schools have library services. Comprehensive data is not available about the sufficiency and quality of books as well as the functionality of school libraries. But, supervisory surveys conducted in some of the schools show that many of them don't have sufficient books and library facilities, and many of those that exist do not function well.

Science laboratories:

The government has been spending a huge amount of money for science laboratories and demonstration rooms. Currently, 95 secondary schools (95%) have science laboratories. But, only 42 middle schools (11.5%) have science demonstration rooms. In the academic years of 2007/08 and 2009/10, 80 secondary schools were equipped with laboratory chemicals, equipment, models and charts, and 188 middle schools with science demonstration items. Moreover, additional science laboratories and demonstration rooms are under construction across the six zobas.

Despite these efforts, however, reports from zoba education offices and field visits have revealed that many factors constrain the effective use of laboratories. To mention some: shortage of qualified lab technicians, teachers' lack of competency and confidence to carry out experiments.

Pedagogical Resource Centers:

Pedagogical Resource Centers (PRCs) offer opportunities for teachers to work together and collaborate in preparing and implementing effective lessons. Teachers collaboratively develop, innovate and share knowledge, skills and teaching learning resources in the pedagogical resource centers, and this helps them to enhance the teaching and learning process.

Since 1996, the Ministry of Education has endeavored to establish and consolidate pedagogical resource centers at the cluster and school levels. All schools in basic education were organized under clusters and were provided with pedagogic resource centers. Various local training programs were conducted for teachers by PRC resource people in the school clusters. Moreover, about 23 pedagogical resource centers of good standard, each with a meeting room, a library, a store, a workshop and an office were constructed across the country. Despite these efforts, there is still a big shortage of PRCs, and the existing ones are not functioning well due to lack of resources, personnel and proper management.

4.4.1.2 School infrastructure

In Eritrea, the school system encompasses KGs, as well as primary, middle and secondary schools. Depending on the size of the population they have to serve and their maximum enrolment capacity, schools are categorized as small, medium and large. Thus, the number of administrative offices, staffrooms, classrooms, libraries, science laboratories, information and communication technology rooms, teachers' resource rooms and workshops necessary for each category is not same.

School Buildings (classrooms)

Currently there are 1423 schools in the country. Among these schools, only 1178 (82.8%) have classroom buildings and 245 (17.1%) function under the shade of trees and in make-shift classrooms. These schools are found across the five administrative regions: Gash Barka 42 %, SKB 27.8 % and DKB 16.2%, Debub 8% and Anseba 5.3%. These schools don't even have any place for keeping their teaching and learning materials and their documents. The type and distribution of classroom is as indicated in the table below.

Table 4.21: Type of classrooms in schools by zoba

Zoba	*Total* Number of Class rooms	Type of classrooms schools have					
		Building		Under shed		Make shift	
		Count	%	Count	%	Count	%
Anseba	***1473***	*1326*	*90*	*1*	*0.07*	*146*	*9.9*
Debub	***2406***	*2307*	*95.9*	*22*	*0.9*	*77*	*3.1*
DKB	***303***	*211*	*69.3*	*25*	*8.3*	*67*	*22.1*
Gash Barka	***608***	*435*	*71.6*	*3*	*14.5*	*170*	*28*
Maekel	***1878***	*1855*	*100*	*00*	*00*	*23*	*1.2*
SKB	***1000***	*806*	*80.6*	*95*	*9.5*	*99*	*9.9*
Grand Total	***7668***	*6940*	*90.5*	*146*	*1.9*	*542*	*7.1*

Source: MoE, EMIS 2017(unpublished)

10% of schools have classrooms that consist of tree-sheds and make-shifts. Learning is very challenging for students in these schools. A recent qualitative survey conducted by the Department of General education (MoE, 2015) has revealed that tree-shade and make-shift classrooms are dusty and in many cases expose students to wind, to the sun and to rain. The survey further depicts that the schools don't even have any space for keeping documents and teaching and learning materials, including textbooks.

The functional requirements of MoE (2003) define the physical infrastructure necessary for schools. The majority of primary schools don't have any rooms or furniture for the provision of library, laboratory and IT services.

Due to big enrolments and the small numbers of classrooms in schools, there are big class sizes in many semi-urban and urban areas. But, there are also schools that have underutilized classrooms.

Furniture:

Although, the government, with the support of its development partners and community made commendable efforts to equip schools, the shortage of furniture remains a challenge in a substantial number of schools at all levels.

Table 4.22: Availability of students' desks by zoba

Zoba	Desks	Enrolment	*Shortage*
Anseba	*22462*	*85915*	*-6176*
Debub	*42621*	*196951*	*-23029*
DKB	*3489*	*9197*	*+429*
Gash-Barka	*23674*	*120847*	*-49825*
Maekel	*36104*	*151725*	*-16608*
SKB	*11865*	*50553*	*-4986*
Grand Total	***140215***	***615188***	***-79195***

Source: MoE EMIS (2017)

According to MoE standards, three students have to share one desk. But, as indicated in the table above, with the exception of one, all the zobas have shortages of desks. That means that there are students who sit on the floor or four or five students that share one desk at times.

4.4.1.3 School Facilities

School facilities here include play grounds, toilets as well as water and power supply. Among 1098 schools at all levels, only 75.5 % have sport play grounds (MoE EMIS, 2017). However, supervisory reports show that a significant number of schools don't have sufficient sport materials and equipment that would enable them to use the play grounds effectively.

67% of schools have water sources that include taps, wells and reservoirs. A recent supervisory survey (MoE 2015) has indicated that the water sources in the majority of schools covered in the survey were either insufficient or non-functional. Another qualitative study about menstrual hygiene management among school girls (MoE, 2017), too has revealed that school girls face challenges due to the absence of water and sanitary facilities such as toilets.

Available information indicates that only 61.6% have latrines. Supervisory visits show that most of these latrines are not functional or are not used by students because they are unclean or they are locked.

According to MoE's EMIS data, only 463 (32.5%) schools have electric power supply. Solar energy is the source of power for 84 schools. The a*bsence or inadequacy of power is a major challenge for the*

majority of schools across the country. This hampers the implementation of various activities in the schools, including the provision of ICT services.

4.4.2. Information and Communications Technology (ICT)

The establishment of an integrated system of ICT infrastructure, facilities and e-Learning solutions, along with qualified human resources, dedicated for teaching and learning, human capacity development, educational planning, management and research, is essential for qualitative transformation of the education system. It is a key contributor for effective and efficient educational planning and management, enhancing the quality of educational provision and improving students' engagement, learning and achievement. Moreover, it engenders contemporary learning skills of the 21st century such as information accessing and processing, collaboration, critical thinking, and problem solving, which are essential in preparing learners to thrive in networked knowledge societies and succeed in economies that are increasingly reliant on technology.

The ICT in education program was launched in January 2005 as a quality and institutional capacity development component of the educational reform process. The principal policy orientation of the program was to improve the quality of education by integrating ICT as a tool for teaching and learning as well as for educational management across the education sector. In its initial phase, a fundamental component of the program was to ensure mastery of basic ICT skills among students, teachers and school management personnel as a basis for utilizing ICT as a tool for teaching and learning and for educational management. Tremendous efforts have been made and significant successes achieved in ensuring this policy orientation by deploying ICT resources in schools, training and retraining teachers and curriculum development. However, more needs to be done to ensure holistic and equitable access to ICT resources across the country.

Policy Framework

The integration of ICT into the Eritrean education system is guided by a national ICT-in-Education policy. The major policy and strategic orientations of the ICT-in-Education program are summarized below:

Policy Statements:

1. ICT shall be fully utilized as a key input in improving the quality of education and in facilitating life-long learning skills;
2. ICT shall be integrated as a teaching-learning as well as a management and research tool across the education sector;
3. ICT shall be utilized to support training and continued professional development of teachers as well as management and operations staff in the education sector;
4. Modern ICT infrastructure of interconnected network and reliable power supply shall be established to facilitate accessing, processing, communicating and sharing information.

The following sections briefly describe the mission, goal, objectives and strategies articulated in planning and implementation of the ICT in Education program in Eritrea:

Mission: Build an information and knowledge society of educators and learners through ICT-enhanced education.

Goal: Improve the quality of education by integrating ICT as a tool for teaching and learning as well as for educational management across the education sector.

Objectives:

- Introduce ICT education across all levels of the education system to ensure ***ICT literacy and beyond*** among students, teachers, education managers and the school community;
- Integrate ICT as a tool for teaching and learning across the education system to ensure the provision of ICT enhanced quality education;
- Incorporate ICT as a specialized area of study in TVET and secondary education for employment oriented vocational skills;
- Improve access to and quality of educational provision by developing appropriate e-Learning resources and facilities (hardware, software, content-ware and human resources).
- Utilize ICT for effective and efficient Educational Management Information Systems (EMIS) and broader educational management across the education sector.
- Establish broader opportunities of information accessing, processing and sharing that enable students, teachers and education managers to select, interpret, evaluate and present relevant information.

Strategies:

The following strategies are recommended for effective implementation of the program and achieving the objectives:

- Deployment of appropriate ICT equipment (hardware, software and accessories) in schools, regional and central MoE offices;
- Networking [Local Area Networking (LAN); Wide Area Networking (WAN) among schools, regional and central MoE offices; and Internet connectivity];
- Development of appropriate content for different levels of ICT education (basic, intermediate and advanced/specialized);
- Integrate ICT as a teaching/learning tool across the national curriculum (develop ICT-enhanced interactive subject matter, supplemented by multimedia programs);
- Develop appropriate e-Learning infrastructure, facilities, e-content and human resources;
- Hosting a website of the Ministry of Education;
- Human capacity development programs (Targeted ICT training programs for students, teachers, school management staff, regional and central MoE staff);
- Establish appropriate EMIS infrastructure for connecting schools, regional education offices and central MoE for effective and efficient management of information across the education sector;
- Introduce alternative energy solutions (primarily solar panels) in remote schools to ensure equitable distribution of ICT resources and services and bridge the digital divide

Current Status

Since the launching of the ICT-in-Education program in 2005, the MoE has been making continuous deployment of ICT facilities to schools. These efforts have also been accompanied by ICT training programs for teachers and education managers to ensure effective management and utilization of ICTs in schools. As a result, ICT labs have been established in 155 lower and upper secondary schools across the country. However, as there are 366 lower secondary and 104 upper secondary (total 470) schools, this represents only 33% coverage. Moreover, there are 969 primary schools that have yet to be covered in the program. This indicates that there is a significant digital divide within and between the different school levels and geographical locations of the country.

Despite the endeavors to integrate ICT in education, the following challenges have remained, among many others, as barriers to full attainment of the desired goals:

ICT Equipment and Facilities: ICT equipment and facilities are expensive and most of our schools are still facing the challenge of inadequacy of ICT facilities for teaching and learning. In some cases, this is compounded by lack of and/or poor management and maintenance practices.

Human Capacity Development: Successful integration of ICT into teaching and learning requires rethinking the role of teachers and reforming their preparation and professional development. This implies that provision of extensive human capacity development programs in ICT, both pre-service and in-service, is a critical element of success. An equally important factor for effective implementation of the program is the level of ICT knowledge, skills and attitudes of education managers and teachers. However, due to limitation of resources (human, financial and material), capacity building in this domain remains a major challenge for the effective utilization of ICT as a pedagogical and management tool in schools.

ICT Infrastructure: Among the major infrastructure for ICT in education are electricity and telecommunications network. Electricity is a basic necessity for installing computers and other ICT facilities to provide ICT education in schools. Hence, availability of reliable electric power supply is a vital component of the ICT in education program. Similarly, telecommunications network is an essential component for ICT in education as a connectivity infrastructure. For ICT in education to be utilized effectively and efficiently, its usage should go beyond learning basic ICT applications to accessing the extensively diverse and rich educational resources in the internet as well as communicating and sharing resources among individuals (e.g. students, teachers) and institutions (e.g. schools). In Eritrea, as in most developing countries, the availability of electricity is limited to the main cities, towns and some semi-urban and rural catchments surrounding them. Most remote peripheries of the country do not have electricity, except few where the communities have managed to install diesel power generators.

Similarly, in telecommunications the fixed line telephone services follow almost the same pattern as the electric power distribution lines. However, the mobile phone network is expanding fast with wider coverage across the country. But the frequency and bandwidth is not yet strong enough to support internet connectivity especially in remote areas.

From the above discussion, it is apparent that the most urgent problems concerning ICT in education in Eritrea are lack of sufficient coverage of electricity and telecommunications network infrastructure. This in turn has a significant impact in limiting the expansion of ICT in education in rural schools and resulting in digital divide and educational disparities.

Challenges

- Growing demand for ICT in schools vs. limited supply;
- Lack of dedicated Lack of dedicated and sustainable source of development and recurrent budget for ICT in Education;
- Lack of electric Power Supply in most rural and semi-urban areas;
- Limited coverage and low band width communications/connectivity infrastructure;
- Critical Shortage of qualified ICT teachers and technicians;
- Prevalence of digital divides among rural and urban areas due to lack of infrastructure;
- Lack of dedicated and sustainable source of development and recurrent budget.

4.4.3 Monitoring of effective teaching time

In Eritrea, on average, there are 180 school days (MoE: National Curriculum Framework, 2009) which amounts to 720 hours in one academic year. The school calendar is prepared and issued to all schools so that they can plan and implement their annual work properly.

All schools in the country, regardless of the shift system, have five working days in a week, in which each day consists of five working hours. These working hours are allocated for the different subjects taught in schools. Students in grade 1-3 have to learn in class for six periods (lesson sessions) of 4o minutes each and grade 4-12 students have to learn seven periods per day. Generally, the allotted instructional time is shorter than that of most Sub-Sahara African countries.

Since, a systematic monitoring system is not in place, lost teaching time is not well recorded and reported. Without having regular records and documents, thus, it is very difficult to know the exact amount of teaching time that has been lost every year. Nevertheless, it has been annually reported and repeatedly mentioned by all ZEOs as well as supervisory reports and qualitative surveys that there is a considerable loss of teaching time. The late opening and early closing of schools, and the shortage and high attrition rate and absenteeism of teacher are among the major causes for the loss of teaching time in schools.

Late opening of schools

Much of the loss in the allotted teaching time is due to the late opening of schools for classes. For example, according to Zoba Education Offices (ZEOs) reports for the academic years 2012/13 to 2015/16 and supervisory visits; the majority of schools were opened for class, on average at least 1-2 weeks late after the summer vacation. This indicates a loss of 5-10 days or 35-70 hours of teaching time. There are also some schools, especially those found very far from the center of zobas which start class even 3-5 weeks late. The main reasons for starting class late at the beginning of the academic year include: late deployment of new teachers, reluctance of teachers to go to schools in remote places, inadequate preparations of schools to start class on time and lack of transportation. Moreover, time is also lost in making time table arrangements.

Shortage of supply and high attrition rate of teachers

Reports from zoba education offices indicate that a significant number of teachers leave the job every year for various reasons. In such situations, certain subjects are fully or partially not taught. A qualitative survey report on small secondary schools also indicated that some of the schools in the survey did not implement the allotted time for certain subjects due to shortage of teachers.

Absenteeism

Annual zoba education reports and supervisory visits show that absenteeism of teachers is among the main causes for the loss of teaching time. Within the time-frame of the school calendar, there are public holidays. Some teachers do not come to school for some days before and after these holidays, and this results in loss of instructional time. Moreover, there are teachers who are absent for some days because they tend to be engaged in additional income generating activities. Furthermore, absenteeism of teachers is very common in many places especially rural areas because they have to travel monthly to collect their salary from the center. Many teachers who work in the suburbs of urban areas are also absent (or at least late) for a number of days at the beginning and end of week days because they travel to places where they permanently reside.

Generally, a considerable portion of the allotted teaching time is reduced in the majority of schools due to the above mentioned factors.

Although, some schools make arrangements for makeup classes, generally, there is no systemic mechanism of compensating lost time.

CHAPTER 5

EXTERNAL EFFICIENCY

INTRODUCTION

This chapter analyses the external efficiency of education in Eritrea. Thus, it will describe the economic impact of education and some related issues such as the labor market structure and its dynamics, the employability of graduates, the economic return of TVET and the anticipated future labor market needs of the nation. In addition, this chapter also presents the social impact of education in Eritrea.

SECTION 5.1: THE ECONOMIC IMPACT OF EDUCATION

5.1.1 Description of the Labor market

In Eritrea, Agriculture occupies the vast bulk of the labor force of the nation, about 80%, followed by 15% in service and just 5% in industry. About one fifth of the work force has had some secondary education, but only 2.5 % have attended technical schools and just 6% have had some vocational training parallel to basic education. On the supply side, the Eritrean Labor force could be characterized as mainly having informal education and lacking basic skills for career promotion. Agriculture is the primary driver of economic activity in the rural areas. The urban labor force includes workers engaged in the retail business and in manufacturing enterprises. This later type of work force is educated and is able to access further opportunities to be employed in the public sector as well as the formal, private sector.

Cross border labor migration represents a crucial part of a family's income, especially during economic variability in a country such as drought. Hence, Eritrean women migrate to the Arab and Gulf nations to help their families, largely through unskilled labor or with primary occupation. Based on MLHW data for 2017, table 5.1 shows that the average annual number of Eritreans working abroad, 82.9% of them constitutes females and 17.1% males.

Labor market analyses shows that both demand and supply side measures are necessary to promote the growth of decent employment opportunities in Eritrea. The demand for labor needs to be increased through the aggressive promotion of entrepreneurship and small business catering to export markets and local markets. In addition to this, workers must be equipped with demand driven skills so that they can be easily employed.

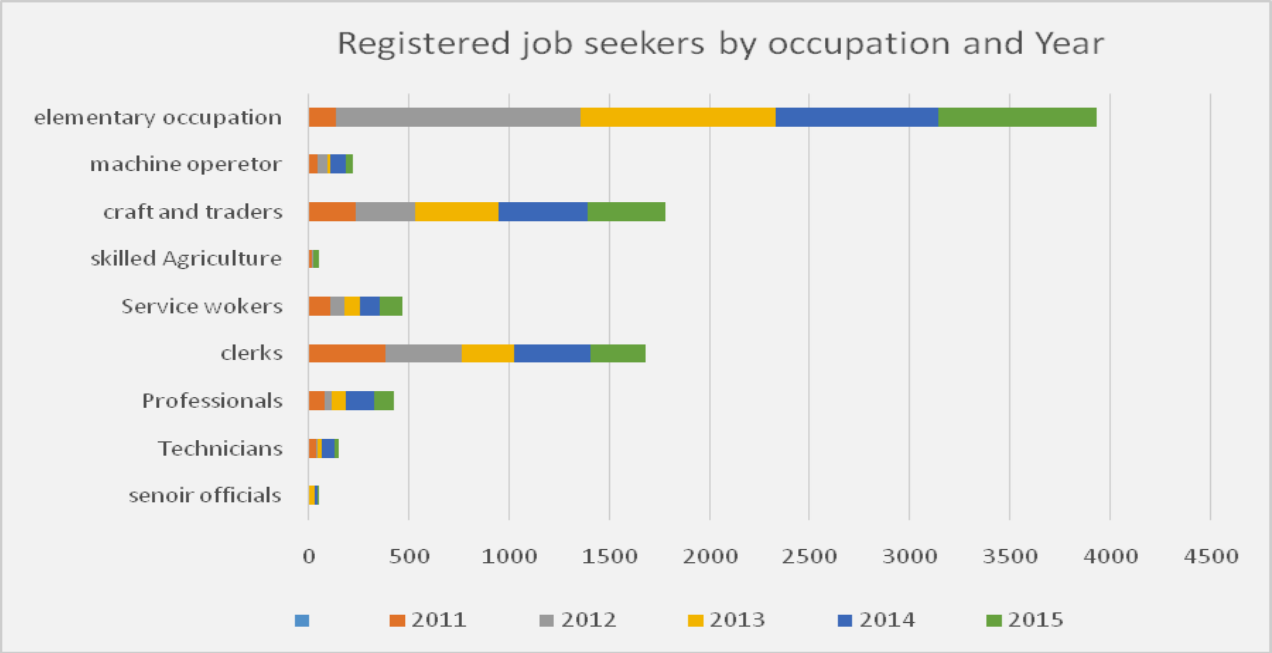
5.1.2 Labor Market Structure and Dynamics

In order to assess the economic impact of education, we should consider how education is meeting the demand of the society and the labor market. With the legal support of the macro policy and labor proclamation No. 118/2001 the department of labor in the Ministry of Labor and Human Welfare (MLHW) is mandated to manage and administer labor, with the aiming of fostering decent and productive

employment to all, in conditions of freedom, equity, security and human dignity. The primary objective of MLHW is to reduce unemployment to its minimum level and maintain full and gainful employment. It also endeavors to keep minimum labor conditions, make the work place safe, and sustain the safety and health of workers. To meet these objectives the department of Labor Office is structured in four divisions, namely: the Employment Division, Labor Relations Division, Labor Inspection Division and Social Security Division.

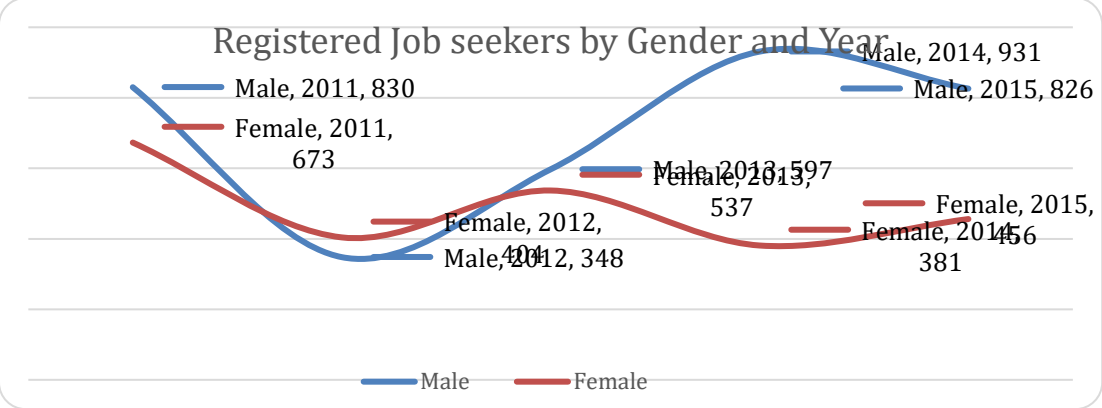
Percentage of registered job seekers by level of education and occupation presented as follows:

Figure 5.1:



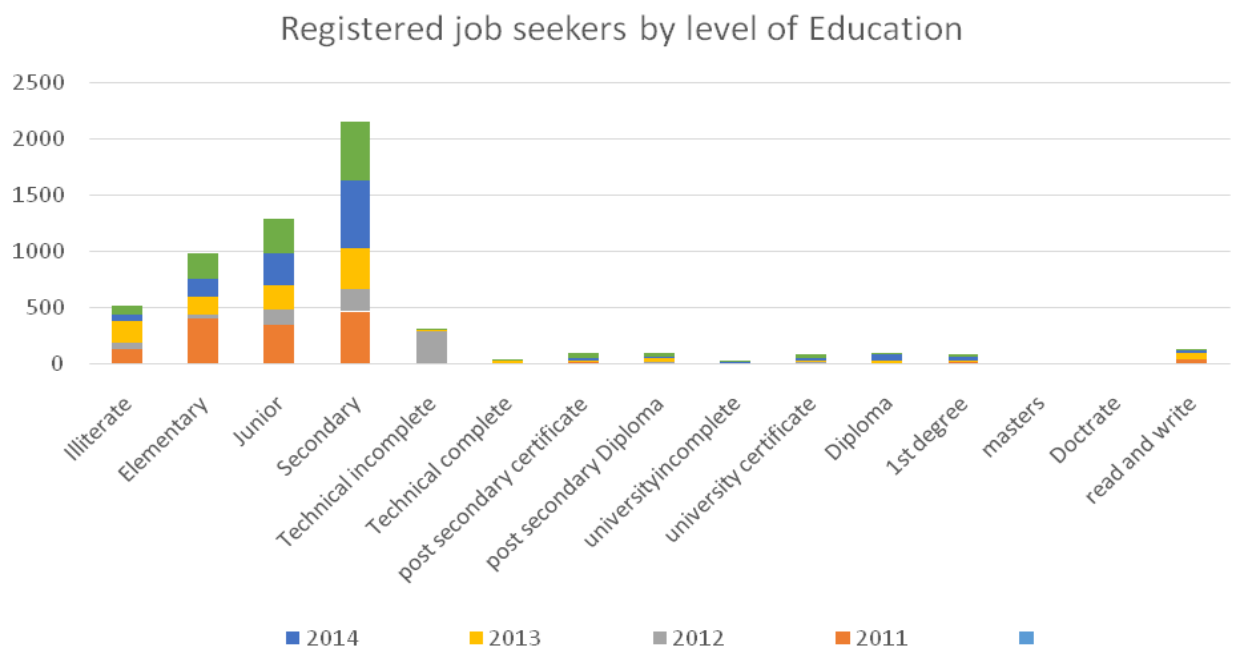
Source: computed from the primary data (MLHW)

Figure 5.2:



Source: computed from primary data (MLHW)

Figure 5.3:



Source: computed from the primary data (MLHW)

The above three charts indicate that annually, at an average, there are 1197 registered job seekers with 59% males and 41% females. The majority of the registered job seekers have secondary education are below that level. About 8.6% of the registered job seekers were illiterate. Among the registered job seekers about 53% have primary skills. Thus from the above three charts one can understand clearly the need for training in general education and TVET in particular for them to succeed in the competitive labor market.

Currently, employment for graduates is guaranteed in the country. Accordingly the number of qualified job seekers is found to be insignificant. Only 4.9% of university graduates (certificate – master's degree) applied for vacancy. The reason for these graduate job seekers, while employment is guaranteed, may be for three reasons. First, they may not wish to work far from home. Second, they may develop negative attitudes to the professions they assigned to. Third, they may develop interest to earn relatively more by working for other employers such as NGOs.

Nationals working abroad by occupation and gender can be analyzed as follows:

Table 5.1: Work Permit Issued to Expatriates by Educational Level, Year & Sex (2011 – 2012)

EDUCATIONAL LEVEL	2011			2012			TOTAL	Percentage
	SEX			SEX				
	M	F	T	M	F	T		
Illiterate	*21*	*1*	*22*	*29*	*0*	*29*	*51*	*2.1*
Primary	*20*	*0*	*20*	*14*	*0*	*14*	*34*	*1.4*
Junior (6-8)	*34*	*0*	*34*	*20*	*2*	*22*	*56*	*2.3*
Secondary (9-12)	*90*	*12*	*102*	*88*	*3*	*91*	*193*	*7.9*
Technical school Incomplete	*0*	*0*	*0*	*19*	*1*	*20*	*20*	*0.8*
Technical school Complete	*146*	*3*	*149*	*73*	*4*	*77*	*226*	*9.2*
University Incomplete	*9*	*0*	*9*	*4*	*0*	*4*	*13*	*0.5*
University Diploma	*46*	*23*	*69*	*59*	*13*	*72*	*141*	*5.7*
University 1st Degree	*283*	*82*	*365*	*198*	*94*	*292*	*657*	*26.7*
University Masters	*474*	*128*	*602*	*270*	*33*	*303*	*905*	*36.8*
University Doctorate	*0*	*0*	*0*	*136*	*26*	*162*	*162*	*6.6*
TOTAL	***1123***	***249***	***1372***	***910***	***176***	***1086***	***2458***	***100.0***

Source: computed from the primary data (MLHW)

As we can observe from the above table, the level of qualification of 29.9% of the expatriates permitted to work in the country is a university diploma or lowers than that (i.e. university diploma up to illiterate). 26.7% of these expatriates are first degree graduates and 36.8% of them have master's level qualification. Similarly 6.6% of these groups have doctorate degrees. May be 29.9% of "under qualified" expatriates (diploma up to illiterate) are experienced individuals working in mining and other construction related fields i.e. outside the education sector.

All in all, most of the expatriates permitted to work in the country (70.1%) are qualified with university first degree and above. Perhaps most of these groups are working as secondary school teachers and instructors at different colleges. However, in 2012 their numbers went down from 365 to 299 at, first degree level and from 602 to 303 at, master's level. This is because as the exit strategy of the MoE is to replace expatriates by citizens, the concerned institutes are working to do so. At the college level, for example, individual colleges are recruiting some of the outstanding graduates and providing them with further education either in the country or abroad to serve the college as instructors. Similarly, graduates from the college of education of Eritrean Institute of Technology (EIT) are assigned in secondary schools throughout the country.

Table 5.2: Expatriates Issued with Work Permit by Continent of Origin, Year & Sex (2011- 2012)

CONTINENT	2011			2012			TOTAL	Percentile
	Sex			Sex				
	M	F	T	M	F	T		
AFRICA	*84*	*12*	*96*	*136*	*7*	*143*	*239*	*9.7*
ASIA	*923*	*155*	*1078*	*667*	*101*	*768*	*1846*	*75.1*
AUSTRALIA	*7*	*0*	*7*	*7*	*2*	*9*	*16*	*0.6*
EUROPE	*73*	*59*	*132*	*69*	*56*	*125*	*257*	*10.5*
NORTH AMERICA	*8*	*3*	*11*	*20*	*3*	*23*	*34*	*1.4*
SOUTH AMERICA	*29*	*19*	*48*	*11*	*7*	*18*	*66*	*2.7*
TOTAL	*1123*	*248*	*1371*	*910*	*176*	*1086*	*2457*	*100.0*

Source: computed from the primary data (MLHW)

The above table shows that 9.7% of the expatriates permitted to work in the country came from Africa, 75.1% from Asia, 0.6% from Australia, 10.5% from Europe, 1.4 from North America and 2.7% from South America. Of these, largest group of expatriates, namely those from Asia (mostly from India and Pakistan) are working in the education sector while the peoples from the other continents are highly involved in mining and other activities.

5.1.3 Employability of Education system leavers and Graduates of TVET

The employability of school leavers and/TVET graduates can be analyzed from three perspectives such as: access to work, the optimal use of employment potential and remuneration.

Access to work:

Unlike in other countries of Africa, in Eritrea, the employment rate has been very high among TVET graduates. This is because TVET schools account for only about five percent of the students at the secondary level of education. The cumulative total output of qualified graduates from the formal training system since liberation (1991) only amounts to 18,891. Moreover, the public and private non-formal skills development sector provides limited training opportunities with limited resources, resulting in under-developed skills acquisition. This indicates that Eritrea has shortage of technical and vocational skilled manpower.

Optimal use of employment potential:

Even though in 2008 the department of TVET tried to organize a workshop in support of curriculum related labor market information system, at present the TVET system in Eritrea lacks demand responsiveness owing to three factors.

First, the Ministry of Labor and Human Welfare is in charge of this field, but it has not been able so far to track developments in the labor market. In the absence of such capacity, it is difficult to respond adequately to changing labor market condition. Second employers are not persistently involved in advising on the content and direction of TVET system, except in 2009 where the DACUM (‘Developing A

CurriculUM') workshop was conducted and some improvements, such as the introduction of a competency based and modular curriculum were made. As a result, the TVET system tends to be supply led rather than demand driven. TVET schools offer standard traditional trades with modified courses content, but without much change in the occupational composition of outputs.

The table below shows a summary of TVET projects and annual targets. Four key projects designed to achieve the TVET objectives and apply strategies were identified: increase enrollment in TVET, construct and equip TVET centers, improve the quality of TVET and management of TVET.

Table 5.3: Project Analysis of TVET 2013 to 2020

Project type	**Indicators**		**Annual Targets**							
			2013	2014	2015	2016	2017	2018	2019	2020
Improve access to quality TVET	No. of TVET students		3564	3649	3463	2367	3558	5400	9400	17160
	% of TVET graduates employed in market.		100%	100%	100%	100%	100%	99%	99%	99%
Project One	No. of students	F	1514	1827	1736	1158	1791	2538	4606	8580
Increase enrolment in TVET		M	2050	1822	1727	1209	1767	2862	4794	8580
		T	3564	3649	3463	2367	3558	5400	9400	17160
	No. of TVET Teachers	F	64	86	86	92	80	160	278	507
		M	344	336	293	326	315	440	766	1399
		T	408	422	379	418	395	600	1044	1906
	No. of TVET employees	F	91	90	75	88	88	108	128	157
		M	132	116	97	96	96	117	138	170
		T	223	206	172	184	184	225	266	327
	No. of TVET Schools		8	8	8	8	9	11	13	16
Project Two	No. of TVET centers with usable buildings		8	8	8	8	9	11	13	16
Construct and equipment of TVET centers	No. of TVET centers constructed per year		-	1	-	-	3	2	2	3
	No. of TVET centers equipped.		8	-	-	-	-	2	2	3
Project Three	No. of fields introduced with revised curriculum.		-	1	1	-	-	2	-	-
Improve quality of TVET	% of students who have access to full set of text books.		-	-	-	-	-	-	-	-
	No. of textbooks printed and distributed		-	-	-	-	-	160000	-	-
	No. of textbook authors who participated.		-	-	-	-	-	80	-	-
	No. of TVET teachers trained.		33	14	-	17	-	90	-	48

Project Four	No. of TVET centers visited regularly per year.		16	16	16	16	18	22	26	32
Improve the quality of TVET management	No. of TVET employees trained per Year.		3	3	-	-	-	5	6	9

Source: computed from the primary data

Remuneration

The government has increased the monthly income of all government employees in July 2015. And in this new salary scale, income increased with the level of education. Those who graduated in TVET schools (12^{+1}) have increased their gross income by 119.8%, those who graduated at the diploma level (12^{+2}) by 108.3%, and those who graduated at the first degree level (12^{+4}) by 146.5% per month.

5.1.4 Economic Return of TVET

According to UNESCO and ILO, TVET refers to 'aspects of the educational process involving in addition to general education, the study of technologies and relate science and the acquisition of practical skills, attitudes, understanding and knowledge relating to occupants in various sectors of economic and social life' (UNESCO and ILO, 2001). In addition to this TVET in Eritrea is dispensed in public and private educational establishments, or other forms of formal or informal instruction aimed at granting all segments of the society access to lifelong learning.

Lack of adequate data makes it difficult to follow ESA methodological guidelines to give emphasis on economic return of TVET. However, efforts have been made to present a descriptive analysis as follows: Since the state pays for education in Eritrea, it may on the surface appear that cost is not of concern to individual students or families. It is important to note, however, individual students of families also bear cost even as the government is the principal bankroller of education. These costs include out of pocket costs such as those for books, supplies, nominal fees, transport, etc. income foregone while attending school, the opportunities foregone for establishing families and helping old parents or other family members. These costs can come to significant amounts and can have far reaching implications on the value students and their families put on education. This is especially true when students are not convinced that the economy is creating for them highly paying jobs, which are commensurate with their training and which they can fill after their graduation. In addition to this, students who graduated from TVET centers are participating in the national development programs and contributing in the construction of bridges, dams and in agricultural activities in the nation.

5.1.5 The training – employment balance (Macro – approach)

The most commonly used tool for macro evaluation of training employment balance sheet required information on the number and distribution of jobs for two given time or periods and the average schooling profile over the period, but there is no data available. Thus, a further survey should be done.

5.1.6 Anticipation of future labor market needs.

In order to predict the possible demand in the future labor market; we compared the data of 2013 and 2015 job seekers. The results are displayed in the table below:

Table 5.4: Employment Data of 2013 and 2015 Job Seekers

No of Employed population 2013 and 2015 (by occupation and sex)		YEAR						% increment/ Decrement		
S.No	OCCUPATION	2013			2015					
		M	F	T	M	F	T	M	F	T
1	Legislators, Senior Officials and Managers	10	5	15	6	1	7	-40	-8	-53.3
2	Professionals	8	4	12	13	7	20	62.5	7.5	66.7
3	Technicians and Associate Professionals	38	13	51	56	38	94	47.4	19.2	84.3
4	Clerks	56	84	140	24	87	111	-57.1	0.4	-20.7
5	Service Workers and Shop and Market Sales Workers	15	37	52	23	92	115	53.3	14.9	121.2
6	Skilled Agricultural and Fishery Workers	0	0	0	18	0	18	100	0	100.0
7	Crafts and Related Trades Workers	108	115	223	269	38	307	149.1	-6.7	37.7
8	Plant and Machine Operators and Assemblers	11	6	17	21	15	36	90.9	15.0	111.8
9	Primary Occupations	351	273	624	396	178	574	12.8	-3.5	-8.0

Source: computed from the primary data

Even if it is a little bit difficult to get the truthful logic of the demand in the labor market, it is possible to compare the changes observed in different occupations the employed engaged. This may help to predict demands the future labor market. As observed from the above table, there is an increase in the percentage of employed technicians and associate professionals, service workers and shop and market sales workers, skilled agricultural and fishery workers, craft and related trade workers, plant and machine operators and assemblers some kinds of professionals'. On the contrary, the demand for legislators, senior officials and managers, clerk and primary occupations workers decreased significantly.

Here, one could mention some of the possible reasons why the demand in some sectors increased in the country. The introduction of integrated farm, which involves combining small individual farms and farming the land with tractors and applying modern farming inputs, started in 1998. Fishery, on the other hand, is a potential growth area for the Eritrean economy. Accordingly the demand for skilled agricultural and fishery workers increased from 0% in 2003 to 100% in 2015. However, no female was engaged in this sector within these two years.

Eritrea's mineral resources, on the other hand, are believed to be of significant potential value. Currently the country is highly involved in mining activities. For that reason, as we can observe from the above data, the participation of citizens in plant and machine operation and assembling activities increased by 111.8%.

The data also shows that the engagement of both sexes in legislators, senior officials and managers reduced by 53.3% while both sexes' participation in service works and shop and market sales works increases by 121.2%.

The reduction of Primary Occupations by 8% while professionals' involvement increases by 66.7%, may call for further education in other fields. Similarly as compared with the involvement of males, females' participation in skilled agricultural and fishery works, craft and related trade works decreases. In view of that, citizens (particularly females) may need higher levels of education particularly in skilled agricultural and fishery works, craft and related trade works to contribute effectively to the economy. Moreover, the ministry based on the above table estimation of the demand needs to be extrapolated and accordingly should establish new training program for unreached areas of training.

SECTION 5.2: THE SOCIAL IMPACT OF EDUCATION

Education is a worthy investment for a government, because it entails with immense social and economic benefits. Many researches show that individuals with education are more likely to find gainful employment, have stable families, and be active and productive citizens. They are also less likely to commit serious crimes, to place high demands on the public health care system, and to be enrolled in welfare assistance programs.

MoE, has been working diligently to integrate the health information and messages of HIV/AIDS, Malaria, TB, sexual and reproductive health and other important health issues in the curricular and co-curricular activities so as to produce healthy, skillful, caring and responsible citizen to the family and the community. Since 2002, the MoE has been working as partner/stakeholder in the fight against HIV/AIDS. Parallel to this in 2015, the MoE has been working in the elimination program of malaria. It has done a lot to achieve a remarkable success in raising awareness, equipping with necessary skills and tuning attitude in a positive way and bringing behavioral change of students, teachers, PTA and other school community members through curricular and co-curricular activities in six zobas, Warsay-Yikealo, CeVoT, TVET schools and Asmara community college of education.

Some of the remarkable achievements are integration of HIV/AIDS, malaria and TB messages in the curriculum. Particularly, in development and usage of life skills based health education supplementary materials, for junior, senior and TVET schools in peer education programs. In addition, co-curricular contests such as general knowledge, debating, presentation, sport competitions, posting necessary health messages on student exercise books and etc. The general knowledge contest was broadcasted in "ER-TV" and "Dimtsi Hafash" twice in a week in the prime time. In line with these, the MoE has carried out different HIV/AIDS, malaria and TB related training and awareness (sensitization) programs.

The following sections describe the social benefits produced by education for health, crime, living conditions, and civic and political participation. Many research findings show that quality education results in positive outcomes in these areas.

5.2.1 The Choice of Social Development Variables

Education in addition to its individual economic benefits has positive non-economic externalities, as a factor of change in the individuals' social behavior. These effects can include aspects as diverse as health, reproductive behavior, high-risk behavior, or civic attitudes. The different effects can be evaluated at the household level according to key dimensions like: (i) the promotion of health; (ii) crime reduction; (iii) civic and political participation; and (iv) living conditions.

Estimation of the Net Effects of Education

5.2.1.1 The Social Impact of Education on Health

People with higher levels of education tend to live longer, healthier lives and depend less on government-funded health programs than people with less education. People with less education are more likely to enroll in public health providing facilities like hospitals and clinics.

Better educated people are also more likely to seek preventative care. Preventative care reduces expenditures by heading off costly illnesses and by lowering emergency room use.

Awareness of HIV/AIDS

Table 5.5: Knowledge of AIDS

Percentage of women and men age 15-49(59) who have heard of AIDS, by background characteristics, Eritrea 2010						
	Women			**Men**		
Background characteristic	**Has heard of AIDS**	**Believes there is a way to avoid HIV/AIDS**	**Number of respondents**	**Has heard of AIDS**	**Believes there is a way to avoid HIV/AIDS**	**Number of respondents**
Education						
No Education	*89.2*	*65.8*	*3,882*	*89.8*	*71.6*	*599*
Primary	*97.7*	*89.6*	*2,162*	*97.4*	*89.2*	*659*
Middle	*99.4*	*94.5*	*1,946*	*99.5*	*96.4*	*1,188*
Secondary Or Above	*99.9*	*97.2*	*1,967*	*99.9*	*98.7*	*1,473*

Source: EPHS (2010)

According to EPHS (2010), education is also strongly related to the understanding of HIV/AIDS prevention. For example, 97% of women and 99% of men who have attended some secondary school or higher education report that HIV/AIDS can be avoided compared with 66% of women and 72% of men who have not attended school.

Knowledge of prevention of mother-to-child transmission of HIV (MTCT) is lowest among respondents with no education (17% of women and 8% of men) and highest among those with more than secondary education (59% of women and 47% of men).

Recent HIV testing coverage among youth increases with increasing level of education: uneducated women (18%), primary (33%), middle (49%), and secondary or more education (58%).

In HIV counseling and testing during pregnancy, women were most likely to have been counseled and tested, if they had more than a secondary education (76%), lived in Zoba Maekel (74%). Knowledge of the symptoms of STIs is especially low among women with no education. As concerns age at first intercourse, young women with no schooling are considerably more likely than those who attained secondary level education to have had sex by age 15 (21% compared with less than 1%).

Similar survey also showed that with increasing educational status of mothers, circumcision of daughters is more likely to decrease.

According to EPHS (2010), the belief that circumcision prevents premarital sex shows a similar negative pattern in relation to greater education among women. Women with no education (17%) believe that circumcision prevents premarital sex more than other women. The survey illustrated that attitudes toward the continuation of female circumcision in women with no education is 21 percent as compared to 3 percent for women with secondary or higher educational. Men with no or very low education (20%) remain most likely to agree with the continuation of circumcision as compared to men with secondary or higher education (5%).

Knowledge and attitudes concerning Tuberculosis (TB)

Findings from EPHS (2010) showed that among both women and men who have heard about TB, the percentages of those who know that TB is spread through the air by coughing and that it can be cured increases steadily as the level of education increases. The success achieved also shows how hard the MoH has been working to raise awareness among people through its health promotion policy.

Use and sharing of sanitation facilities (Stool Disposal)

Table 5.6: Disposal of children's stools

Percent distribution of youngest children under age five living with the mother by the manner of disposal of the child's last fecal matter, and percentage of children whose stools are disposed of safely, according to background characteristics, Eritrea 2010										
	Manner of disposal of children's stool									
Background characteristic	**Child used toilet or latrine**	**Put/rinsed into toilet or latrine**	**Buried**	**Put/rinsed into drain or ditch**	**Thrown into garbage**	**Rinsed away**	**other**	**Missing**	**Percentage of children whose stools are disposed of safely**	**Number of mothers**
Education										
No Education	*1.2*	*5.4*	*9.1*	*0.4*	*69.1*	*12.2*	*2.2*	*0.4*	*15.7*	*2,118*
Primary	*1.3*	*15.4*	*6.3*	*0.7*	*65.0*	*8.9*	*1.8*	*0.7*	*23.0*	*1,088*
Middle	*2.1*	*30.1*	*4.2*	*2.6*	*52.8*	*5.9*	*1.8*	*0.4*	*36.4*	*757*
Secondary Or Above	*4.5*	*52.0*	*2.7*	*4.3*	*30.5*	*4.3*	*1.7*	*0.0*	*59.1*	*628*

Source: EPHS (2010)

As shown in table 5.6 of EPHS (2010), safe disposal of children's stools increases with the mother's level of education.

Nutritional Status of Children

Children born to uneducated mothers are more underweight (49%) than children of mothers with secondary or higher education (17%). Infant and Young Child Feeding (IYCF) practices improve with educational level of the mother (19% with no education and 56% with secondary or higher education).

As indicated by EPHS (2010), Micronutrient Intake among Children increases with the increase in the level of education of their mothers. For example, Mother's level of education tend to increase with an increase in the consumption of foods rich in vitamin A by young children age 6-23 months (no education 39%, secondary or above education 85%).

Children aged 6-8 months belonging to mothers with no education are least likely to receive vitamins. Children whose mothers have some secondary education are more likely to consume iron-rich foods (58%) than those whose mothers have no education (23%).

Fertility

Table 5.7: Fertility by background characteristics

Total fertility rate for the three years preceding the survey, percentage of women age 15-49 currently pregnant, and mean number of children ever born to women age 40-49 years, by background characteristics, Eritrea 2010			
Background characteristic	**Total fertility rate**	**Mean number of children ever born to women age 40-49**	**Percentage women age 15-49 currently pregnant**
Education			
No education	*5.5*	*6.0*	*7.4*
Primary	*5.2*	*5.2*	*9.3*
Middle	*4.4*	*4.1*	*7.4*
Secondary or above	*3.1*	*2.9*	*5.6*

Source: EPHS (2010)

The above table shows that the percentage level of fertility decreases sharply from 5.5 children among women with no education to 3.1 children among women who have at least some secondary education.

Teenage Pregnancy and Motherhood

According to EPHS (2010), the percentage of women aged 15-19 who are pregnant or who have already given birth decreases from 18% among women with no education to 4 percent among women with at least some secondary education. In addition, the finding shows that 77% of women with secondary or higher education and 15% of women's with no education delivered in health facilities.

Infant and Child Mortality

According to EPHS (2010), the infant and under-five mortality levels is significantly higher among children born to mothers who have never attended school (24%) than children born to mothers with secondary or a higher level of education (34%). Impact of formal education on health is positive. In addition to this, MoH is playing a great role in raising health awareness of the people through various health promotion activities like the daily 20 minutes lecture given in health facilities. MoE and MoH are trying to give health related lectures in schools through peer education. Beyond these, MoH is actively working on raising awareness of the people through various mass-media outlets like radio, TV, newspapers in corporation with MoI. As a result, as stated in HSSDP II (2017) in the current estimates part, TB (78/100,000), HIV(0.93), Malaria (11.4/1,000), maternal mortality (485/100,000), infant mortality (34/1,000), under 5 mortality (63/1,000), adult mortality (264) achievements were recorded in the whole country (HSSDP II, 2017).

MoH has established different strategic plans on various diseases like HIV, TB, and Malaria extending up to 2021. This shows Eritrea is doing a lot in its health sector through educating societies. Health Science

Technology (HST) is part of the Eritrean school curriculum and is given as a subject to students in 11th grade in all Eritrean schools. This subject is playing a great role in raising awareness of the students on various health related issues.

5.2.1.2 The Social Impact of Education on Crime Reduction

Education has an effect on crime prevention and reduction. The main reasons that well-educated people are less likely to engage in criminal activity are related to their employment status. Crime is more attractive to individuals who are unemployed or under-employed.

Table: 5.8: Level of education and Number of crimes

Level of Education	**Number of Crimes Committed per year**						**Total**
	2012	**2013**	**2014**	**2015**	**2016**	**¾th of 2017 (only 9 months report)**	
No Education	*1,066*	*857*	*876*	*845*	*845*	*673*	***5,162***
Secondary or above	*719*	*349*	*420*	*308*	*372*	*283*	***2,451***

Source: Primary data from Eritrean Police Headquarter

As shown in the above table, number of crimes committed in Eritrea, in the last five years and nine months, was by people with no education was, 5,162 and 2,451 with people by secondary or higher education. Crimes committed by uneducated Eritreans were more than double compared to that of those committed by people with secondary higher education. As shown in the table, generally, crime has been decreased from year to year due to various reasons. One of these could be education. From this it can be concluded that education is playing a positive role in reducing crimes.

5.2.1.3 The Social Impact of Education on Civic and Political Participation

More generally, education appears to increase political interest and participation. In Eritrea, right now, women are actively participating in civic and political issues though their participation is less as compared to that of men. According to ***Proclamation No. 86/1996 for the Establishment of Local Government Article 10(2),*** 30% of the regional and national assembly seats are reserved for women. Despite the Constitutional and legislative provisions that clearly provide for the participation of women in decision-making as well as running for elections, in practice there is still a huge gender gap at all levels, as the following table shows.

Table 5.9: Gender breakdown of higher government posts

Government Post	Year 2009			Year 2012		
	Total	**Females**	**Females % of total**	**Males**	**Females**	**Female % of total**
National Assemly	*150*	*33*	*22*	*150*	*33*	*22*
Ministers	*17*	*4*	*23.53*	*17*	*4*	*23.53*
Regional Governors	*6*	*1*	*16.67*	*6*	*1*	*16.7*
Director Generals	*88*	*6*	*5.67*	*54*	*4*	*6.9*
Directors	*280*	*58*	*20.7*	*245*	*26*	*10.6*
Unit Heads	*1,397*	*950*	*31.9*	*424*	*150*	*35.4*
Ambassadors	*30*	*0*	*0*	*29*	*0*	*0*
Council General	*14*	*0*	*0*	*10*	*0*	*0*
First Secretary	*33*	*3*	*10*	*28*	*2*	*6.7*
High Court Judges	*35*	*4*	*11.4*	*18*	*4*	*22.2*
Regional Court Judges	*114*	*12*	*10.5*	*71*	*9*	*12.6*
Community Court Judges	*0*	*0*	*0*	*947*	*300*	*37.7*
Total	***2,164***	***1,071***	***12.7***	***1,999***	***533***	***26.7***

Source: CEDAW 5 Eritrea Country Report, July 2014.

The above table shows the representation of women in higher governmental posts. The presence of women parliamentarians in the National Assembly remained unchanged, while the number of women holding ministerial positions rose to 4 from 2 in 1998. The other noteworthy developments are the appointment of a woman regional governor, 6 director generals and 58 directors, which did not exist both in 1998 and 2002. These being the positive developments, the number of women high court judges remained constant at 4 while the number of regional court judges decreased from 12 in 2009 to 9 in 2012. The community courts saw a quick and sizeable recruitment of women judges, as many as 300 by 2012. Thus, women's civic and political participation is increasing in every part of the country. The national literacy rate was estimated to be about 20% in 1993. In 2010 about 77% of women aged 15-19 years were literate (NSO, 2010). And it is believed that, right now, the level of literacy is more than 80%. Starting from 1993 till now, more than one million Eritreans (out of which 80% were women) have become literate and some of them have reached post-literacy levels. All women who are actively involved themselves in politics are educated, or at least literate. From this it can easily be concluded that education improves the civic and political participation of citizens, especially that of women.

Civics education is given, as a subject, in primary and middle schools. This helps children to develop awareness and to have know-how in civic and political affairs starting from their early ages.

Men's attitude toward wives' participation in decision making

Any decision making is a civic or a political step in itself. In Eritrea, right now, women are involved in their day-to-day activities in various issues that need decision making.

Table 5.10 Women's participation in decision making by background characteristics

Percentage of currently married women age 15-49 who usually make specific decisions either by themselves or jointly with their husbands, by background characterstics, Eritrea 2010									
Background characteristics	**Own health care**	**Making major household purchases**	**Making purchases for daily household needs**	**Visit to her family or relatives**	**Deciding what food to cook each day**	**Assisting her family**	**Percentage who participate in all 6 decisions**	**Percentage who participate in none of 6 decisions**	**Number of women**
Education									
No education	*93.1*	*64.9*	*64.4*	*74.9*	*89.1*	*73.3*	*53.3*	*3.1*	*3,017*
Primary	*94.5*	*74.9*	*77.3*	*82.4*	*92.3*	*79.4*	*63.8*	*1.4*	*1,432*
Middle	*96.8*	*74.8*	*80.0*	*83.3*	*91.0*	*80.2*	*65.4*	*0.9*	*883*
Secondary or above	*96.6*	*74.8*	*83.8*	*85.8*	*90.3*	*81.2*	*68.6*	*1.0*	*850*

According to the above table EPHS (2010), the percentage of men, in favor of wives participation in all decisions, increases with an increasing level of education from 27% among those with no education to 70% among those with secondary or higher education.

5.2.1.4 The Social Impact of Education on Living Conditions

Education and poverty are inversely related. The higher the level of education of the population, the lesser will be the number of poor persons because education imparts knowledge and skills which are supportive for higher wages. Education indirectly helps in the fulfillment of basic needs like water and sanitation, to utilization of health facilities, shelter and it also affects women's behavior in fertility decisions and in family planning.

Living condition is one of the socio-impacts of education. One of the factors that determine the level of living condition of a society is employment. If there is an employment, there is an income which improves the living condition of the society. In Eritrea, people are paid based on their educational backgrounds. The more educated gets the more salary. As the amount of salary increases, the living condition improves. Moreover, it is good to know that there is no difference, in Eritrea, in payment plus so far job is secure and for granted.

Life-skills education is included in Eritrean Curriculum, as a subject, in all Eritrean primary and secondary education. As a subject, Life Skill helps students to have an improved living condition.

Table 5.11: Employment status: Women

Percentage distribution of women age 15-49 by employment status, according to background characteristics, Eritrea 2010				
Background characteristics	**Employed in the 12 months preceding the survey**		**Not employed in the 12 months preceding the survey**	**Number of women**
	Currently employed	**Not currently employed**		
Education				
No education	*10.8*	*4.7*	*84.6*	*3,882*
Primary	*18.1*	*6.8*	*75.0*	*2,162*
Middle	*17.1*	*4.5*	*78.4*	*1,946*
Secondary or above	*33.1*	*3.3*	*63.5*	*2,246*

Source: EPHS (2010)

Table 5.12 Employment status: Men

Percent distribution of men age 15-49 (59) by employment status, according to background characteristics, Eritrea 2010				
	Employed in the 12 months preceding the survey			
Background characteristics	**Currently employed**	**Not currently employed**	**Not employed in the 12 months preceding the survey**	**Number of women**
Education				
No education	*79.1*	*9.3*	*11.7*	*599*
Primary	*69.9*	*9.2*	*20.9*	*659*
Middle	*48.0*	*9.6*	*42.4*	*1,188*
Secondary or above	*55.9*	*8.9*	*35.2*	*1,853*

Source: EPHS (2010)

According to tables 5.11 and 5.12, education generally has a positive correlation with the level of current employment; the proportion of women who are currently employed ranges from 11% among uneducated women to 33% among women with at least some secondary education.

Family Planning by itself improves the living conditions of a household. All other things being equal, family with fewer children has relatively better living conditions. One way of minimizing the number of children is using contraceptives. According to EPHS (2010), the higher the educational level, the more likely women will use means of contraception. 23% of women with secondary or higher education use contraception, as compared to 3% of women with no education.

The acceptability of family planning messages on the mass media also varies with the educational level of people. According to table 5.17 of EPHS (2010), the acceptance to family planning messages on the mass media gets higher as the level of education or wealth quintile increases. For instance, only 6 in 10 women with no education accept family planning messages on the radio, compared to 9 in 10 women with at least secondary education.

Women's control over their own earnings and over those of their husbands' is showing progress. As shown in EPHS (2010), over 55% of wives have full control over their cash earnings and nearly 40% decide jointly with their husbands. Husbands have very little say (4%) their wives on how earnings are used.

Attitudes toward wife beating: women

Table 5.13: Attitude towards wife beating: Women

Percentage of all women 15-49 who agree that a husband is justified in hitting or beating his wife for specific reasons, by background characteristics Eritrea 2010							
	Husband is justified in hitting or beating his wife if she:						
Background characteristics	**Burns the food**	**Argues with him**	**Goes out without telling him**	**Neglects the children**	**Refuses to have sexual intercourse with him**	**Percentage who agree with at least one specified reason**	**Number**
Education							
No education	*21.1*	*39.5*	*44.7*	*40.9*	*28.7*	*58.0*	*3,882*
primary	*21.7*	*36.0*	*40.1*	*40.4*	*29.9*	*56.6*	*2,162*
middle	*15.8*	*29.2*	*31.4*	*35.5*	*21.3*	*50.9*	*1,946*
Secondary and above	*9.1*	*16.3*	*17.1*	*23.7*	*12.3*	*35.7*	*2,246*

Source: EPHS (2010)

Women's attitudes toward wife beating are clearly seen in table 5.13 of EPHS (2010). The proportion of women who accept wife beating for at least one of the specified reasons drops significantly in those with secondary or higher education.

People with higher levels of educational attainment have a lower divorce rate and are more likely to remain in stable, healthy relationships with their spouses. Lack of harmony between husband and wife has a negative impact on living condition. If there is a continuous fighting in a home, parents stop to care about their offspring, pointing their fingers at each other.

In households where the mother is educated, children and especially girls are more likely to attend school.

Conclusion

Education plays a vitally important role in getting access to information and skills needed by individuals to participate in higher education, to sustain productive employment, and to make effective choices about crime, health care, and civic participation.

CHAPTER 6

EQUITY

INTRODUCTION:

Equity refers to fairness in distribution of resources, services and subsequent outcomes (results). It embodies two principal tenets, the distributive dimension which affirms 'treating equals equally' and a compensatory facet of 'not treating unequals equally' (ESA, 2014).

Specifically, this report presents a comparative analysis of education access and achievements (outcomes) patterns against different socio-demographically disadvantaging factors, such as gender, region (zobas), location of residence, as well as other life conditions and styles - disability, orphanage, nomadism or pastoral life style;

For each of the aforementioned social groups, quantitative and/or qualitative examinations of their characteristics, current GoSE approach and commitments, and factors militating against national intents and efforts are discussed.

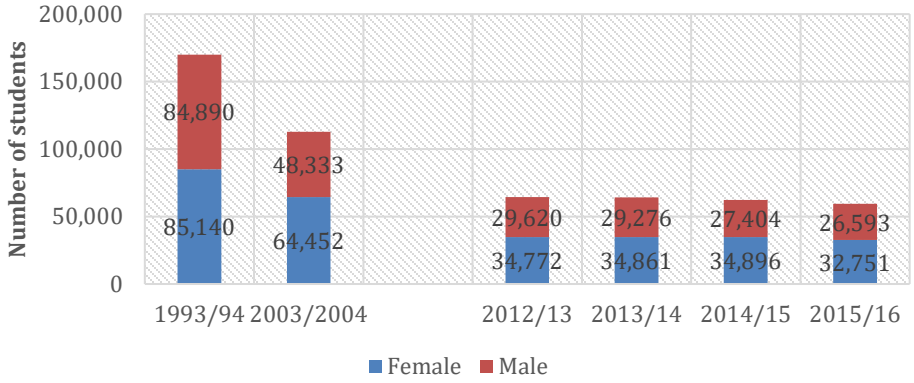
Section 6.1: Equity in Enrolment and Learning Achievements by Gender

6.1.1 Gender Education Parity

In the "Education for All' framework, and subsequent SDG 4: Education 2030 proposals, achieving girls' equality in education access and outcomes (or achievements), at least in basic education, frame one of the MoE's main objectives. The GoSE Education Policy document attests such commitment: "Affirmative action shall be taken to address the issue of the education of girls and other disadvantaged groups." (MoE, 2011: #83.3).

Generally, education reports show that both boys and girls benefited from improved access to school. This can be inferred from the declining out-of-school proportion of both boys and girls during the last two decades.

Figure 6.1: Number of out-of-school children by sex across years



In the graph, year 1993/94 and 2003/04 are presented to show progress over decades (source EMIS annual reports).

In Figure 6.1, year 1993/94 and 2003/04 are presented to show progress over a decade. However, the relative impacts of these access achievements are, generally, in favor of boys than girl students. *Gender parity is almost attained in pre-primary education, but this index balance shows a sharp decline in primary. The gender disparity index of middle and secondary schooling is lower than that of the pre-primary*.

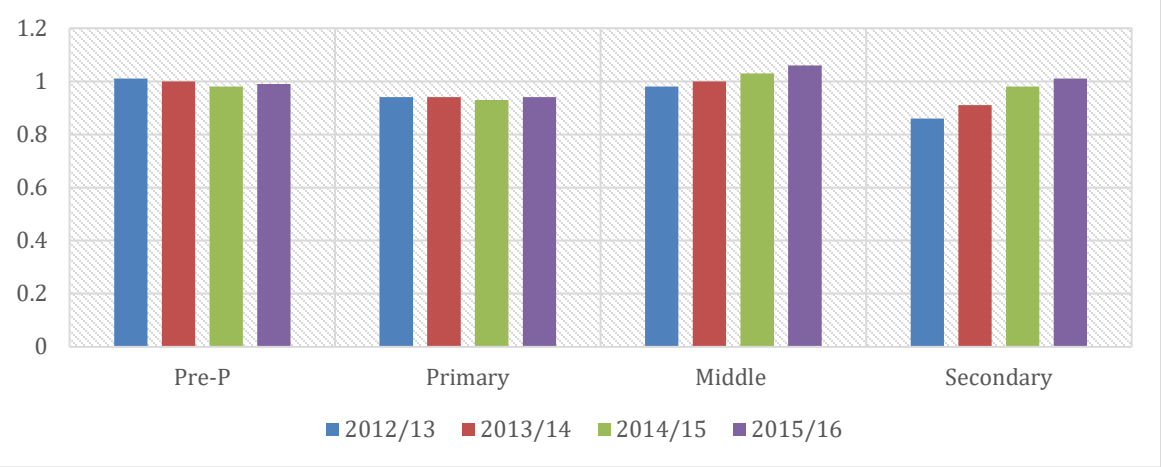
Table 6.1: Gross enrollment ratios and parity indexes by gender and area of residence, 2015/16

Gender (%)	Pre-Primary	Primary	Middle	Secondary
Male	*19.4%*	*112.6%*	*77.9%*	*28.8%*
Female	*19.2%*	*100.5%*	*72.6%*	*26.4%*
Gender Parity Index	*0.99*	*0.89*	*0.93*	*0.92*

Source: Computed from EMIS.

Ironically, the primary GER parity index seems even lower than those for the middle and secondary schooling levels. In the past years, an uneven distribution ratio has been observed in the gender parity index in all levels of schooling.

Figure 6.2: NER GPI for pre-primary, primary, middle and secondary levels -2012/13 to 2015/16



Source: MoE EMIS

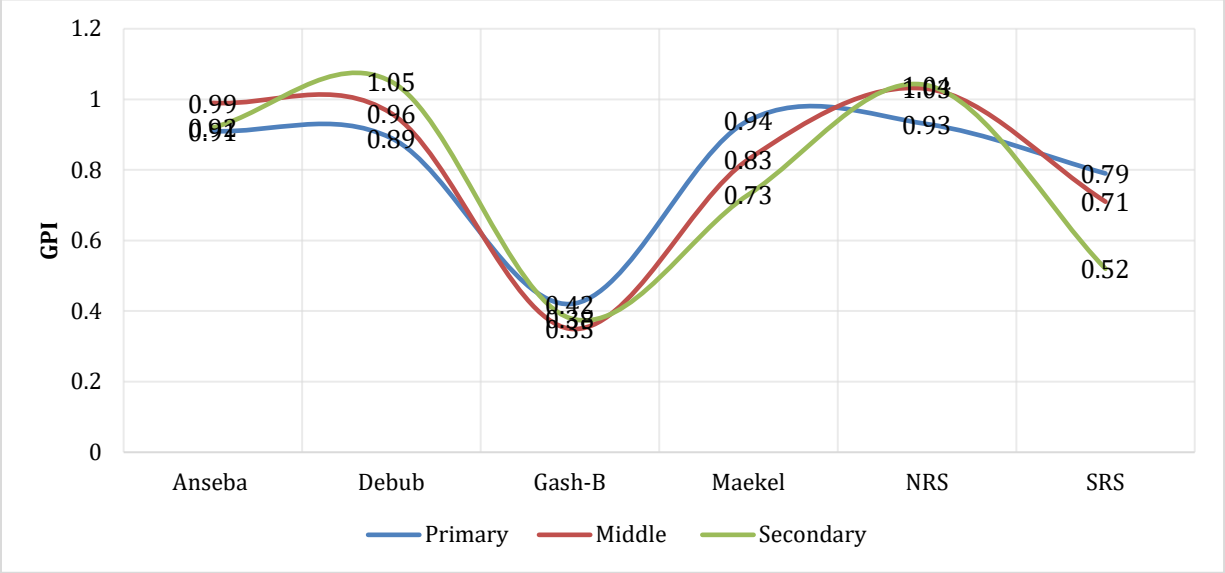
A closer look at gender disparity across zoba and level shows various trends. For instance, at pre-primary all zobas, except Maekel and Anseba significantly deviate from national average. At primary and middle levels, Gash Barka and DKB exhibit significant gender parity challenges. Moreover, at secondary and to some extent middle levels, a reversal in parity, in favor of girls is observed in Debub and SKB. These differential trends warrant locality or zoba based investigation and remediation (MoE, 2016a; MoE-EMIS, 2015/16).

Table 6.2:- Gender Parity Index by zoba, 2015/16.

Zoba	GPI NER				GPI GER			
	Pre-P	Primary	Middle	Secondary	Pre-P	Primary	Middle	Secondary
Anseba	*0.99*	*0.96*	*1.13*	*1.01*	*0.98*	*0.91*	*0.99*	*0.92*
Debub	*0.96*	*1*	*1.07*	*1.17*	*0.97*	*0.89*	*0.96*	*1.05*
Gash-B	*0,91*	*0.47*	*0.53*	*0.44*	*0.91*	*0.42*	*0.35*	*0.38*
Maekel	*1.11*	*0.97*	*1*	*0.82*	*1.1*	*0.94*	*0.83*	*0.73*
SKB	*0.95*	*0.97*	*1.12*	*1.12*	*0.95*	*0.93*	*1.03*	*1.04*
DKB	*0.92*	*0.82*	*0.78*	*0.56*	*0.91*	*0.79*	*0.71*	*0.52*
National	*0.99*	*0.94*	*1.06*	*1.01*	*0.99*	*0.89*	*0.93*	*0.92*

Source: Computed from MoE EMIS 2015/16

Figure 6.3: GER gender parity index by zoba and level of education (2015/16)



Source: Computed from MoE EMIS 2015/16

Equality in Learning Achievement (Outcomes): Often, gender disparity is wider and more varied in secondary education (UNESCO, 2015). In Eritrea, GPI for secondary amounts to 0.92. However, a closer look at the learning achievement and progression of students in primary and middle school levels in Eritrea exhibits a converse truth. *Nationally, the completion rate for the primary level shows parity; however, the completion rate for the middle school level is significantly skewed in favor of girls than boys*: 46.8% for boys and 57.8% for girls. This reinforces the recent global education monitoring report findings: "once in school, girls progress alongside boys. (UNESCO, 2017:159)"

Table 6.3: Gender Parity Index by survival, transition and completion rates

Total	Survival rate for Grade 5	Transition rate from primary to middle	Primary school completion rate	Middle school Completion Rate
	74.9	*70.6*	*81.1*	*52*
Male	*71.1*	*65.9*	*81.9*	*46.8*
Female	*79.5*	*76.4*	*80.2*	*57.8*
GPI	*1.12*	*1.16*	*0.98*	*1.24*

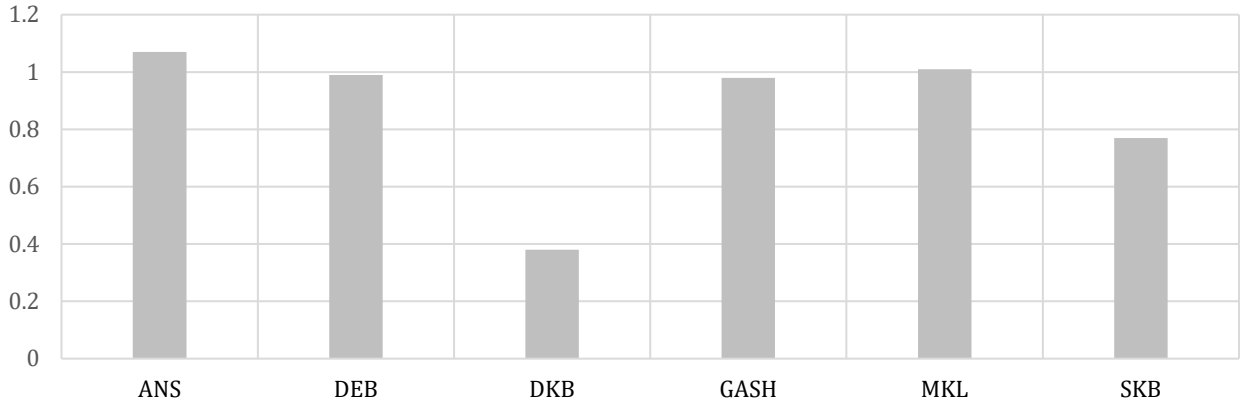
Sourec: MoE EMIS, 2015/16

These cumulative figures mask regional gender disparity in completion rates. *Zoba DKB and Gash-Barka exhibit serious gender disparity in the primary completion rate that warrants immediate attention.* The gender parity indices in *primary completion rate for these* zobas stand at 0.38 and 0.77 respectively. These trends are repeated in a similar fashion in the middle school completion rate as well.

Table 6.4: Gender Parity Index for Primary Completion rate by zoba and gender

	Total	Anseba	Debub	DKB	Gash-Barka	Maekel	SKB
National	*81.1*	*80.3*	*95.8*	*47.3*	*60.1*	*93*	*60.4*
Male	*81.9*	*77.5*	*96.2*	*68*	*60.6*	*92.6*	*67.9*
Female	*80.2*	*83.3*	*95.3*	*25.6*	*59.5*	*93.6*	*52.1*
GPI	*0.98*	*1.07*	*0.99*	*0.38*	*0.98*	*1.01*	*0.77*

Figure 6.4: Gender Parity Index for primary completion (2015/16)



Source: MoE EMIS 2015/16

Similar gender parity trends are observed in students' Grade 8 National Examination performance as well. *A higher proportion of girls reach higher 'excellent achievement' ranks than boys.* Significant difference in trends in the performance of all students across all subjects- English, Mathematics, Science, and Social Studies- are not observed.

Table 6.5: Performance levels (bands) by gender in Grade 8 National Examination in 2015/16*

	Excellent	**V-good**	**Good**	**Fair**	**Poor**
Count	*630*	*2961*	*7776*	*8942*	*23958*
Male	*1.3*	*6.9*	*18.3*	*20.3*	*50.9*
Female	*1.6*	*6.4*	*16.8*	*20.1*	*49.0*
GPI	*1.23*	*0.93*	*0.92*	*0.99*	*1.04*

**Performance levels: 100-90 excellent, 89.5-75 very good, 60-74.5 good, 59.5 – 49.5 fair and below 49 is poor.*

Generally, the emergent positive trends observed in girls' education, both enrolment at lower levels and achievement of high performance bands, has been supported by different measures of the MoE, partner organizations and institutions. Awareness raising communication conducted by means of Girls' Communication Strategy (2010); strategic actions delineated in line with the Girls' Education Policy (2014), and the reinforcing litigation and intervention activities of the National Union of Eritrean Women (see National Gender Action Plan (NGAP) 2015-2019; NGAP 2000-2015) are some exemplary interventions that have bolstered the achievement.

However, different communities around the country and stakeholders in schools across all levels still possess and exhibit cultural traditions, belief systems and attitudes that mitigate against accessing, continuing and achieving in school for girls. Out-of-School study (MoE, 2016a) shows that the demand for girls' household chores at home, long walking distances to school, and the local social construct of gender which is shaped by traditions, are factors inhibiting greater participation of girls in the school system.

Similarly, a recent Menstrual Hygiene Management (MHM) study in middle schools has identified that insufficient WASH facilities, obliviousness and discomfort in communicating menarche, because of bias in cultural traditions, and beliefs systems constrained girls' participation and concentration within classrooms (MoE, 2017).

A scooping curriculum engendering work of the MoE recommends a systematic and focused sector wide development that spans from delivery of the curriculum to the dynamics of teachers, teacher training and teacher practices (MoE, 2008b).

In Eritrea, concerted efforts of the MoE and other stakeholders like the NUEW, NUEYS, Eritrean Teachers Association, etc. have been in place so as to address equity in education. In fact, the belief that 'investment in girls and women is investment in the future' is the main motto in the education system of Eritrea. Moreover, according to a study of the MoE conducted in 2009 aimed to assess for an intervention of 'Girls' Incentive Scheme', the findings attest that educating girls and women lead to a late marriage life and fewer children; likely send their children to school; improves to family wellbeing and health etc.

The MoE and stakeholders have been adopting 'surgical intervention schemes' in empowering girls in education. For instance, the 'Girls Intervention Scheme of 2007-2009, which benefitted four rural regions namely: Gash Barka, Anseba, SKB and DKB was a supportive project in rising the participation, retention and achievement of girls in primary and secondary levels of education. At the disposal of such projects, the disadvantaged girls were assisted to get expenses of school materials, school uniforms, kerosene stove, kerosene lamp, registration fees, donkeys, canvas water containers or jerry cans etc. Besides, the targeted areas whose schools are at least 10 km away from their respective villages were provided with transportation cost or bicycles, food, house rent and textbooks' incentives.

The 'Girls Incentive Scheme Project' which was funded by UNICEF and sustained from 2007 to 2009 supported the beneficiary girls in the regions both in cash and kind. For example, the SKB region which obtained more funds than the remaining regions was able to participate 588 rural girls in 2008 and 1000 beneficiaries in 2009 and each of them received ERN 1,000.00 per student. The expenditure in terms of money in this region alone was thus ERN 1.6 million (MoE, Assessment of Girls Incentive Scheme in Education, 2009). As a result, the enrolment, retention and achievement rates of the beneficiary rural girls in the respective regions were found to be promising (more than 30% of the questionnaire respondents rated to the [sustainability] of the intervention scheme).

In the same vein, both the NUEW and the NUEYS on their part have been assisting girls low enrolment rates and academic performances via surgical intervention projects. The project of the NUEYS which started to be operational as of 2006 and is still in progress till 2017 aiming at junior level female students. By way of such intervention schemes, 2,000-2,300 girls have been supported in a year in terms of tutorial classes, peer education, gender education, provision of basic school materials and hygiene materials like bags, sanitary pads, soaps, etc. in all administrative regions of Eritrea. Besides, the project was able to raise the awareness of the community and the beneficiaries at large regarding gender empowerment through conducting campaigns by way of scheduled forums and media outlets. Moreover, prize -winners and role-model girls' students of the project were encouraged thorough awards of bicycles and other schooling items. For instance, for such target-students, the NUEYS invested ERN 12,924,987.00 between 2006 and 2009 alone; and thus the project was impactful and the outcome was promising (NUEYS, Gender Empowerment Project Report, 2006-2016). The NUEW interventions and investments towards gender empowerments were also impacting both in terms of performance enhancement and material support to disadvantaged school age girls.

In general, as a result of concerted interventions and investments of MoE and other partners towards narrowing gender disparities, the corresponding improvement in terms of overall enrolment and internal efficiency status of females are encouraging.

6.1.2 Regional disparities

Administratively, Eritrea is divided into six zobas (regions). Vast resemblances as well as contrasts can be discerned among these regions: socially, culturally, environmental topographic and climatically. In general, the Central Highlands are the most densely populated part of the country, accounting for about

60% of the population, whereas the Lowlands are sparsely populated (EPHS, 2010). The population of Eritrea is essentially rural, with 65% living in the rural areas, and has a multi-ethnic social composition, with nine different languages. Similarly, there are differences in the general trend of economic livelihood activities among the population.

Generally, there has been an increase in education access among the different regions. However, the pace of educational expansion, both quantitatively and qualitatively, exhibits marked differences amongst the six regions. *Zoba DKB's and Zoba SKB's primary enrollment ratios exhibit acute drops from the national average as well as compared to other zobas*. Zoba Debub exhibits appreciable GER and NER achievements at the primary school level; however, the trend does not continue up to the middle and secondary school levels.

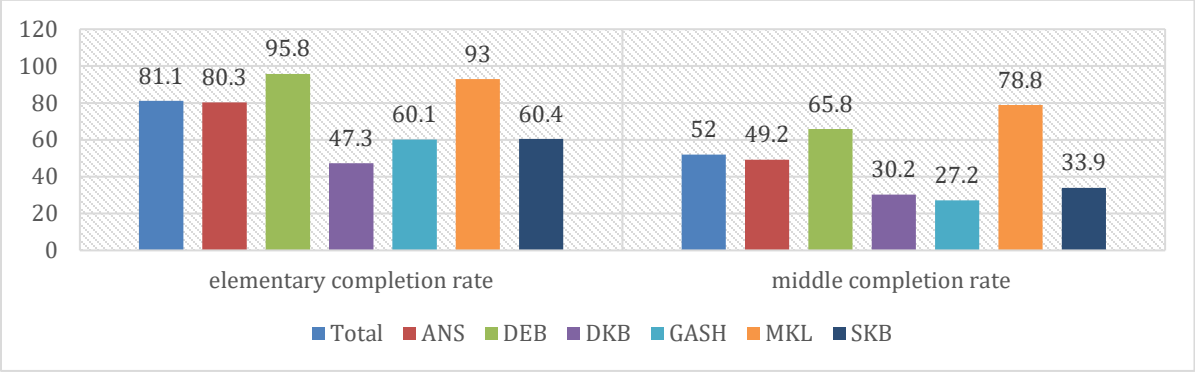
As students' progress to higher levels of school, the national GER and NER decrease. Nationally, the mean GER and NER for secondary education amount to 28.3 and 19.0, respectively. This very low measure symbolizes the magnitude of the intervention the sector has to make so as to provide adequate access to secondary education in all zobas.

Table 6.6: GER and NER by school level and zoba

Zoba	Primary				Middle				Secondary			
	GER		NER		GER		NER		GER		NER	
	T	F	T	F	T	F	T	F	T	F	T	F
Anseba	*107.8*	*102.7*	*75.8*	*74.1*	*73.7*	*73.2*	*30.3*	*32.2*	*20.6*	*19.6*	*13.8*	*13.9*
Debub	*127.6*	*119.9*	*98.3*	*98.2*	*98.6*	*96.3*	*56.7*	*58.7*	*29.9*	*30.7*	*21.3*	*23.1*
DKB	*71*	*41.6*	*51.1*	*32.6*	*39.7*	*20.4*	*19.1*	*13.1*	*13.5*	*7.4*	*10.5*	*6.4*
GashB	*105.2*	*101.6*	*78.7*	*77.6*	*50.8*	*45.9*	*22.1*	*22*	*11.7*	*9.8*	*7.9*	*7.1*
Maekel	*102.6*	*98.7*	*87.5*	*86*	*95.6*	*97.2*	*61.5*	*64.9*	*41.3*	*42.1*	*31.2*	*33.1*
SKB	*77.4*	*67.8*	*59.6*	*53.5*	*48.9*	*40.3*	*26.4*	*23*	*12.9*	*8.7*	*9.3*	*6.6*
Total	*106.7*	*100.5*	*82.1*	*79.5*	*75.4*	*72.6*	*40.9*	*42.1*	*28.3*	*26.4*	*19*	*18.6*

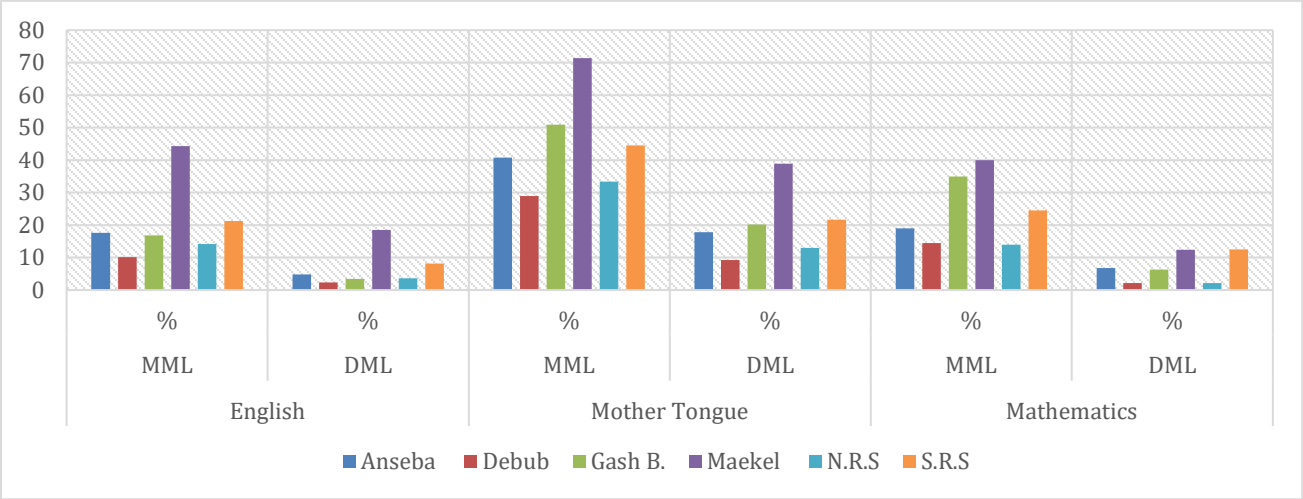
Disparities in learning achievement, retention and repetition across regions: Among regions, disparities are observed in students' retention, progression and learning achievement levels.

Figure 6.5: Primary and Middle levels completion rate by zoba (2015/16)



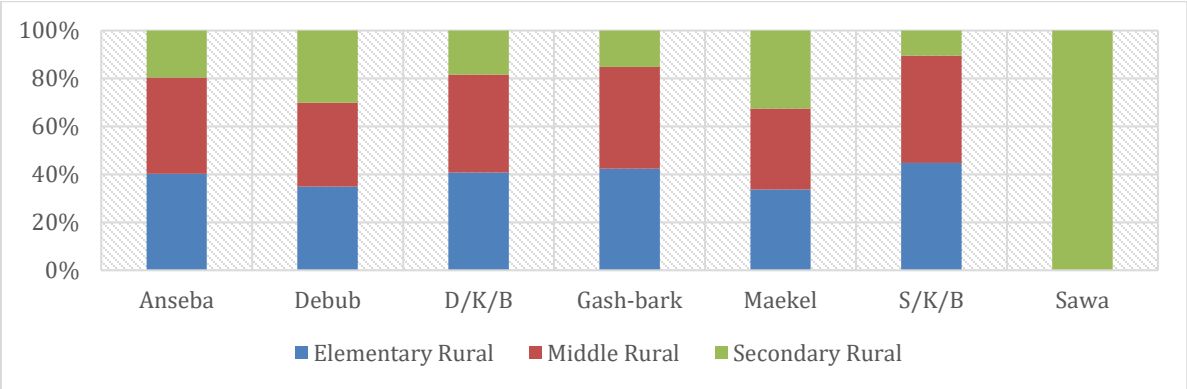
Zoba DKB, Gash-Barka and SKB have much lower primary and middle completion rates than the other zobas. In view of the pronounced lack of access opportunities in these zobas, further wastage at a more pronounced level than the other zobas warrants further investigation into both the supply and demand sides of education, including relevance, performance and other quality aspects. Students' performance in Grade 8 national examination as well as students' testing in the Monitoring of Learning Achievement Study namely: MLA I, II and III, exhibit gross regional differences. The MLA III study indicates that in none of the six zobas, has the target for MML and DML been attained. However, in both grades and all subjects, participants from zoba Maekel outperformed the other regions (MoE, 2016b).

Figure 6.6: Grade 3 students' attainment of MML and DML in MLA III (2016)



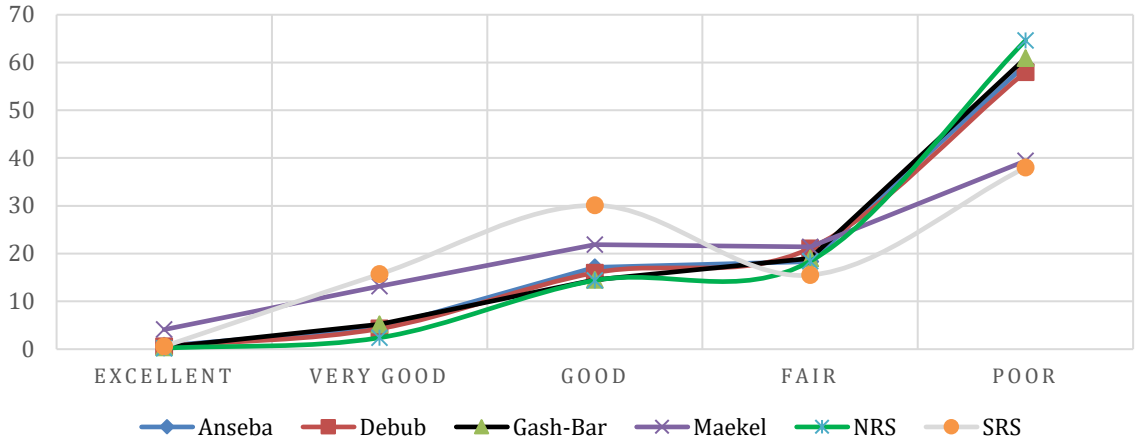
Students' Places of Residence: Nationally, a shift in school enrollment is observed as the level of education increases from primary to secondary, depending on the location of the residence of students – urban or rural. Easier education access prevails for children from urban neighborhoods. Encouragingly, about 78.7% of established pre-primary centers are located in rural neighborhoods.

Figure 6.7: Percent of rural children across school levels by zoba (2015/16)



Source: EMIS 2015/16

Figure 6.8: Grade 8 National Examination Performance Levels (2015)



Notably, the proportion of pre-primary schools is in favor of rural neighborhood locations than urban. At the primary level, rural students make up 60.4% of the total 353,859 students. This shows the government's commitment to reach out, particularly, to rural communities. However, in light of the fact that many rural communities still remain inaccessible, such figures call for cautious interpretation. Additionally, these collective results mask deep inequalities that are prevalent in all the regions.

Table 6.7: Enrolment by school level and zoba

Zoba	Primary			Middle			Secondary		
	Total	**Rural**	**Urban**	**Total**	**Rural**	**Urban**	**Total**	**Rural**	**Urban**
Anseba	*51,032*	*64.7*	*35.3*	*19,794*	*49.2*	*50.8*	*9,100*	*24*	*76*
Debub	*112,125*	*69.2*	*30.8*	*49,142*	*58.3*	*41.7*	*24,546*	*50.3*	*49.7*
DKB	*5,624*	*71.7*	*28.3*	*1,780*	*55.2*	*44.8*	*1,000*	*24.8*	*75.2*
Gash-bark	*84,128*	*70.5*	*29.5*	*23,073*	*43.2*	*56.8*	*8,740*	*15.4*	*84.6*
Maekel	*69,392*	*33*	*67*	*36,646*	*30.5*	*69.5*	*26,063*	*29.4*	*70.6*
SKB	*31,558*	*53.6*	*46.4*	*11,311*	*35.1*	*64.9*	*4,901*	*8.2*	*91.8*
Total	*353,859*	*60.4*	*39.6*	*141,746*	*45.5*	*54.5*	*74,350*	*42.8*	*57.2*

A further close-up of the zobas' education access shows differential success stories and various challenges along sub-zobas and communities. Remote rural localities and communities, particularly those where children have to walk long distance to school (7-10Km) across harsh climatic conditions or inaccessible road networks from villages and families dotted over vast landscape have low education access.

A case story of CEE in Zoba SKB

In a remote rural neighborhood of Zoba *SKB*, far from the unpaved inaccessible roads, children reside in households dotted far apart from each other. These children have to walk long distances to reach the nearby school. This challenge obliged regional education offices and MoE to adopt tailored education interventions, such as the Complementary Elementary Education Program to address the educational demands of school-age population in such localities. A study conducted in the 2009 academic year indicates that this form of intervention accounted for about 10.9 percent of total enrolment in formal elementary schools in such sub-zobas (CEE evaluation-MoE, 2009). The main beneficiaries of such intervention happened to include out-of-school children within the age range of 9-14.

***Achievement level by location of residence*:** Student achievement levels and progression in private schools, which are largely located in a few urban areas, are disproportionately higher than in the rest of schools. This is true for all testing instruments, including MLA III, and the grade 8 National examination.

Language of Instruction: In Eritrea, most, if not all primary school students in all six zobas learn in their mother-tongues. This is ascertained in MoE's mother-tongue policy which iterates that: every nationality has the right to its own language or any other language of its choice at the primary level (MoE, 1991). Notably, the MoE is also taking measures to scale up the mother-tongue as a subject to the middle school level schools.

Many of these language classrooms are spread across all six zobas. Earlier studies (MoE, 1996) noted that supply problems of textbooks and lack of reading materials in one's respective Mother-Tongue had threatened the effective implementation of Mother-Tongue education in primary schools (MoE, 1996). Moreover, zoba education resource people had suggested that, comparatively, many of the language groups fail to reach or participate to the end of secondary education. These challenges could have a ripple effect on expanding access, promoting equity and improving learning performance among students that belong to different language groups. These situations affect further the prospects of finding and recruiting local community or gender role models with competence.

6.1.3 Education of Children with Disabilities ('special needs'):

Differential conceptual constructs of disability make disability difficult to estimate, and thereby to formulate development plans. A World Report on Disability (WHO, 2011) indicates that, for low income countries the prevalence estimate for people with disabilities generally ranges 2% to 16%, depending on type survey instrument used. Worldwide, there are some 93 to 150 million children with disabilities, of whom about 80% live in the developing world (UNESCO, 2015). The EFA Monitoring Report stated that

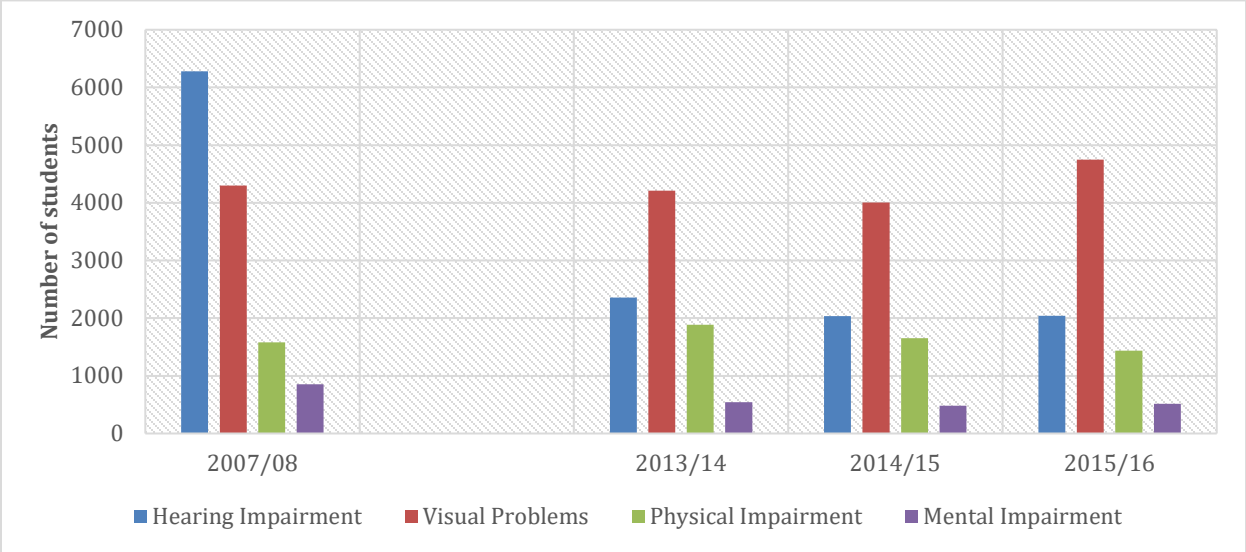
acquiring a disability is a highly predictive factor for many children to be out-of-school, in many contexts (UNESCO, 2015). The disadvantage is further exacerbated by overlapping social factors such as gender, low socio-economic status, remoteness of location, etc. that most of these children face in addition to their disabilities. This has resulted in their entrenchment in the 'cycle of poverty' (WHO, 2011).

In Eritrea, about 5% households have a Person With Disability (PWD), and children make up to 20% of all PWDs with the 'de jure population' amounting to 149,103 (EPHS, 2010). Traditional belief systems and attitudes that stigmatize and hide or isolate these children and deny them social service are abundently prevalent in many communities.

In the past decades, significant efforts have been made to raise the visibility of disability in education. Recognizing the limitations in discourse and experience in the education of children with disabilities, MoE piloted inclusive approaches in partnership with development partners (2002-2005). Subsequently, an inclusive education policy (MoE, 2008) has been established, based on the Salamanca Framework for Action (1994). The policy reaffirms that 'schools should accommodate all children', including children with disabilities.

Rudimentary EMIS data on disability indicate that in the 2015/16 academic year, there were about 8,650 children with various levels and types of impairments, of whom girls made up 44.2%. This statistical data includes all spectra and severity of impairment- mild to severe functioning limitations.

Figure 6.9: Reported cases of children with disabilities (EMIS 2007/08 and 2013/14 – 2015/16)



Education access to special schools for the deaf and blind has been monotonously flat for the past decades. In the 2015/16 academic year, there were 181 students enrolled in three special schools, 48.6% of whom were girls. The two special schools for the deaf are non-governmental. Anecdotal monitoring reports point that there is a long 'waiting-list' for deaf children, because spaces are not available, whereas in the school for the blind the school's spaces are not yet fully exploited. Schools point that families do not accept their

young children's institutionalization (boarding) far away from their residence. Thus, many children with disabilities residing outside the location of the special schools miss education.

The special schools are primary in level. Children completing their schooling in these special schools join the mainstream middle schools without formalized learning support. The MoE has started to make efforts to integrate children with developmental disabilities into the mainstream school system children with different learning support needs. In the academic year 2015/16, in these special classrooms of mainstream schools more than 300 students were enrolled in about 15 special classes in 15 schools (MoE-2017 reports). However, these services are operated with numerous challenges. These classes have enrolled mainly children from a few urban neighbourhoods. The needy, remote rual neighbourhoods remained doubly disadvantaged. Moreover, formally tailored learning lessons had not been organized for these children (Michael, 2016).

In the past few years, the MoE has supported the preparation of an Eritrean Sign Language Dictionary which has been carried out by the Eritrean National Association of the Deaf; vocational training (such as sewing) for deaf students completing primary education; the sensitization and parent enrichment training programs conducted by the National Association for Down's Syndrome and Autism in Eritrea (NADSAE), Eritrean National Association for the Blind, and Eritrean National Association for the Deaf, etc. The Community Based Rehabilitation program, carried out by Ministry of Labor and Human Welfare, is also playing a critical role in expanding awareness among families to enroll children with disabilities and to facilitate their transportation through its 'Donkey's for Schools' program (MLHW, 2009).

These diverse commitments and initiatives, generally, have expanded the visibility of children with disabilities within education. Nevertheless, focused implementation is lacking. The sub-system is wrought with challenges. Formalized curriculum adaptations are generally absent, and alternative learning materials, such as Braille textbooks or technologies, and audio recorded materials are in short supply. In-service teacher training has essentially focused on raising awareness. Hence, the competency of teachers to address the learning needs of children with disabilities has remained limited.

6.1.3 Children from Households with Nomadic Livelihood Styles.

A significant portion of Eritrea's ethnic groups pursue nomad-pastoralist or agro-pastoralist livelihoods (MoE, 1995). These communities largely move across the vast arid and semi-arid hot stretch land of SKB, DKB and Gash-Barka zobas. In recent years, the Ministry of Local Government (MoLG) of Eritrea has initiated grand settlement strategies for nomadic (or mobile) communities (see MoLG reports).

The absence of fixed domiciles poses a serious challenge to the enrollment of children from these communities. The traditional model of school organization barely suits the education of children from these seasonally moving households. The absence of dynamic and rapid customization of education services in response to these 'different' cases usually forces these children to drop-out even if they are enrolled. International studies indicate that children of nomadic communities had difficulty in accessing schools, and formal education are often not highly relevant or compatible with their life styles (Ruto et

al., 2009 quoted in UNESCO, 2015: 98). Dyer (2006) remarks that the inclusion and participation of nomads in formal education presents practical challenges and a conceptual challenge to the nature of education (Kratli and Dyer, 2009)

Indeed, it is hard to find specific data for these communities, for they are easily missed out in surveys. The GER and NER statistics for SKB, DKB, Gash Barka and some sub-zobas (pockets areas) in Anseba, remain markedly far below the national average. This statistics could corroborate the presence and associated education concern related with these communities with nomadic lifestyles.

In the recent past, the GoSE has committed itself to reaching out to these semi-nomadic or pastoralist community groups, through Nomadic Education schemes (see MoE, 2011). Thus, it has started to provide suitable infrastructure and instructional materials in remote neighborhoods of zoba Anseba, Gash-Barka, and SKB by using locally available materials.

Through these interventions about 120 nomadic schools with a student population of 14,109, of which 30% are girls (MoE, 2016a) has been set up. The MoE has also trained about 600 teachers, and conducted community sensitization, in line with the overall rural community development work. Efforts to adapt the curriculum to children's conditions and life styles are also in progress.

However, the current challenges in infrastructure, the teaching force, the repertoire of pedagogy, etc. in these learning centers (schools) warrant attention. Focused and dynamic interventions (identifying and tailoring rapid responses) are highly required to reach and support the learning of children coming from these communities. The synergic development planning and action is highly desired among the different development sectors and partners of MoE, including MoLG, MoH, etc. to ensure the sustainability and to increase the outcome of these initiatives.

6.1.4 Other Disadvantaged Groups: Orphans and Street Children.

The EPHS (2010) report notes that 'health conditions' is a significant factor (about 10.8%, or third in rank) for not attending school in the de-facto household population group aged 4-29 years. These generic group statistics include children in orphanages and other children condition. The report indicates further that about 13% of Eritrean households accommodate foster children and/or orphans. The challenge largely affects urban than rural neighborhoods.

The MLHW, through its children's 'Reunification' scheme, has been integrating orphans with close relatives. Its reports indicate that, from 1993 to 2011, a total of 75,054 (47% females) orphans have been integrated. This scheme counsel children socio-psychologically and encourage them to continue their education. The MLHW also provides school children with financial support for the purchase of uniforms and school materials, thereby contributing to the reduction in dropout rates. It also provides vocational training to youth, in partnership with the National Union of Eritrean Youth and Students (NUEYS) (MLHW, 2014).

Data and coordination in this respect within MoE at central and regional levels is not available. The MoE needs to liaise with concerned organizations to maximize resources, and enhance the impact of the national scheme designed by MLHW. This can help to ensure the continuity of education and learning achievement amongst students coming from such households.

Boarding school arrangements: In order to ensure continuity of education and alleviate the burden of welfare and shelter provisions for families and children, the MoE has organized boarding arrangements for many students from remote rural neighborhoods, children from disadvantaged communities, children with disabilities, etc. The scheme, by and large, serves middle and secondary school students.

In the academic years 2015/16 there was about 6,154 students in boarding schools. Girls comprised only 23.9% of them.

Table 6.8: Enrolment in boarding schools by ethnicity and sex (2015/16)

	Afar	**Rashaida**	**Bilen**	**Bidawiet**	**Kunama**	**Nara**	**Saho**	**Tigre**	**Tigrigna**	
Total	1102	1	35	88	406	482	105	2421	1510	6150
Female	73	1	11	10	181	84	5	523	579	1467
Female%	6.7	-	31.4	11.4	44.6	17.4	4.8	21.6	38.3	23.9

Source: MoE Boarding School Affairs Division report

However, recent discussion conducted in the context of this education sector analysis suggest that these boarding schools, which were opened with the intent of overcoming cumulative disadvantages among many social groups, are not serving their real purpose, as they are significantly underutilized. This challenge warrants immediate attention.

SECTION 2: MEASURING EQUITY IN THE DISTRIBUTION OF PUBLIC RESOURCES

Eritrea, as a developing country, is committed to providing and ensuring equitable education at all levels. The education system aspires to produce all rounded citizens along a firm commitment to country, people and social justice (Revised National Education Policy, August 2011). Moreover, under the fundamental principle of 'unity in diversity' (Eritrean Constitution, Article 11), social equity is linked with the notion of fairness and justice. In the Eritrean context, equity mainly refers to the distribution and availability of public resources among individuals, groups or communities. Ensuring that there are sufficient schools and classrooms for all children (including girls, children with no pre-school opportunities, nomadic children, children with special needs, out-of-school children or youth) is a prerequisite for developing an equitable education system (ibid). In brief, the core aim of the Eritrean education system is to foster and sustain a sense of unity, collective national identity and social justice (ibid).

As of its inception, the country has endeavored to expand equitable access in all regions, notably by giving due attention to rural areas and disadvantaged social groups in the society. In Eritrea, education takes substantial government budget. The investments which have proved to be effective in ensuring social equity at all levels of education have been translated into action through the provision of infrastructure,

furniture, and textbooks, the recruitment and training of teachers, as well as making available other necessary support facilities and materials. As a result, access to schooling has flourished, boosting the number of schools to 1,933, the student population to 628,683 and the number of teachers to 16,234. The ratio of school: student: teacher has been raised to 1:3252: 38 (MoE Basic Education Statistics, 2015/2016). According to the same source of the MoE, in 1993, there were 605 schools giving equitable services to 273,736 students with 7,265 teachers. As of 1993, within the two decades of independence, the number of schools tripled, and the number of teachers doubled. This groundbreaking change and growth in education is a concrete litmus paper to the huge commitment and investment on the part of the government.

Similarly, concerted efforts have been made to create synergies among all education stakeholders. Moreover, various strategies, program mechanisms, etc. pursued by the government have produced encouraging outcomes in addressing equity. As a result, despite the fact that 'progress was gradual and spiral', evidently, the participation of school-aged rural girls, disabled and orphaned children and other social groups who were alienated due to colonial marginalization and socio-economic factors has markedly increased. In the course of the efforts and interventions to promote equity, the fair distribution and appropriation of public resources were crucial; and thus have been fairly effected for the benefit of the student clients in particular and underpinning social justice in general.

In Eritrea, education is a fundamental human right. That's why it is given due priority as one of the prerogative and expensive social services that require adequate national as well as international public resources. The outstanding reason is that all sorts of public resources are determinant inputs in order to yield measurable outputs in education. From an equity spectrum, the fair management and even distribution of public education resources in Eritrea are mostly directed at least to the more disfavored regions and have-nots communities who suffered from substandard lifestyles. In fact, in the transitional period of bridging access of education, the comparatively favored territories and communities of Eritrea are relatively compromised such that the impoverished rural citizens can be compensated at the cost of their counterpart urban advantaged. By doing so, the pursuit of Eritrea's policy towards affirmative action has been operational and undoubtedly rewarding in fact as from the revolution period. Thus, the practice and performance in record have been promising as well as able to give practical lessons even for the future experiences in addressing equity at all levels of the Eritrean school system.

However, the fact that the country is young and also resulted from a 30-year armed struggle must come at the forefront since it is a key factor in allocations and assessments of public resources. Besides, after a taste of peace and fair economic growth from 1991 to 1998, the country also has been forcibly engaged in a post-independence war with Ethiopia. The aftermath economic sanction imposed on Eritrea in turn directly or indirectly played a role to destabilize its pace of social and economic developments. Under such given circumstances, it is thus obvious that the public expenditures for all its social services are inevitably and widely stretched.

Likewise, unlike most African countries, the fact that the educational provisions at all levels including in tertiary education is declared by policy to be free and fair of any charge also obliges the government to shoulder more load and commitment. Though at a minimal and nominal level, the public cost-sharing,

however, is also in place and supportive notably at operational levels. Besides, the education sector also benefits from the development budget of all international UN agencies. It is therefore with this perspective that this section will make an attempt in studying and measuring equity in the distribution of public resources.

6.2.1 The Structural Distribution of Public Education Resources

Eritrea has multi-faceted strategies in guaranteeing social justice in general and ensuring equity in education in particular. The fact that education, as a human capital, is a key channel in reducing socioeconomic inequalities and plays pivotal role for generational status was sensibly fleshed out in Eritrea. That's why that all government policies create equal opportunities by way of all types of positive discriminations primarily in the publicly-funded education system. Many social groups, such as school-aged girls, underserved societies like nomadic people, disabled children, orphanage, etc. are beneficiaries of the policies and strategies.

On top of that, the 11 boarding schools scattered in the six administrative regions of Eritrea are case in points in the provision of equitable educational services aimed at disadvantaged segments of the society. The educational and accommodation services (meals and lodging) of all the boarding schools which host to 7, 848 students out of which 1,954 (24.8%) of them comprise to girls in a year are all in all subsidized by the government budget (MoE: Boarding Schools Monitoring Office, 2013). With the exception of the boarding school for blind children, the remaining 11 boarding schools in the country mainly serve for students from remote and rural areas, disadvantaged and orphaned children and girls, etc. who may have difficulties in accessing and continuing junior and secondary schooling.

Besides the boarding schools and hostels, there are also 30 Para-Boarding schools under the auspices of the regions of SKB and DKB rendering services to primary level children (ibid). Such semi-boarding schools are run partially from the subsidy of the government budget and partly backed from the communities' cost-sharing support.

Apart from that, the MoE has also been giving due attention especially to the development of nomadic children and rural girls enrolment and retention rates via adopting inclusive calendar and surgical intervention schemes at the disposal of fair public funds basically aimed at incentives such as stationary coverage, hygiene and sanitation assistance and other consumable items of schooling as well.

In either case, the Education Sector Plan is very cautious to bridge the structural dimension of equity and such that shares all types of public resources in a fair manner. The analysis of 'Structural Distribution of Public Resources' in Eritrean school system is thus relatively to be depicted from the successive tables below. To a certain extent, the following tables show the recurrent expenditure per student per year in relation to school coverage (enrolment status) and pupil unit costs among different education cycles. The analysis in turn is expected to reveal the comparison of share of resources consumed by different groups of children with respect to the maximum level of educational attainment with regard to their weight in the total population.

In this case, the public resources allocations (all sorts of teachers' expenses, textbooks, desks, blackboards, furniture's, support systems, etc.) among regions, boarding schools as well as the public subsidy for disabled children (blind and deaf) and for girls incentive schemes are supposed as proxy indicators for the overall education system in Eritrea.

As noted earlier, one of the important measures that signifies the government's commitment towards narrowing disparities among the Eritrean population is the presence of boarding schools in the country. Despite their unbearable costs, there are 11 boarding schools in place to serve as instruments of improving social justice as means of providing equitable education. It is even pretty good to take relative insights regarding their financial expenditures from the tabular and graphic data above.

On average, the expenses of mealing and lodging cost for per head-student in a yearly basis reach roughly ERN 12,701.1. Moreover, except in some years, the cost per head is seen to increase steadily from year to year especially between 2011 and 2015. In practical terms, the only national boarding school for the blind which is located in Maekel region takes a big amount of the budget in the successive years. The reason for this is that though the opportunity of giving access of education for blind children is there, the school's enrolment never exceeded from 55 between 2011 and 2015. For instance, with all the boarding school's capability of infrastructure and manpower, the school's enrolment was only 55, 49, 43, 36, and 33 in the consecutive years of 2011 to 2015.

On top of that, as of 2013 and all the way through the following successive years till 2015, the two boarding schools in the SKB and the three ones in the DKB are observed to receive relatively big budget per head. For instance, the share of budget per head in the three boarding schools in Gash-Barka was ERN 6,542 and 11,500 in 2011 and 2012 while the share of budget per head for DKB boarding facilities was 19,721.

The most important indicator of equity in education systems is how much different groups in the society benefit from public spending on education. This key indicator is more appropriate for a country like Eritrea where social justice and equity are seen as basic tenets in development. As education is a great social equalizer, education expenditure must be allocated in a manner that favors disadvantaged groups. The existing evidence indicates that overall public spending on education in Eritrea has favored the disadvantaged groups. MoE reports on public education expenditure for the period of 2013-2016 have shown that there is no disparity across the zobas in terms of average expenditure per pupil.

Except for the two zobas (DKB and SKB), the differences in the average unit spending across the zobas are not significant. The costs are higher for regions like the Red Sea, due to their geographical conditions, and the difficulty of reaching under-served communities.

In this connection, it is worth noting that the GPE grant which amounted to $25.3 million has primarily been allocated for the Anseba, Gash-Baka, SKB and DKB regions, where most the out-of-school children are found.

The number of schools per 1000 students shows moderate variations between the zobas and between rural – urban locations. The ratio tends to increase with distance from urban centers

Using data from EMIS, one could calculate the number of schools per 1000 students in the urban and rural areas of each zoba. There are in fact more schools per 1000 students in rural areas compared to urban areas in most zobas. However, this analysis only provides a limited view. While there might be more schools for each student in rural areas, it is also very likely that the schools are much farther away from their residences, as compared to urban areas.

6.2.2 Distributive Equity in Public Education Expenditure: Social Disparities in the Appropriation of Education Resources and Benefit Incidence Analysis

From the onset, the Eritrean Education System strove to create a level-playing field by addressing the inequities in rural localities and among the disadvantaged social groups. Thus, the public education resources aimed at bridging disparities is moderately decentralized to such target areas and groups relatively with even appropriation and fair governance. That's why the analysis of public resources spending in terms of socioeconomic characteristics of groups or individuals in linkage with the result of enrolment selectivity has paramount importance.

Table 6.9: Primary Enrolment by zoba and location 2015/16

Zoba	Rural			Urban			Total Percentage		
	T	M	F	T	M	F	Total	Rural	Urban
Anseba	*9,744*	*5,635*	*4,109*	*10,050*	*4,973*	*5,077*	*19,794*	*49.2*	*50.8*
Debub	*28,668*	*15,863*	*12,805*	*20,474*	*10,343*	*10,131*	*49,142*	*58.3*	*41.7*
DKB	*982*	*890*	*92*	*798*	*448*	*350*	*1,780*	*55.2*	*44.8*
Gash-Barka	*9,962*	*6,038*	*3,924*	*13,111*	*7,327*	*5,784*	*23,073*	*43.2*	*56.8*
Maekel	*11,193*	*5,587*	*5,606*	*25,453*	*12,881*	*12,572*	*36,646*	*30.5*	*69.5*
SKB	*3,972*	*2,824*	*1,148*	*7,339*	*4,116*	*3,223*	*11,311*	*35.1*	*64.9*
Totals	*9,744*	*5,635*	*4,109*	*10,050*	*4,973*	*5,077*	*19,794*	*49.2*	*50.8*

The table above shows that primary school children from rural and urban areas make 60.4% and 39.6% respectively.

Table 6.10: Middle school attendance ratio

Zoba	Rural			Urban			Total Percentage		
	T	M	F	T	M	F	Total	Rural	Urban
Anseba	*9,744*	*5,635*	*4,109*	*10,050*	*4,973*	*5,077*	*19,794*	*49.2*	*50.8*
Debub	*28,668*	*15,863*	*12,805*	*20,474*	*10,343*	*10,131*	*49,142*	*58.3*	*41.7*
DKB	*982*	*890*	*92*	*798*	*448*	*350*	*1,780*	*55.2*	*44.8*
Gash-Barka	*9,962*	*6,038*	*3,924*	*13,111*	*7,327*	*5,784*	*23,073*	*43.2*	*56.8*
Maekel	*11,193*	*5,587*	*5,606*	*25,453*	*12,881*	*12,572*	*36,646*	*30.5*	*69.5*
SKB	*3,972*	*2,824*	*1,148*	*7,339*	*4,116*	*3,223*	*11,311*	*35.1*	*64.9*
Totals	*64,521*	*36,837*	*27,684*	*77,225*	*40,088*	*37,137*	*141,746*	*45.5*	*54.5*

As shown in table 6.12, children from rural and urban areas make up 45.5% and 54.5% of all middle school students, respectively.

Table 6.11: Secondary school net attendance ratio (NAR)

Zoba	Rural			Urban			Total Percentage		
	T	M	F	T	M	F	Total	Rural	Urban
Anseba	*2,185*	*1,537*	*648*	*6,915*	*3,459*	*3,456*	*9,100*	*24.0*	*76.0*
Debub	*12,346*	*6,467*	*5,879*	*12,200*	*5,914*	*6,286*	*24,546*	*50.3*	*49.7*
DKB	*248*	*225*	*23*	*752*	*510*	*242*	*1,000*	*24.8*	*75.2*
Gash-Barka	*14,661*	*7,474*	*7,187*	*7,393*	*4,511*	*2,882*	*22,054*	*66.5*	*33.5*
Maekel	*7,671*	*3,712*	*3,959*	*18,392*	*9,252*	*9,140*	*26,063*	*29.4*	*70.6*
SKB	*400*	*342*	*58*	*4,501*	*2,980*	*1,521*	*4,901*	*8.2*	*91.8*
Totals	*37,511*	*19,757*	*17,754*	*50,153*	*26,626*	*23,527*	*87,664*	*42.8*	*57.2*

Secondary school net attendance ratio (NER) for girls (47%) is lower than that of boys (53%). The NER of rural secondary school age children is two times lower than their counterparts in urban areas. The attendance of secondary school children living in the poorest households is about four times lower than their counterparts living in the wealthiest households. Regional disparities in secondary NAR are significant. Attendance in the Debub region (1%) is the lowest among all eight regions and this was very lower than attendance in the Maekel region (30%), where it is the highest. About one in ten children of secondary school age are attending primary school when they should be attending secondary school.

6.2.3 Perceptions on Women and Education

The Macro-Policy document states that education is the cornerstone for ensuring that the Eritrean population is equipped with the necessary skills, knowledge and culture for developing a self-reliant and modern economy, and to fight disease, and combat backwardness and ignorance. The Macro-Policy states that basic education should be made available to all, irrespective of their ethnic origin, sex and religion.

The Education Policy indicates that the Government shall work towards the elimination of gender disparity at all levels of the education system, emphasizing that sustainable development cannot be realized without the full participation of women, who comprise half of the population. It further states that the Government will promote educational investment among all demographic and geographic social groups in the country, thereby reducing gender, regional and urban/rural disparities in education.

Women are also underrepresented in the decision making positions of the MoE, schools and colleges. Female teachers account for 40.6% of the teaching force in primary, 16.3% in middle level, and 16.0% in secondary (or 29.6% of the total number of teachers in the education system as a whole). Only 6.5% of primary school directors are women. The situation gets worse at the middle and secondary levels. There are very few women at these levels.

MoE annually publishes sex-disaggregated data for all levels of education and training, as well as for the staff members. However, it generally lacks funds to implement its gender programs fully. There is no

budget which is specifically allocated for undertaking gender matters, as gender activities are mainstreamed in to the overall educational programs, and thus appear 'invisible'. This is the case for example in the provision of childcare facilities for teachers participating in training programs. The aforementioned Gender Action Plan has also not been prioritized and budgeted. There is also a need to update these documents and programmes, so as to ensure the specific gender activities to be undertaken and to allocate adequate funds for them. Documents also need to use more gender sensitive language.

Female enrolment and completion ratios in adult literacy programs have persistently been above 90%, with males comprising about 10%. The literacy rate is much higher for younger women than older women. In 2010, about 77% of women aged 15-19 years were literate compared with about 90% of men in the same age bracket. For women aged 45-49 years the literacy rate was about 30% while for men of the same age bracket it was about 64% [NSEO, 2010]. Younger women and men are more likely to be literate and to reach higher levels of education than older women and men, while the percentage of men that are literate is higher than women.

The number of both females and males enrolled in continuing education for adults has generally increased. The absolute number of those who complete the programme has also steadily increased during the past five years. Unlike in the adult literacy programme, in this programmme the female enrolment and completion ratio fluctuated and remained below that of males.

The number of females students enrolled in TVET has showed a lot of improvement in the last 10 years. The number of female students enrolled in formal and non-formal vocational training was only 464 in 2000/01. It then increased gradually until 2005/06. However, in 2005/06, 2006/07, 2007/08 and 2009/10 female enrolment increased rapidly to 3040, 4599, 9317 and 12806 respectively. The main reasons for the increase of female enrolment in TVET are the increase in the number of vocational schools by the government and the implementation of positive discrimination by the government to provide greater access to girls.

The number of female and male students at the Eritrean Institute of Technology (EIT) has been increasing. The percent of females enrolled in the engineering faculty has generally been on a pattern of steady rise, while at the faculty of education it fell from 44.1% in 2009/10 to 25.2% in 2011/12. The enrolment rate of females in the sciences rose from 33.8% in 2009/10 to 41.1% in 2011/12 (EMIS: 2013).

The female participation in the other colleges (Marine Sciences and Technology, Agriculture, Business and Economics, and Arts and Social Sciences) has seen a steady increase. Nonetheless, it remains substantially below 50%. There has also been a rapid and quite encouraging increase in female participation in the diverse health sciences, which includes degrees in medicine, pharmacy, medical laboratory, nursing, anesthesia, radiology, etc. (Board of Higher Education 2014).

However, despite the increasing participation of women in education, deep-rooted socio-cultural beliefs and practices still pose a serious barrier, particularly in the rural areas of Eritrea. For instance, believes that prioritize marriage, even before completing schooling or college are prevalent in communities.

The number of women enrolled at the university was very low in 2001. At that time, there was only one university, the University of Asmara, and the number of female students was only 601,739,773 and 337 in 2000/01-2004/05 respectively. Nevertheless, in the years that followed, the number of institutes of higher education increased to seven, and, as a result, the number of female students enrolled in those public institutions increase to 2241 in 2008/09 and 2297 in 2009/2010.

There is still a very wide gap between the number of female and male students enrolled at the tertiary level. Female enrolment is still low, due to a number of obstacles, including early marriage, a relatively lower number of students in high school, and other social and economic reasons.

Eritrea should expand access and improve equity in education, health, and basic services to promote equal opportunity

With education levels being among the lowest in the world, Eritrea needs to continue expanding access and improving equity in education, health, and other basic social services to promote equal opportunities for all citizens. It also needs to reduce the educational disadvantages of poor children and girls. Eritrea should consider strengthening demand-side interventions to improve access to secondary schools in rural areas, especially for girls, including exploring cash transfers and scholarships. Moreover, to promote equality in human capital accumulation, Eritrea needs to ensure that children receive adequate nutrition, immunization and care before reaching school age, not the least because a growing body of research shows that benefits of health and nutrition for infants can have long lasting effects that persists through life, and conversely that damages from childhood disease and malnutrition, in terms of lost opportunity for learning, can be difficult to undo.

Challenges and Issues

- The enrolment status of rural girls, children with disabilities and children from remote rural communities is still at its lowest level.
- Teachers' shortage is still a major stumbling-block in the provision and widening of equitable educational opportunities.
- There is still disparity in enrolment between girls and boys at all levels.
- The gender parity index varies greatly across regions.
- At the secondary level, Eritrea has a long way to go to achieve gender parity, and this depends on gender equity at the lower levels of education;
- The participation of girls and women in vocational and technical schools is still very low;
- The ratio of female teaching staff is still low. Moreover, the number of female teachers decreases with the increase in the level of education;
- Gender distribution in the different faculties and disciplines of colleges need to be balanced;
- Sanitation facilities in schools are generally poor, and inconvenient for girls;
- Negative community attitudes towards female education.
- The scarcity and shortage of infrastructure and school facilities is one of the main challenges in addressing equity in education;
- Some of the national boarding schools are still underutilized;

- The low awareness about education on the part social groups needs to be improved.

CHAPTER- 7

EARLY CHILDHOOD DEVELOPMENT (ECD)

INTRODUCTION AND CONCEPTUAL FRAMEWORK

Early childhood development (ECD) is considered as a global approach to the development of young children that encourages their physical well-being, cognitive and linguistic capacities and social and emotional development. ECD programs and interventions such as play and stimulation, support health, nutrition and breastfeeding, protect children against stress, increase learning at home, and lay the foundation for learning in school. ECD interventions yield long-term benefits—boosting workplace productivity and income, and reducing inequities. Follow-up studies of interventions that optimized ECD have demonstrated the long-term economic effects and positive lifelong outcomes (Lancet ECD series, 2017). On the vein of this, the Government of the State Eritrea (GoSE) has been investing in ECD.

The new Sustainable Development Goals (SDGs) have included ECD as part of the 2030 transformative agenda. The Government is fully committed to the achievement of SDG-4 and target 2 on access to quality early childhood development.

This is an analytical review of early childhood development in Eritrea. It examines:

- The macro context that establishes the ECCE/ECD vision and policy;
- The available investment, its design and operations, including the achievements and challenges in the program;
- The general quality and its focus on poor and disadvantaged children and their parents in its operations.

7.1 MACRO LEVEL

7.1.1 Overview of the national context

Children below 5 years age account for about 15% of the total population. Children in the age range 0 to 9 years, inscribing the early childhood expanse, makes about 30% of the total population.

7.1.2 Political and Institutional Arrangements

Cognizant of the needs and bridging the persistent challenges in different localities across different dimensions, the GoSE has drawn a broad-based development strategy. This strategy fundamentally aspires

to “sustainable and widely-shared economic growth… and social justice”, with self-reliance as its cornerstones (Macro policy paper, 1994; PFDJ National Charter).

As part of its broad-based development strategy, the Government regards equal access to ECD, basic education, preventive and curative health services, psychosocial care and support services for children as fundamental conditions for achieving its long-term goal of reducing poverty, disease and other factors that hinder the social, cultural and economic advancement of its entire population.

Eritrea is signatory to a number of global and regional conventions and treaties that recognize the importance of ECD. These include: the Convention on the Rights of the Child (CRC), the African Charter on the Rights and Welfare of the Child, the Constitution of WHO, the Constitution of UNESCO, Education for All (EFA), MDGs, SDGs and others. This obligation is also embedded in the national and sectorial policies.

Within the last two decades, the Government of the State of Eritrea, realizing that ECD is one of the most cost effective investments a country can make to build human capital and promote sustainable development, made attainable efforts. Thus, ECD is reflected in various policies, such as the Macro policy (1994), the National Education Policy (2011), the Early Childhood Care and Education Policy (2002, revised 2010), the National Integrated ECD Policy (2004), the Inclusive Education Policy (2008), the Comprehensive National Child Policy (2013) and the Comprehensive Disabled Policy (2013) and others.

In the year 2000 – 2007, the GoSE embarked on an extensive project called ‘Eritrea Integrated Early Childhood Development Program’ (EIECD).The EIECD was a comprehensive, future-oriented investment program designed to integrate and enhance the efforts of line ministries towards a holistic human resources and socio-economic development outcome. The program focused on five major components, and had the core aim of improving child growth and development. MoE was responsible for coordination. Through this program, ECCE services expanded significantly to the most disadvantaged areas of the country - semi-urban and rural areas. The number of centers increased considerably from 90 to 483. The gross enrolment rate of children increased from 8.6% in 2000 to 31.5% in 2010 (EMIS 2012). Meanwhile, the Second International Conference on ECD that hosted 250 international and local participants was held October 28-31, 2002 in Asmara, Eritrea. The conference aimed at addressing ECD issues under the following four thematic areas: Policy Development; Planning and Research; Community Based Interventions; Vulnerable Children.

Despite the remarkable achievements gained during the EIECD project, Eritrea still faces many gaps and challenges in child development. A lesson learned from the ECD program was that in order to achieve holistic child development, an integrated multi-sectorial approach with all relevant stakeholders is vital, cost effective and with ripple effects.

The implementation and quality assurance mechanisms of the ECD program were centrally coordinated through focal branches of the relevant sectors. The monitoring and supervision of ECD is undertaken through this structure. However, there is no systematic and frequent monitoring and evaluation.

7.1.3 ECD Costs and Financing

As indicated above, ECD is multi-sectorial, involving different line ministries and partners. An overview of the costing and financing analysis in relation to ECCE is as follows:

At ECCE sub sector, access is created through the involvement of the government, organizations and the private sector. In the academic year 2015/16, 302 (60%) and 204 (40%) schools were government and non-government owned respectively. In the government owned pre-primary schools, the salaries of the teachers and supporting staff as well as the running cost is covered by the government. On the other hand, the privately owned pre-schools cover their own expenses. Moreover, communities and development partners (GPE, World Bank, UNICEF, etc) are involved in the establishment of ECCE centers. In addition, quality related costs, such as those related to the training of teachers and caregivers training, curriculum and the development of learning and supportive materials are also covered by the government and development partners for all ECCE centers.

The government has taken initiatives to develop ECCE Policy guidelines and Early Learning and Development Standards (ELDS). But, there are challenges in their implementation, such as limited budgetary allocation, particularly the pre-primary schools education in rural and disadvantaged areas, which largely depend on government and community initiatives. Moreover, the lack of adequate awareness and the low socio-economic conditions of communities further weaken early intervention in rural areas.

7.2 MESO Level: Mapping the ECD Service Delivery Options

7.2.1 Identification of ECD Programs by type

In Eritrea, the components of the ECD program comprise the following major interventions by type

7.2.2 Early Childhood Care and Education (ECCE)

The ECCE program aims to promote the holistic development of all Eritrean children from birth to six years, so as to enable them lay good foundations for formal education and lifelong learning skills. In Eritrea, the program comprises the following major interventions:

- *Parenting Enrichment strategy*: This approach is used to cater for children between the ages of 0 – 6 in remote areas through their parents. It is a pilot project and it is implemented in partnership with the Adult Education program.
- *Pre-primary school/kindergarten*: This caters to children in the age brackets of four and five, in urban and semi-urban areas through Government and non-government institutions (faith-based, private and community institutions).
- *Rural Community Children's Center (RCCC)*: This caters to children of age 5 in rural areas. It functions in partnership with the community.

- *Pre-primary school annexed to a primary school*: This is a pilot program that caters to age 5 children, with the aim of expanding access.

7.2.2.1 Child health

This program is designed to address childhood illnesses and to reduce child morbidity and mortality. Some of the interventions include, strengthening the health system, using integrated management of child illnesses (IMCI) and expanding immunization services.

7.2.2.2 Child Nutrition

To improve the nutritional status of children and to reduce child mortality. It covers the following interventions: the feeding program at community and health facility levels; micronutrient deficiency control program; growth monitoring and promotion; infant, young and child feeding practices and income-generating activities.

7.2.2.3 Child protection

MLHW in collaboration partnership with its partners provides support to disadvantaged children and families. This includes equal opportunities for the psychosocial development of the child through socio-economic support for children in need of special protection, promoting the implementation of child right, and integrating orphan children with families, using community-based approaches like reunification, adoption, fostering, and group homes.

7.2.2.4 Environmental Sanitation and hygiene

To achieve safe and sustainable sanitation and hygiene practices universally, and further reduce the child mortality and morbidity rates. The intervention includes construction of toilets in schools and communities, provision of water facilities, and mobilizing communities for Community Led Total Sanitation (CLTS), to avoid open defecation.

7.2.2.5 Monitoring and supervision

After the EIECD project phased out, the multi-sectorial coordination among implementing partners did not continue. Therefore, the monitoring and supervision system is being undertaken separately by the relevant ministries.

7.2.3 Identification of program by delivery mode

ECD program has the following main delivery modes:

(i) ***Center-based services*****:** ECD services are organized in centers that have been especially designed for them, such as kindergarten, resource centers, basic health care centers, nutrition programs at health services, and pre-primary centers annexed to primary school.

(ii) ***Home-based care***: These services include the Parenting Enrichment Intervention, child and maternal health (IMCI), child and maternal nutrition (GMP), and group homes for orphans.

(iii) ***Social support programs*****:** such as the financial support provided to street children for education, the re-unification of orphans – the provision of grants to host families, provision of supplementary foods as a means of securing child and maternal nutrition –.

(iv) ***Communication and media campaigns (awareness programs):*** Such activities usually use the radio, television, newspapers, billboards, flipcharts, posters, brochures, plays/theater halls and so on. They target families with young children

7.2.4 Description of ECD Program Characteristics

ECD programs provide children with services and support in order to enable them to attain their basic needs in health care, nutrition, protection, cognitive stimulation, affection, socialization and early education through the healthy growth and holistic development of children under six years of age and children in need of special protection.

7.2 MICRO LEVEL: CHILDREN AND THEIR FAMILIES

ECD refers to a comprehensive approach to policies and programs for young children, their parents and caregivers, and protects the child's right to develop to his/her full physical, emotional, social and cognitive potential. Child development refers to a holistic wellbeing of the child and to his/her growth in an environment of love and nurturing that caters for nutrition, health, water and sanitation, child protection and enhances early stimulation and learning through an interaction with people and the environment (IECD policy, 2004).

This section makes a detailed analysis of the ECD service and the indicators of pre-primary education, health, nutrition, protection, sanitation and other relevant interventions.

7. 3.1. Pre-Primary education

7.3.1.1 Pre-primary schools

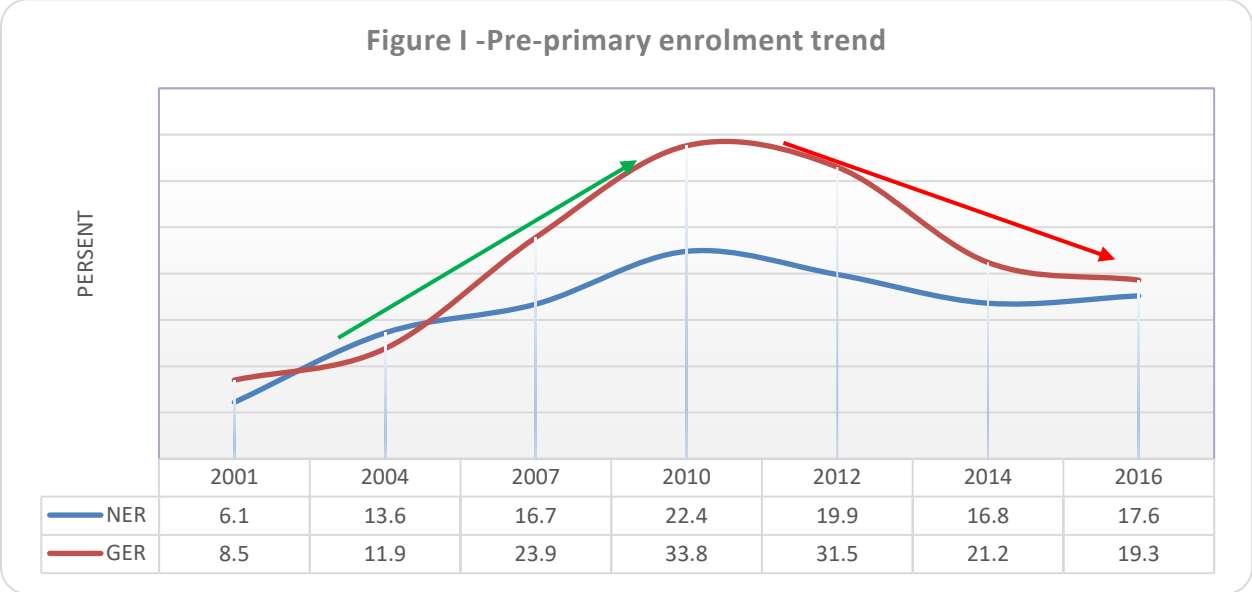
During the period 2000/01 to 2015/16, the number of centers in pre-primary education has increased by more than five times, from 91 to 506. In the year 2000, out of the 91 pre-primary centers 95.6% (87 centers) were run by missionaries, private owners or the community and the rest 4.4% were government owned. In 2007/08, the number of pre-school centers had reached 477, this increment comprising of government owned centers (72.7% or 347) and non-government owned schools (22.2% or 130). This

shows the government's commitment. This achievement came about mainly as a result of the EIECD project that expanded early childhood education services to the most disadvantaged areas of the country, including semi- rural areas and villages. However, the increment after 2008 was not significant, since the number of pre-schools only reached 506 in 2015/16. Out of the total pre-primary schools, 217 are RCCCs, which are providing early learning opportunities to rural and disadvantaged children.

7.3.1.2 Pre-primary children enrolment

Figure 7.1 below shows that the Gross Enrolment Rate (GER) in pre- primary schools increased from 8.6% in 2001/02 to 19.3% in 2015/16, which the Net Enrolment Rate (NER) increased from 6.1% in 2001/02 to 17.6% in 2015/16. However, as shown in the graph below, since 2010 the enrolment of children has declined the Net Enrolment Ratio (NER) was 22.4 (22.0 Females) in 2010/11 and declined to 17.6 (17.5 female) in 2015/16. This decline was mainly due to teacher attrition and parents' lack of awareness, both of which lead to the underutilization of some centers. This is evident in the OOSC country study (2016) which estimates the number of pre-primary school aged children (5 years old) out-of-school to be 73.0% (64,123).

Figure 7.1: Pre-primary enrolment trend



Comparing Eritrea with global pre-primary enrolments shows that the GER is below average (19.3%). The status of access to pre-primary education stands at an average of 48% globally, 33% in Eastern and Southern Africa and 32% in West and Central Africa 32% (Global ECD report 2015).

7.3.1.3 Parenting Enrichment

Parenting enrichment was piloted in the DKB region during the lifetime of the EIECD project (2000-2006). Since 2017, it has been revitalized and used to promote early childhood development and to provide early learning opportunities for children in remote and disadvantaged communities. Currently, the

program is being implemented in 20 sites found in two regions by using the adult education/literacy program as an entry point. 1,515 parents and 1,730 children aged 0 -6 years have so far benefited.

The parenting enrichment program is designed to improve the quality of life and the holistic development of children through their parents in remote and disadvantaged areas. It enhances the knowledge, skills and attitudes of parents, families and communities.

7.3.1.4 Guidelines, Standards and Research

Based on national values and policy guidelines, various manuals, guidelines, standards and supportive learning materials were prepared and translated into eight local languages. The curriculum development and teaching learning methods are based on a Thematic Approach. Early Learning Development Standards (ELDS) that specify what children between the ages of 4 to 6 should know and should be able to do was developed and printed in 2011. ELDS guides teachers, parents and other adults who contribute to children's education, development and care. In 2004, a comparative study was conducted, and it indicated that children with early childhood education experience have a better attention span than children with no pre-school education. According to the study, the pre-primary education intervention has also contributed to reducing dropout rates in grades 1 and 2 by about 36% and repetition rates by about 30% (MOE Tracer Study, 2006).

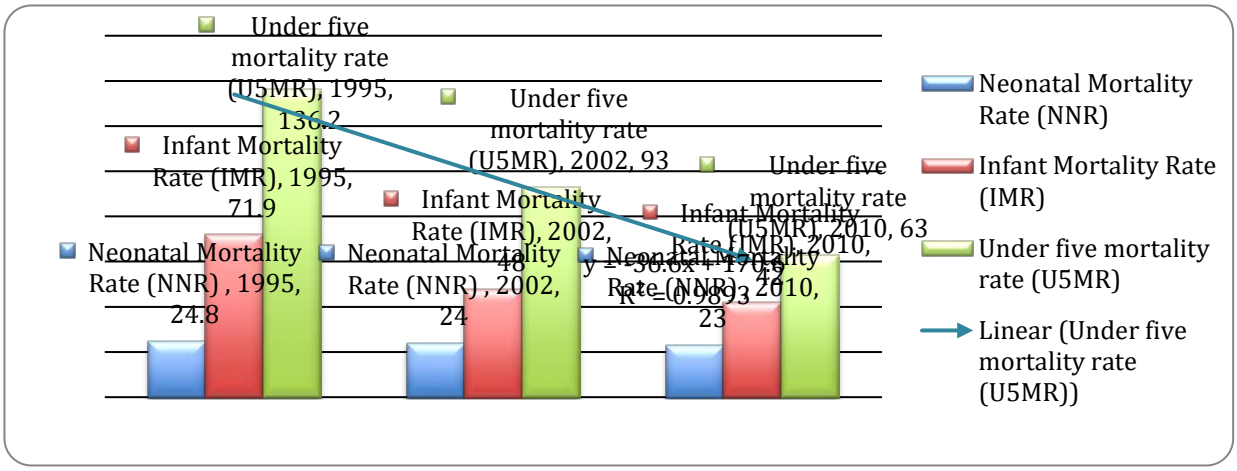
7.3.2 Child Health

The GoSE, in collaboration with different partners, has achieved quite a lot in various areas of health, namely infrastructure, human resource development and the availability of medicine, medical equipment and other supplies. There are 321 heath facilities, of which 28 are hospitals, 56 community hospitals, 7 mother-child health clinics, 186 health stations and 44 institutional clinics in the country. Each region has one regional referral hospital and a national referral hospital is located in the capital city, Asmara. These efforts have, among other things, significantly narrowed the disparities between urban and rural areas in the provision of health services, and, as result, access to health facilities has been made available within an average distance of 10 kilometers from any village in Eritrea (CRC report, 2011).

7.3.2.1 Infant and Child Mortality

According to EPHS (2010), the Neonatal, Infant and Child Mortality rates have been declining in the last ten years. The Neonatal Mortality Rate (NNR) decreased from 24.8 in the year 2002 to 23.0 in 2010 per 1000 live births. Similarly, the infant mortality rate has declined from 48 in 2002 to 42 in 2010 for every 1000. There has also been a marked decline in the under 5 year's children's mortality rate in Eritrea since 2002. It then stood at 93 per 1000 lives, and declined to 63 per 1000 lives in 2010. Community health interventions and improved health service delivery have influenced this outcome. This has significantly reduced the disease burden among children. As a result, the fatality rate of the five main diseases combined declined from 4.06% in 2006 to 2.04% in 2010 that is a 50% reduction.

Figure 7.2: Child Mortality (Per 1000 live births)-1995 EDHS, 2002 EDHS, and EPHS 2010.



7.3.2.2 Immunization

According to EPHS (2010) and reports of the Ministry of Health, vaccine preventable diseases in general and measles in particular account for a substantial number of deaths among young children. Hence, the immunization of children is one of the main strategies to reduce infant and child mortality.

The immunization coverage of children of ages 12-23 months highly increased from 41.4% in 1995 to 75.9% in 2002, and then showed a moderate increase (83.5%) in 2010. The same is also true for measles vaccine coverage, which rose from 51% in 1995 to 84.2% in 2002, and then to 91.4% in 2010.

7.3.2.3 Child Nutrition

Good nutrition is essential for healthy development. Well-nourished children perform better in school, have higher resistance to infection, and are more likely to develop into healthy adults. Conversely, poor nutrition has a negative effect on cognitive development, and can increase a child's risk of dying from common childhood diseases.

According to EPHS 2010, the proportion of wastage in under-five children has been stable at about 15%; but there has been an increase in stunting to 50% and the under-weight to 39%.

Core nutrition relating to children aged under 5 years *(EPHS, 2010)*

- Height-for-age: Nationally, 50% of children under the age of five are stunted (25% moderately and another 25% severely stunted). Male and female children are equally stunted.

- Weight-for-height: Overall 15% of Eritrean children are wasted. Boys are slightly more likely to be wasted (17%) than girls (14%).
- Weight-for-age: 39% of children under the age of five are underweight, with no difference between boys and girls.

To improve child nutrition, the MoH has developed national guidelines for the integrated management of acute malnutrition. This has been quite helpful in identifying and treating acute malnutrition in children under 5 years of age.

Breastfeeding is nearly universal in Eritrea, with almost 100% of mothers practicing breastfeeding. More than two-thirds of children aged less than six months are exclusively breastfed. Seventy percent of children born in the three years before the EPHS (2010) survey were breastfed for at least two years.

EPHS 2010 reported more than half and more than a third of all children aged 6-59 months get vitamin A and iron rich foods respectively. 88.4% of households in Eritrea consume salt with an adequate level of iodine. However, the consumption of iodized salt in regions DKB (33%) and SKB (51.5%) was found lower compared to the other regions. The reason could be households in these two regions have easy access to unionized salt, as they are located along the coastal areas (Red Sea) as well as lack of knowledge on the importance of iodized salt.

7.3.2.4 Sanitation/Hygiene

Diarrhea is persistently one of the three leading causes of mortality among children under 5 years of age in Eritrea (HMIS, 2014). This is largely attributable to lack of access to safe drinking water, poor sanitation and poor hygiene practices.

The GoSE has been tackling access to water, improved sanitation and knowledge of better hygiene. The EPHS 2010 data reveals that overall access to safe drinking water has improved. It increased from 23% in 1995 to 58% in 2010.

Eritrea adopted the Community Lead Total Sanitation (CLTS) approach to promote access to sanitation and safe drinking water, food hygiene, personal hygiene and cleanliness of the home environment. As of 2015, more than 911 villages were mobilized and 663 villages declared themselves Open Defecation Free (ODF) (UNICEF, 2015). This indicates that more than 24% of the total villages are free of open defecation.

7.3.2.5 Child Protection

The reunification of orphans with their extended families/blood relatives is the best approach for the physical, social and emotional wellbeing of children. As a result, during the IECD project (2002 -2007), 31,556 orphans were reunified with 11,800 close relatives. In addition, during the period 2008 to 2010, 7,362 orphans (47% females) were reunified with 2905 families.

7.4 DISPARITIES IN ACCESS TO AND USE OF ECCE SERVICES

Research and development work indicates that early intervention programs, particularly for those 'at risk or in disadvantage' circumstances, are powerful leveling undertakings. In recognition of these benefits, the GoSE is investing in early childhood care and education. However, there remains a significant gap in addressing equitable access to quality ECCE for all.

National ECCE (MoE, 2010) policy states that the aims of ECCE provision include modifying the effects of socio-economic, gender-related and other social factors and diversities, and thereby enabling children to achieve better school continuity and outcomes. This cuts down the financial and social costs of later remedial services.

7.4.1 Disparities in ECCE program

7.4.1.1. Pre-Primary school centers: number

In the past decades, the GoSE invested in early childhood care and education. As a result, the number of ECCE centers has expanded. Yet, the overall ECCE access opportunities remain low. Only about 1 in 5 children (19.3%) have access to these centers. Thus, many children, particularly those at risk, miss 'the leveling' intervention which supports them to grow smoothly academically and developmentally.

Table 7.1: Disparities by location and gender

Pre-Primary				**Primary**			
Area of Residence		**Gender**		**Area of Residence**		**Gender**	
Urban	**Rural**	**Male**	**Female**	**Urban**	**Rural**	**Male**	**Female**
34%	66.0%	19.4%	19.2%	39.6%	60.4%	112.6%	100.5%
R/U index 1.94		Gender Parity Index 0.99		*R/U index* 1.53		GPI 0.89	

Source: EPHS 2010; EMIS and Computation from both sources primary data.

As indicated in table 7.1, rural centers account for 66.0% of the prep-primary center-based service. The government's investments have mainly been in favor of rural neighborhoods. However, according to the OOSC study (2016), pre-primary school aged children who reside in rural areas have a non-attendance rate of 83.9% as compared to 48.5% for their counterparts in urban areas. Besides, the number of children not attending pre-primary education is 28.5% for children from the poorest quintile as compared to 3.9% for the richest quintile. This demonstrates that children from the poorest quintile are seven times more likely to be out-of-school than their counterparts in the richest quintile.

7.4.1.2 Regional disparity in ECCE services:

Table 7.2: distribution of pre-primary centers by ownership, region, and location, 2015/16

Regions	Total 2001	Total 2016			Government 2016			Non- government 2016		
	No. centers	Total	Urban	Rural	Total	Urban	Rural	Total	Urban	Rural
Anseba	*9*	***89***	*19*	*70*	***65***	*8*	*57*	***24***	*11*	*13*
Debub	*17*	***131***	*34*	*97*	***76***	*12*	*64*	***55***	*22*	*33*
DKB	*1*	***22***	*5*	*17*	***20***	*4*	*16*	***2***	*1*	*1*
Gash Barka	*7*	***62***	*27*	*35*	***54***	*21*	*33*	***8***	*6*	*2*
Maekel	*48*	***160***	*71*	*89*	***53***	*6*	*47*	***107***	*65*	*42*
SKB	*9*	***42***	*16*	*26*	***34***	*11*	*23*	***8***	*5*	*3*
Total	*91*	***506***	*172*	*334*	***302***	*62*	*240*	***204***	*110*	*94*
%			*34%*	*66%*	*60%*			*40%*		

As indicated in table 7.2, in the academic year 2015/16, 60% and 40% of schools were government and non-government owned respectively. Non-government schools are schools administered and financed by institutions other than the Ministry of Education.

In spite of the progress made in expansion, however, there are wide disparities in pre-primary school provision among the regions. 57% of pre-primary school centers are situated only in two regions (Maekel and Debub), signifying there is imbalance in access among the regions. The disparity in enrolment among the regions is very high, with Maekel having gross and net enrolment rates of 41.10% and 39.6% respectively, while in Gash Barka the figures are 8.7% and 6.4% respectively (EMIS, 2015/16).

Regional reports show that the training of the work force, as well as the quality of infrastructure and learning and play materials in these centers are negatively skewed. Thus, the ability of the approach or strategy to fill the gap of disadvantage and play a leveling effect along school readiness seems very weak.

7.4.1.3 Gender disparity:

At the pre-primary level (ECCE services), the national gender enrolment difference is not significant. The gender parity index for GER at ECCE level in 2015/16 nationally amounted to 0.99. With the general increment in access to centers, in 2012/13 “the increase in female children’s enrolment was greater than that of male children” (MoE, End of decade report, 2013). Similarly, no significant gender-based access disparity is observed across regions.

7.4.1.4. Demand side:

Sector analysis deliberations point out that, in many communities, poverty, highly demanding life circumstances and negative parental beliefs and traditions are preventing children from accessing and pursuing their learning.

7.4.1.5. Supply side:

Services are highly demanded by many communities, but the services could not meet/satisfy all the demand. There is unavailability or inadequacy of pre-primary centers, learning and play materials and teachers in many localities.

7.5 QUALITY AND EFFICIENCY OF ECD SERVICES

7.5.1 Quality of ECCE Services

7.5.1.1. Structural Characteristics

MoE's ECCE procedural guideline (1996) emphasized that kindergartens should have adequate compounds, suitable playing grounds and fences. Classrooms should be clean, have enough ventilation and be in good condition. Each center must have a basic set of indoor and outdoor equipment for learning and stimulation. All equipment should be safe and proportional to the number of children enrolled. Besides, each ECCE center should have water and sanitation facilities.

The ECCE classroom size should not be less than 48 square meters in total, with 1.6 square meters of space per child. In one classroom, there must be one trained teacher for 25 children. If the number of children is more than 25, an assistant should be employed.

Training and qualification of teachers: Qualified teachers/caregivers promote proper care, upbringing and educational attainment for the holistic development of children. Thus, kindergarten teachers at least be trained in a one-year certificate program and should at least be trained for three months for community caregivers. In addition, to improve and up-grade the quality of teachers and caregivers, focused and context appropriate courses (in-service training) should be given as needed.

During the EIECD program (2001- 2006) extensive training, recruitment of qualified teachers and upgrading of teachers were conducted. In addition, in collaboration with ECD stakeholders, workshops and in-service training courses were given to ECD service providers. These helped to enhance the quality of integrated ECD services cost effectively. However, in the last seven or more years, the regular pre-service training has not been implemented as expected and this has affected greatly the quality of the ECCE program.

The percentage of pre-primary teachers with the required qualification declined from its highest level of 66.9% in 2001/02 to 56.5% in 2009/10. It had reached as low as 51.7% in 2008/09. During the academic year 2015/16, out of 1,601 pre-primary teachers in the whole country, only 630 (39.4%) had professional

training. During the closure of the EIECD project, many teachers left their jobs and many others lost much interest and dedication, due to insufficient remuneration, inadequate training, etc.

Despite the minimum ECCE teacher training undertaking annexed to the Asmara Community College of Education, the current ECCE training programme is not institutionalized to provide adequate and quality ECCE teachers. Moreover, since the ECCE program had by and large been the responsibility of the community and the private sector, and most of the investment had been dependent on project funding, the sustainability of the program has been affected.

The above data indicate that more work needs to be done to ensure that all teachers are qualified, and thereby to improve the quality of pre-primary education. Besides, the teacher-child ratio was 1:38 in 2000/01 while in 2015/16 the ratio was declined to 28:1(EMIS, 2015/16).

***Availability of learning and play materials*:** As stated in the procedural guidelines, ECCE centres should be equipped with basic indoor and outdoor play and learning materials. However, most of the Government-established kindergartens and rural community children's centres were set up more than 10 years ago. This means that, for the vast majority, teaching-learning, the materials have become out of use. Most centres are thus left without the appropriate basic learning and play materials. As a result, the quality of ECCE services has highly deteriorated. Similarly, private KGs have inadequate outdoor and indoor play materials.

7.5.1.2 ECCE Programme characteristics

The ECCE curriculum is theme based. It insures integrated planning, teaching and learning that leads to the achievement of set objectives, essential knowledge and skills. There are fourteen curriculum themes, seven for age 4, year 1 (KG1) and the rest seven for age 5, year 2 (KG2). Each theme is divided into 4 topics and each topic is scheduled for one week. The time allotment for both Kindergartens and Community Children's Centers is 3 hours per day making a total of 15 hours per week. Children stay in centers for one shift.

Manuals, guides and other supportive learning materials were prepared and translated into eight local languages. The medium of instruction in all ECCE centers is the mother tongue. The ECCE curriculum/thematic approach invites the active participation of parents and communities. Parents are also involved in parental committees, financial support, and providing playing and learning materials. However, the involvement of parents differs among centers, due to the leadership skills of school heads, teachers' relationships with parents, and the awareness of parents and communities about the importance of pre-primary education. Moreover, resource persons from the community such as, health worker, police, artist, etc. should be invited to share their experience in relevant area of the curriculum.

7.5.1.3 Procedural Characteristics - Curriculum implementation

The thematic approach is comprehensive, and deals with the integration of all domains of development. The development domains include physical, social-emotional, intellectual, linguistic, moral and cultural. The thematic approach does not present knowledge in subject form but rather in themes (integrated approach). Its learning principle advocates for concrete, experiential ways, rather than abstract and mediated processes. At this stage, play is the most effective and natural method through which children learn and explore the world around them. The approach also emphasizes children's active participation in their own learning. The teacher is expected to facilitate, guide and supervise the children's learning activities.

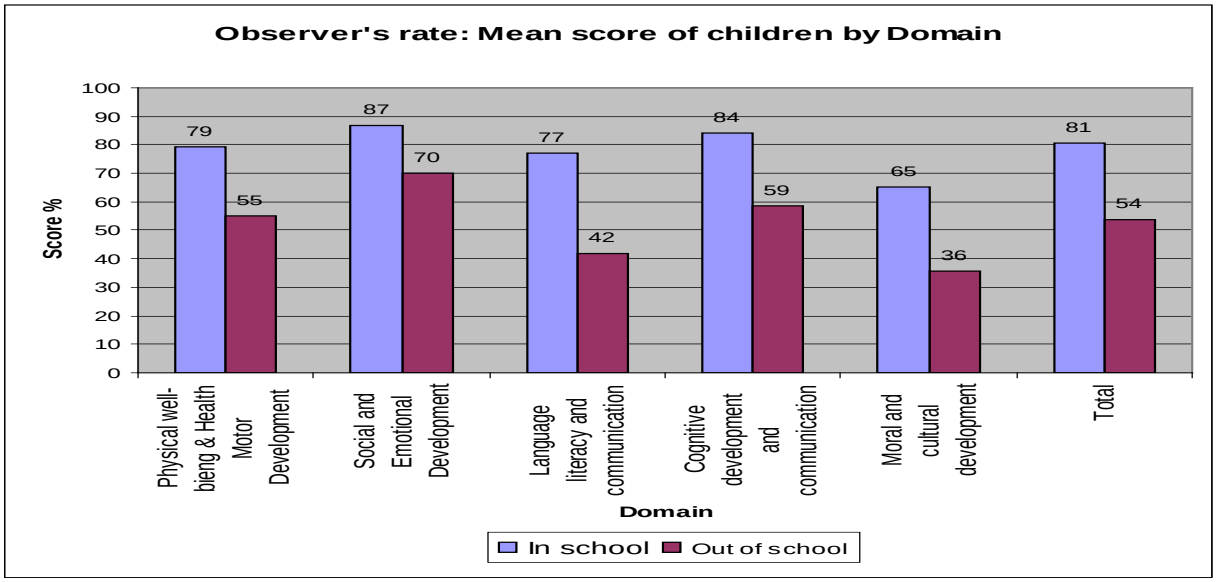
Physical/corporal punishment i.e. hitting, pinching, etc. is not allowed as a disciplinary measure. Children should be disciplined by way of positive guidance and repeating the right thing a number of times. If the offence continues, the child must be removed to a quiet area until his/her behavior is improved.

7.5.2 Monitoring and supervision

Monitoring and supervision take place in two phases. The first is school based and is conducted by the directors. Directors are responsible for controlling and supervising the quality of teaching and learning in their centers on a regular basis. The second is carried out by supervisors. However, at present, in all regions, due to high turnover and lack of training, there are no specialized supervisors. Most of them are basic education supervisors, with no or limited knowledge of the ECCE program. As a result, pre-school centers do not get proper supervision and hands on support.

7.5.3 Efficiency of ECCE Services

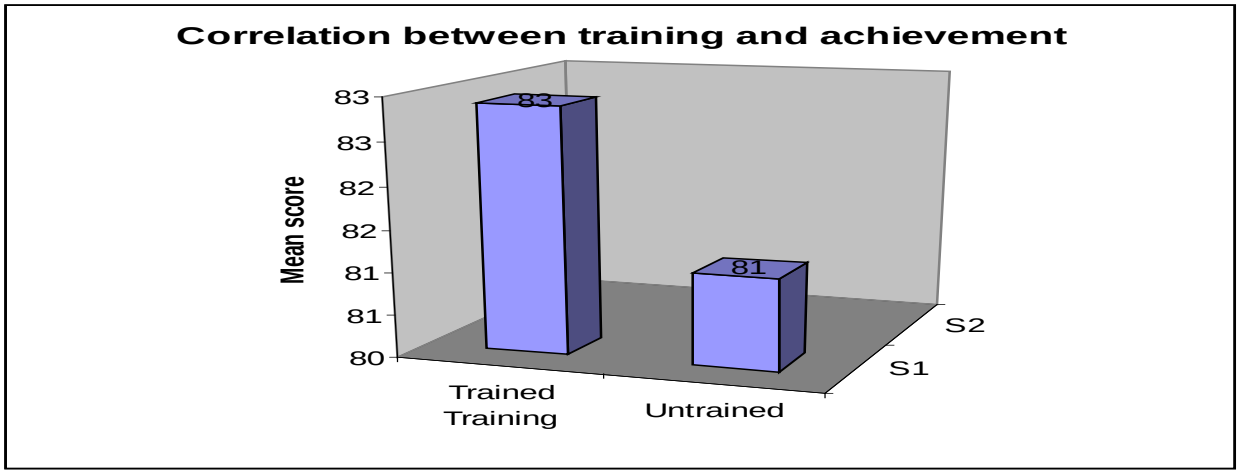
Figure 7.3: The Impact of ECD interventions on children's development



As indicated in figure 7.3 above, the total mean score achieved by in-school children was 80.64, while out-of-school children scored 53.91. There was a significant statistical difference between the two groups of children at a standard deviation of 23.947, and a mean difference of 26.730 and Sig (2-Tailed = .000).

This indicates that pre-school experience has a great impact on a child's holistic development. In-school children have been found to perform much better in most of the domains than out-of-school children. This study demonstrates that the ECCE intervention has marked beneficial effects on child development (ELDS study, 2011).

Figure 7.4: Impact of teachers' training on children's achievement

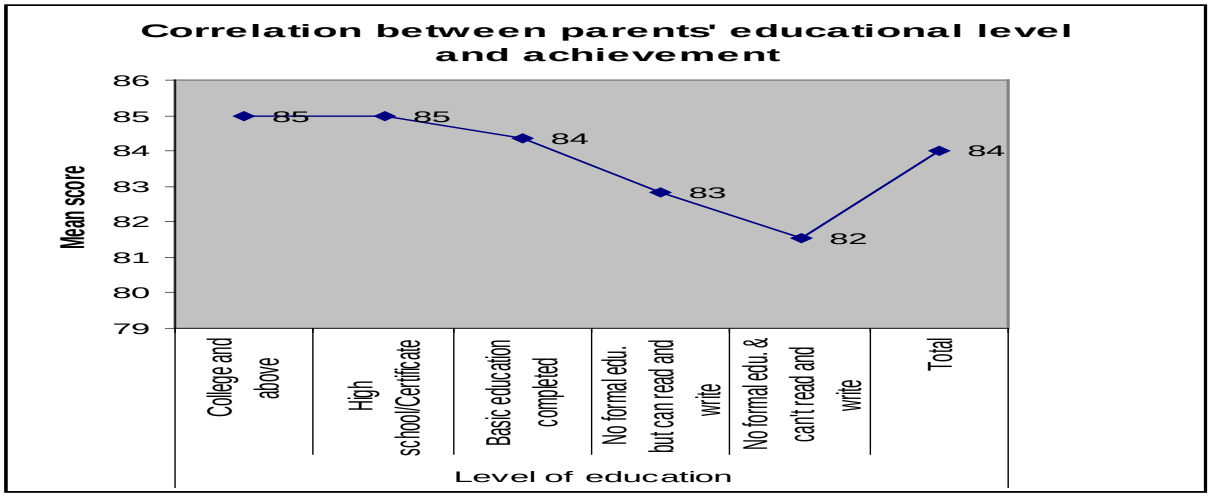


**

Correlation is significant at 0.01 levels (2- tailed)

The above graph explains the correlation between teacher training and children's mean score. These results indicate that the relationships were positively correlated. This implies that the variables of teacher training and children's achievement change in the same direction, i.e. an increase in teacher training also results in an increase in children's achievement. The magnitude or size of the relation was very high (Pearson Coefficient = 0.37). ELDS study, 2011.

Figure 7.5: Impact of parents' educational level on children's achievement



***Correlation is significant at 0.01 level (2- tailed)*

Figure 7.5 indicates that the variables were positively correlated. Thus, the parents' educational level and children's achievement change in the same direction, i.e. an increase in parents' educational level results in an increase in children's achievement. The mean score of children whose parents had the highest educational level i.e. college graduates, was high (85) as compared to parents who has no formal education at all the mean score of children (82). But, the magnitude of the relation is very small (Pearson coefficient = 0.096) (ELDS study, 2011).

The effect of ECCE on primary education: ECCE is regarded as a possible solution for many of the problems children face at the basic education level. A number of studies conducted in this country have shown that in lower primary classes with a pre-school experience score significantly higher points in language and mathematics than those without a pre-school background. In addition, pupils with pre-school experience possess a better self-image than do their peers without that experience (Comparative Study, 2004). Many studies have also indicated that good ECCE experience also helps to develop in children an interest in learning, a sense of independence and the avoidance of undesirable behaviors.

These studies have also proven that children with pre-school experience do show a longer and better attention span in class than children with no pre-school experience. Moreover, among children with pre-school experience the drop-out rate has been seen to decrease by about 36%, and the repetition rate by about 30% (MoE, Tracer Study, 2006). This strongly confirms that early childhood care and education is immensely advantageous and beneficial to young children's success in primary education and then in later lives.

7.6. ECD CHALLENGES AND RECOMMENDATIONS

7.6.1 Challenges

- The National Policy on Education (MoE, 2011) clearly states that pre-primary education is part of basic education; however, most pre-primary aged children (about 82%) do not yet have no access to pre-school education.
- As there is no regular teacher training and professional development program aimed at pre-school teachers, more than half (60%) of pre-primary teachers/caregivers remain untrained.
- Most of the Government-established kindergartens and rural community children's centers have no adequate and appropriate learning and play materials.
- Since the IECD project phased out, multi-sectorial coordination among partners and communities has been quite limited.
- Education at the pre-primary level is getting expensive. In urban areas, most KGs are managed by private individuals and school fees are not affordable for most families.
- There are six regional ECD resource centers; however, they are not providing services to ECCE centers as intended.
- Teachers'/caregivers' salaries are very low. As a result, there is a high teacher attrition rate.
- Most supervisors and directors are untrained.

CHAPTER 8

ADULT AND NON-FORMAL EDUCATION

OBJECTIVE

The objective of this chapter is to analyze the adult and non-formal education sub-sector and to assess its alignment with the national and education policy in the framework of "Education for Sustainable Development Goals– 2030 Agenda" by focusing on literacy, continuing education and the promotion of lifelong learning.

Adult and Non-Formal Education

Introduction

In the Eritrean context adult and non-formal education (ANFE) is defined as a second chance for children and adults who were unable to attend formal education at the appropriate age. In the provision of the adult and non-formal education, the emphasis has been on literacy activities since illiteracy is seen as a big stumbling block to development and equitable participation.

Promoting quality literacy and continuing education so as to lay a solid foundation for further education and training has been a priority and is well elaborated and reflected in various developmental and educational documents of the government.

The principle of equitable access to education for all is enshrined in the Eritrean Constitution which states that: "Every citizen shall have the right of equal access to education". On the basis of this constitutional principle, several government documents relating to national development and education have addresses adult education. The most important ones of these are the *Macro-Policy* (1994), the *Concept Paper* (2002), the *National Education Policy* (2011), the National Curriculum Framework, as well as the *Education Sector Development Programme*, (2013 - 2017).

Moreover, a national policy on Adult and Non-Formal Education (NFE) has been in place since 2005. The document includes important policy statements and definitions to guide and direct the implementation of ANFE, including literacy.

The concepts of adult education and non-formal education are wide and complex, considering the heterogeneous nature of the beneficiaries, the varied providers and the different programmes provided in various countries. However, this chapter is limited to literacy and continuing education programmes for out-of-school children and adults run by the Government of the State of Eritrea in collaboration with its

partners. This is due to the unavailability of adequate data at hand and the challenge in including data from different non-formal education and training activities implemented in the country by different providers. This can be taken as a limitation of this section, and should be addressed in the future.

Eritrea has made notable progress in adult education over the past 30 years. The experience gained in adult education during the armed struggle for independence provided considerable impetus and footing in initiating adult education activities right after independence.

After independence, in 1992 - 1999, adult literacy was carried out by the Ministry of Education and civil organizations such as the National Union of Eritrean Women through small and fragmented projects. In 2000, adult literacy was launched as a sizeable integrated national program under the auspices of the Ministry of Education. Currently the three main providers of adult basic education, including literacy for youth and adults, are: the Ministry of Education, the Ministry of Defense and the Prison and Rehabilitation Services.

The Ministry of Education, through the Department of Adult and Media Education (DAME) has established good working relationship and linkages with different national and international organizations in implementing ANFE programs. Eritrea had also benefited and shared its experiences during the different international workshops and conferences held in line with the progress and status of Adult Learning and Education (ALE). The interactions and collaborations established at the international level have greatly assisted the MoE in strengthening and implementing ANFE to the level of international standards, especially in basic literacy for out-of-school children and adults.

The implementation of ANFE in Eritrea can be characterized by the following five key dimensions:

1. Basic literacy for children and adults outside the formal education system is a national priority run by the Government of the State of Eritrea.
2. There is an acute shortage of human capacity (in number and quality) at all levels.
3. Adequate data on ANFE activities, such as skills training run by different civil organizations and private providers in the country, is unavailable.
4. The provision of continuing education in its varied forms and in connection with literacy achievements is currently lagging behind.
5. There are serious financial constraints in implementing quality ANFE programmes throughout the country.

These key dimensions are dealt with in this chapter through the following five sections:-

a) A descriptive analysis of ANFE definitions and concepts.
b) Demand for ANFE and the existing programmes (Needs and Participation).
c) Supportive systems for strengthening the provision of quality ANFE.
d) Cost and financing.
e) Results of education and the quality and relevance of indicators.

SECTION 1: DEFINITION OF ADULT AND NON-FORMAL EDUCATION (ANFE)

8.1. National and International Definitions of formal, Non-Formal and Informal Education

8.1.1. International Definitions

Up to date, there are no universal definitions of the above three interrelated concepts that fit all situations and conditions of countries. These concepts are differently defined and understood in most countries. According to UNESCO (2012) and other international organizations such as OECD, the way these concepts are perceived and defined is as follows**:**

Formal, non-formal and informal education are three domains of an education system that should not be understood and practiced as stand-alone concepts. They complement each other to provide a comprehensive and healthy education and training system in a country.

People are constantly learning everywhere and at all times. Not a single day goes by that does not lead to additional skills, knowledge and/or competences for all individuals. For people outside the formal education and training system, adults in particular, it is very likely that learning is taking place at home, at the workplace or elsewhere.

However, learning that occurs outside the formal learning system is not well understood, made visible, or probably not appropriately valued. Most research has focused on learning outcomes from formal education and training, instead of embracing all types of learning outcomes. Nowadays, and especially with emphasis given to the concept of lifelong learning to all, the non-formal and informal parts of education and learning are getting due attention and actions taken accordingly by many countries, especially the developed countries. According to the OECD approach and in coherence to the UNESCO's definition, the three concepts are defined as follows:

Formal education/ learning: is always organized and structured, and has learning objectives. From the learner's standpoint, it is always intentional: i.e. the learner's explicit objective is to gain knowledge, skills and/or competences.

Non-formal education/learning: is learning that has been acquired in addition or alternatively to formal learning. It usually takes place in community-based settings, the workplace and through other different initiatives. Through the recognition, validation and accreditation process, non-formal learning can also lead to qualifications and other recognitions.

Informal education/learning: is never organized, has no set objective in terms of learning outcomes and is never intentional from the learner's standpoint. Often it is referred to as learning by experience or just as experience. Informal learning can take place at work, at home, for leisure purposes or out of a need to develop a skill. Non-formal and informal learning is happening everywhere all the time.

In many countries and learning institutions, the recognition of non-formal and informal learning is taken as an important means for making the 'lifelong learning for all' agenda a reality, has creating a comprehensive, inclusive and responsive educational system, for reshaping learning to better match the needs of citizens in any country.

The concept of lifelong learning for all, as a notion "from cradle to grave" includes formal, non-formal, and informal learning. It is an approach whose importance may now be clearer than ever, and non-formal and informal learning outcomes are viewed as having significant value.

Adult Education: In some countries, the entire sector of adult learning falls under non-formal learning; in others, most adult learning is formal. Non-formal learning therefore gives some flexibility between formal and non-formal learning, which must be strictly defined to be operational, by being mutually exclusive, and avoid overlap.

8.1.2. Policy Context and National Definitions of Non- Formal Education

Policy Context and Practices

Eritrea, a signatory to various international declarations and conventions on education, is committed to ensuring the right of every citizen to access quality education as enshrined in the World Declaration on Education , the Dakar Framework For Action on Education For All (EFA), (Dakar, Senegal 2000) and the Belem Framework for Action (Belem, Brazil 2009). These and other international commitments emphasize the importance of literacy in equipping citizens with knowledge and competences to be able to seek gainful employment or engage in income-generating activities, thus contributing to national development.

Literacy and Continuing Education (LCE) are vehicles for the transformation and empowerment of individuals and the society. They offer opportunities to people outside the formal school system to benefit from education and training. For this reason, LCE programmes are designed to meet specific learning needs. Some of their benefits are:

- LCE help out-of-school youth and adults to improve the quality of their lives and to contribute effectively to national development.
- Once parents become literate, they will value sending their children to school, hence facilitating the achievement of SDG4.
- The programme builds on previously acquired knowledge and skills for purposes of certification, self-improvement and more effective participation in community and national development;
- It provides opportunities for youth and adults to integrate into the formal education system;
- LCE instills knowledge, technical and vocational skills, values and positive attitudes. This enables learners to participate effectively both in democratic processes, as well as in the management of their resources, and the conservation of the environment, natural resources and the cultural heritage.

- Adult and non-formal education serves multiple purposes. For those who were unable to go to school, it can provide basic education. For those who were unable to complete their schooling, it offers access routes to further education or to acquire specific skills relevant to the learners' fields of need or interest. Adult and non-formal education also enables individuals to continue learning throughout their lives, regardless of whether or not they had gone to school or acquired a particular qualification.

Adult Education, with the emphasis on adult literacy had been implemented in Eritrea during the armed struggle for liberation, as mentioned earlier. It had its own curriculum and methods of delivery, with indicative policy statements on many important areas, such as the use of the curriculum, the issue of equivalency, the use of language and the target groups among others. This experience has been maintained and largely passed on after independence. Prior to and since independence, ANFE has been offered in Eritrea as a continuum, covering the three stages/phases of literacy, post-literacy and continuing education.

The formulation of the National Adult Education Policy (NAEP) benefited from the rich experience in the implementation of adult education in general and adult literacy in particular in Eritrea. Some of the essential policy guidelines practiced prior to the first draft of this policy document include:

- *The use of the mother tongue as the medium of instruction in literacy education.*
- *Giving precedence to the 15 to 45 age group.*
- *Giving priority to disadvantaged groups, such as women and rural areas.*
- *Maximizing the utilization of the resources in formals school to promote adult education and training.*
- *Providing learning materials to learners free of charge etc.*

Against this background, the Eritrean Ministry of Education took the initiative to develop a National Adult Education Policy in 2005. Subsequently, a national literacy survey was conducted in 2008. This was followed by the learning needs assessment survey on literacy and continuing education that was carried out in 2009. In addition to these, the annual reports which highlighted the progress and challenges in the implementation of ANFE regularly submitted by the six zobas produced ample data in revisiting the policy. Based on all these data, the NAEP was adapted and revised twice: in May 2011 and in December 2013. However, it has not yet been finalized and published.

The national policy on adult education has been useful since its inception. Nevertheless, there is a need to update it for the following reasons (among others):-

- The era of Education for All (EFA) since 2000 is being replaced by Education for Sustainable Development until 2030 (SDG4) in relation to adult and non-formal education. This needs to be clearly reflected in the policy document.
- Significant work has been done especially in implementing a successful literacy program for adults and out-of-school children with ample lessons learned, achievements made, challenges

encountered, innovations practiced, and activities performed to promote literacy, etc. All of this can be included as background information to polish and reinforce the document.

- Currently, the areas of priority are well identified by each zoba and suggestions have been forwarded on how to implement adult education in the disadvantaged areas.
- The awareness created among different partners and stakeholders on how to promote adult education and learning is encouraging. Hence, the publication and distribution of an updated policy document will be essential to sustain and enhance the awareness created among the population and stakeholders;
- The use and application of the policy on adult education as a guiding document has been very limited. Hence the document should be reviewed and finalized, so as to publish and distribute it to all concerned partners and program implementers for wider use and application.

The definitions of basic adult education and other related terms.

Although the public perception of adult education is confined to adult literacy, the practice of adult education includes not only literacy education, but also many other activities such as continuing education for academic qualifications through evening programmes, distance study, and vocational training programmes for community development. As a theoretical guide and for operational references, the main terms related to adult education are briefly included here to eliminate ambiguity and misconceptions of these terms**.**

a) Adult Basic education - essentially refers to the acquisition of basic knowledge, skills, values and attitudes by all people. It is designed to equip people with basic literacy skills and other life skills that they need to function in society. In Eritrea, basic education encompasses kindergarten, primary education, adult literacy and middle level education, and usually denotes the first 8 years of formal schooling. Adult basic education includes adult literacy (literacy and post-literacy) and adult junior education (equivalent to middle school education in the formal system).

b) Literacy - technically means the acquisition of reading, writing, and numeracy. There are several dimensions of literacy. **Basic literacy** means the ability to read, write and enumerate. **Functional literacy,** on the other hand, means the acquisition of skills that are necessary for one to function in a given environment. In this regard, people are literate if they possess skills that enable them to function in their society. Conversely, people are considered illiterate if they do not possess the necessary skills that would enable them to function in society.

The definition of a literate person is also included in the policy, stated as *"A person who can both read and write with understanding simple statements pertaining to everyday life and workout simple calculations in the four mathematical operations (addition, subtraction, multiplication and division)".*

c) Post-literacy is a term that is used to describe learning activities beyond the literacy level. In this regard, post-literacy is intended to offer neo literates (persons who have just acquired basic literacy) with opportunities to use the newly acquired literacy skills and to extend them further.

In Eritrea, post-literacy is designed to take two forms. One form is meant to enable neo literates to use the

literacy skills as a means to improve productivity in life and thus improve their social and economic ways of life. **Vocational training,** the acquisition of work related skills that are designed to support one's vocation, be it in self- employment or formal employment, is an important part of the first form of post-literacy.

The other form of post-literacy is meant to enable the neo literates to further their education through formal or non-formal studies. **Continuing education** programmes, which essentially mean the continuation of education begun earlier, are an aspect of the second form of post-literacy. In practice, continuing education entails further education through enrolment in distance and evening programmes.

d) Life skills refer to skills that are essential for everyday life in society. In Eritrea, they include health education on topical issues such as HIV/AIDS, malaria, reproductive health and family planning, hygiene and sanitation, and child care and development, and other life skills such as home economics, first aid, environmental management and farming.

e) Lifelong learning covers the development of human capacity from the cradle to the grave: through childhood, adolescence, and adulthood: in the home, in educational institutions, in the community, at work, and everywhere else.

The main basic concepts and definitions related to the ANFE subsector as understood and practiced in Eritrea are described in the NAEP as briefly explained below.

Adult education in Eritrea is predominantly non-formal and subsumes literacy, post-literacy, and continuing education, including vocational training and the acquisition of life skills for youth and adults (15 years old and above). As is indicated in the national adult education policy, the concept of adult education in Eritrea is in line with the contemporary international definition of adult education, as reiterated in the Belém Framework for Action, adapted in 2009. The Belém Framework for Action constitutes the most recent international policy document in this domain.[1]

Based on this international definition, adult education in Eritrea is considered an integral part of lifelong learning, which refers to all learning activities undertaken throughout life and in relation to a variety of life settings, of which literacy is the foundation. Concretely, the national policy on adult education defines adult education in Eritrea as follows (2013):

> Adult Education in Eritrea comprises the entire range of organized learning or educational activities outside the structure of the formal education system that are undertaken by adults, youth and out-of-school children, in order to help them further or catch up with their education, enhance their quality of life, and thus enable them to contribute to national development.

In Eritrea, the three domains of education (formal, non-formal and informal) have been practiced since the armed struggle for independence as mentioned earlier. Taking informal learning as part of education and training has, for instance, been instrumental, since the armed struggle for independence, in informing

[1] *Belém Framework for Action*, UNESCO Institute for Lifelong Learning (2010)

and empowering Eritreans inside the country and abroad on a regular basis via multi media outlets. The roles of the various print materials delivered, meetings and seminars organized, cultural activities conducted and above all the role of national messages broadcasting in the local languages were essential in the consintization of the Eritrean people and their active participation in the struggle for national liberation.

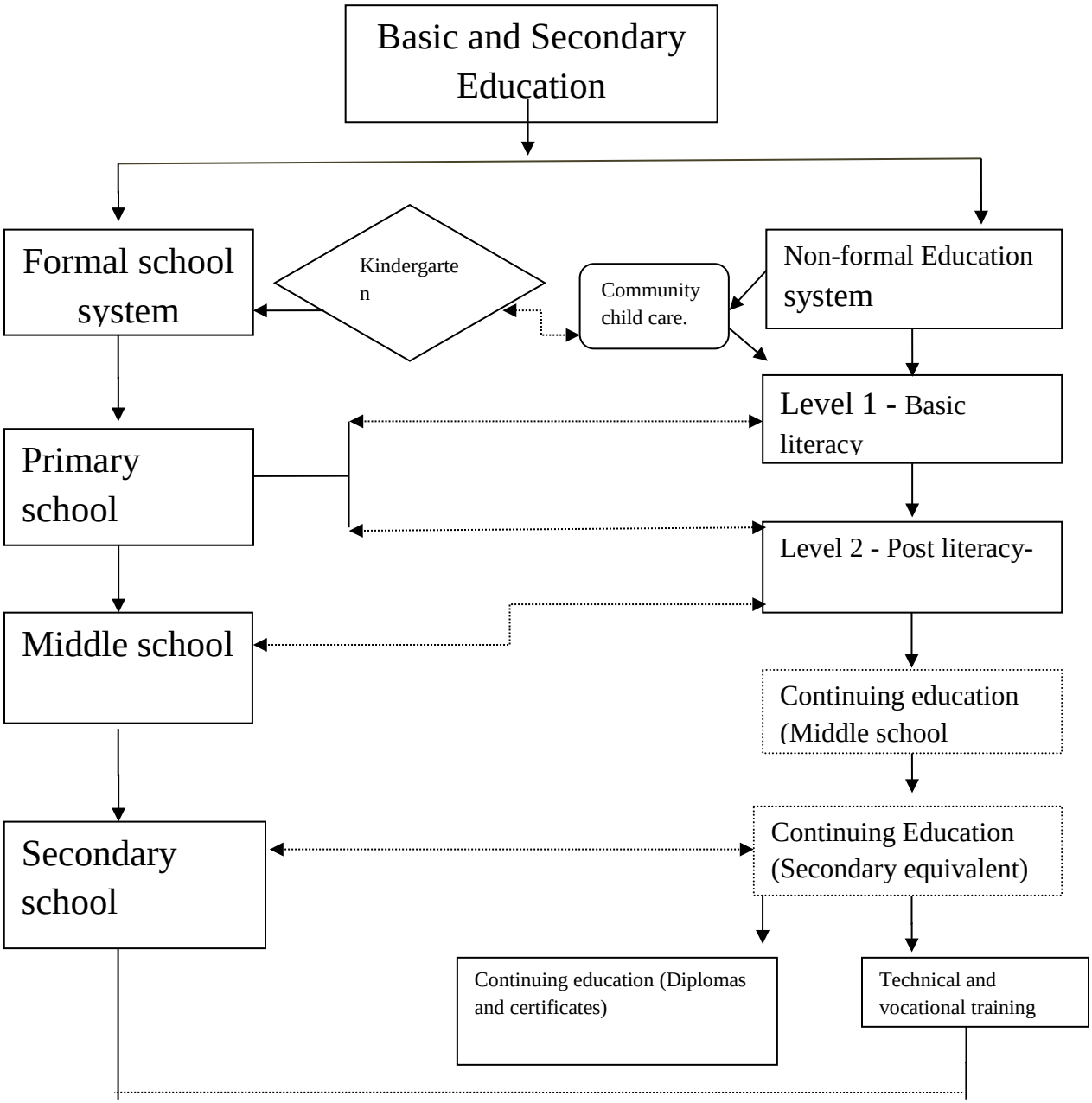
The role of the national media services has also been crucial since independence, they have provided all sorts of social, political, cultural, economic contents/coverage informally. Non-formal education, on the other hand, although limited in coverage and scope, has been provided in Eritrea for a long time.

One vivid challenge concerning the three domains of education, as noted earlier, is that these terms are not yet clearly defined and understood by all concerned. Comprehensive data could not be produced and used for different purposes. It can be recommended here that a comprehensive study be conducted to come up with relevant and applicable mechanisms on how to plan, implement and evaluate the outcomes, of learning such as the recognition and validation of prior learning and experiences acquired by many citizens.

8.1.3. The Supply and Structure of ANFE

This sub-section describes the ANFE further by elaborating the main types of programmes, ownership, goals and targets, beneficiaries, while highlighting the linkage with the formal education streams(general and vocational). The proposed structure of the subsector is as follows.

Figure 8.1 Relationship of adult education and the formal education system



The ANFE is conceived as a comprehensive sub-sector, which is equivalent and complementary to the formal system. The national Adult Education Programme currently consists of 3 components (NPAE, 2013):

- Youth and adult literacy and post-literacy
- Continuing education, including vocational training and life-skills acquisition, for youth and adults (15 years old plus), as well as
- Complementary primary education for out-of-school children (CEE) for 9 – 14 years-old.

The DAME is structured in three divisions and 7 units. It has the mandate to facilitate and coordinate ANFE programs in the country. Currently the management structure stretches from the national to the sub –zoba levels, with staff recruited on a permanent basis as employees of the MoE. Facilitators and center coordinators are recruited on a part time basis at learning centers (villages) almost annually.

8.1.4. The Programmes and Activities

The Literacy and Post-Literacy Programmes

Literacy means the acquisition of reading, writing and numeracy skills. **Post-literacy** is an advanced level in the literacy acquisition continuum that is aimed at ensuring sustainable literacy skills. It includes learning activities beyond the basic literacy level and intends to offer neo-literates opportunities to consolidate their newly acquired literacy skills and to extend them further.

Literacy and post-literacy are the foundational components of the Adult Education Programme. The provision of literacy and post-literacy lasts 18 months stretched over a 3-year period, and is equivalent to the primary level of the formal school system. Successful completers of post-literacy are able to proceed to the continuing education component in the Adult Education Programme, either focusing on life skills and vocational training or on academic studies. Alternatively they can sit for the national examinations (competence test) if they wish to join middle school (in the formal system).

a) Target Groups

The literacy and post-literacy components of the Adult Education Programme are catering to all youth and adults who have not had a chance to benefit from formal education. Special attention will be provided to:

b) Objectives

The literacy and post-literacy components aim at:

- Raising the youth and adult literacy rates;
- Equipping youth and adults with basic and advanced literacy skills;
- Providing youth and adults with knowledge and competences to carry out their roles as parents, citizens and in the labor market, including basic knowledge of HIV/AIDS prevention and management;
- Closing the gender and social gaps in education by paying special attention to women, as well as youth and adults in remote areas and other disadvantaged groups;
- Laying the foundations for further learning.

The Continuing Education Programme

Continuing education is an alternative for adults and youth to the formal education route. It can be offered with an academic focus to initially achieve formal middle school or secondary school equivalence through different mechanisms. Alternatively, continuing education can be provided in the form of vocational training or life-skills acquisition. Together with literacy education, continuing education provides routes for adults to extend their levels of education through non-formal means. To date, the Ministry of Education, Ministry of Defense and the Prison and rehabilitation Services have been providing continuing education in different forms. These include evening classes and short intensive courses (MoE, Eritrea: National EFA Framework for Action, October 2008).

The provision of continuing education (evening classes) however, has been very much limited in coverage and enrolment. Firstly, the evening classes have been confined to a very few urban centers. Secondly, it has been very much limited in enrolment. For example, a total of only 12,388 learners have been enrolled in evening classes at the middle (28% females) and 13,289 at the secondary (21% females) levels in the past 5 years (2011- 2016) and only 66% of them have completed their studies. This trend of high dropout is a serious issue that needs attention.

Currently, continuing education programs are entirely dependent upon formal education resources for all aspects of their operations: curriculum, teachers, infrastructure, teaching and learning methods and materials. However, there are some notable differences between formal and continuing education and an attempt is being made to adapt or develop a programme (curriculum) that suits the context of the heterogeneous nature of adult learners.

a) Target Groups

Continuing education aims to meet the educational needs of youth and adults who would like to further their education and development. It is open to all youth and adults who fulfill the following requirements, irrespective of age:

- Post-literacy graduates (neo-literates);
- Formal middle school leavers; and
- All other members of the community who qualify.

Those who wish to participate in continuing education must show certificates of completion of the post-literacy or middle school level, as well as demonstrate proven competencies in selected areas that ensure they are able to cope with the demands of continuing education.

b) Objectives

The main objectives of continuing education are to:

- Provide youth and adults with opportunities to further their education;
- Offer an alternative route for the acquisition of formal education, whereby youth and adults could complete their secondary level education and pursue advanced formal educational programmes at the certificate, diploma, and etc. levels.

- Empower youth and adults with vocational and life skills and competences that would enable them to improve their employability and productivity;
- Support the development of a culture of lifelong learning.

c) Delivery Mechanisms

Continuing education will make use of formal school buildings, colleges and other locally available premises and facilities.

With the aim of developing equivalency with the formal system, non-formal continuing education will provide the knowledge, skills and competences set out in the formal system, in a form adjusted to fit a shorter, non-formal course scheme and designed for youth and adults. The course subjects will include arts and sciences, as would be specified in the adult education curriculum under preparation, and according to the interests, orientation and capacities of the youth and adult learners.

The specific syllabuses of the (academic) continuing education curriculum will be developed as part of the adult education curriculum, which is currently taken as a priority to be implemented.

Complementary Elementary Education (CEE)

Complementary Elementary Education (CEE) is a government program managed as part of the adult literacy and post-literacy program for out-of-school children in the country. It started in 2006/07 as a joint national task between the MoE and UNICEF and has been implemented in 4 zobas. The main target groups are disadvantaged boys and girls 9-14 years old. The targeted 4 zobas SKB, DKB, Anseba and Gash Barka have also been the beneficiaries of the GPE support to education in Eritrea.

The complementary elementary education (CEE) program constitutes a special component of the Adult Education Programme, as it helps to prevent adult illiteracy. Although the target group is clearly below the range of youth and adults, the CEE program is included in the Adult Education provision in order to offer a comprehensive non-formal education programme which is catering to the learning needs of all age groups.

CEE is an accelerated channel defined as: an intensive three-year course that is equivalent to five years of primary schooling. It is aimed at providing out-of-school boys and girls with the necessary skills and knowledge.

Target Groups

The CEE program is addressed at children 9 – 14 years old who had initially missed the opportunity to attend formal schooling, with a specific focus on girls.

Objectives:

- Provide an equivalent package of basic education to children of ages 9-14 years who had missing formal education.

- Mainstream the out-of-school-children into appropriate levels in the formal school system or into apprenticeship or TVET skills training, depending on their ages, capacities and interests.
- Provide further guidance to out-of-school children to ensure that they remain in the education system, and/or acquire vocational skills through apprenticeship or through other means.

Certification and Equivalences

As clearly explained in the national education policy, the National curriculum Framework as well as the National Policy on Adult Education, ANFE programmes are largely defined and designed as equivalent programmes to those offered in formal education. Hence, appropriate certificates are issued to learners who complete the courses successfully.

SECTION 2: NEEDS AND PARTICIPATION

8.2.1. Estimate of the Potential Demand for Adult and Non-Formal Education(literacy)

The educational system in Eritrea is secular and covers all school age children and adults without distinction of class, sex, religion or ethnic group. In the adult and non-formal system, adult literacy and post-literacy programs are provided to children, youth and adults who, for various reasons, did not get that opportunity in the formal education system.

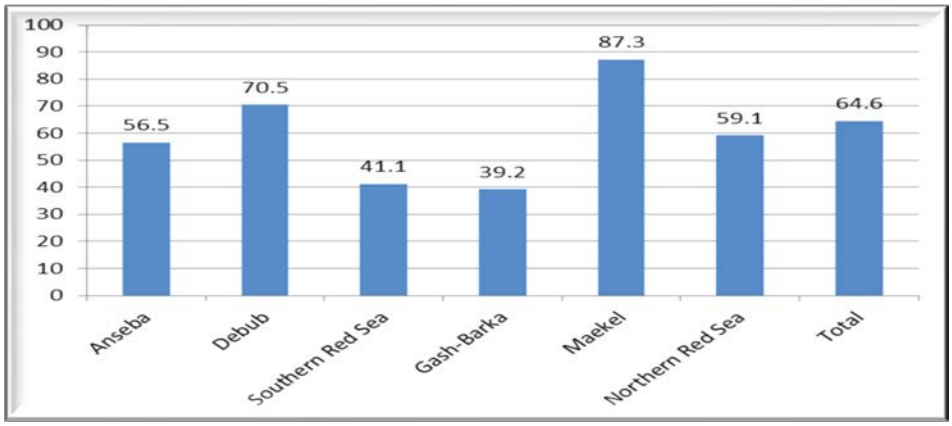
In 1991, at the time of the birth of the newly independent Eritrea, the illiteracy rate was estimated to be as high as about 80%, and, worse the female illiteracy rate was estimated to be about 90%. Illiteracy, i.e. the inability to read, write and perform written simple arithmetic calculations is seriously considered as a stumbling block to development. Literacy, on the other hand as the ability to read, write and do simple arithmetic is taken as an essential pre-requisite for further education and development. In line with this, one of the underpinning principles of the Ministry of Education in Eritrea is to ensure equitable access to education and training to all citizens through formal, non-formal and informal means, so as to ensure social justice by empowering citizens with the necessary skills, knowledge and attitudes.

Despite the notable achievements made in the implementation of adult literacy in the country, still much needs to be done to ensure quality literacy for all in the country. For instance, according to the 2008 National Literacy Survey, the national literacy rate stood at 65% (with male and female literacy rates of 73.6% and 56.5% respectively) with some regional disparities. Moreover, the survey indicated the youth literacy rate (ages 15 – 45) to be 88%. This, of course, has increased in the last nine years as a result of the ongoing literacy programs and formal education programs.

However, the prevalence of early drop outs and the possibility of relapsing into illiteracy swell the number of illiterates or semi-literates in the country. This justifies the need for concerted efforts to enhance what is being done in terms of maintaining and expanding access to address the learning needs of many citizens outside the formal education system.

Different surveys and assessments conducted in the past showed that still there are many citizens (children and youth) out-of-school. According to the findings of the National Literacy survey conducted in 2008 the literacy status by age, sex, residence, by zoba reads as follows:

Figure 8.2: Adult literacy rate by zoba



On the other hand, the results of the recently conducted country study (2016) on out-of-school children shows that a considerable portion of the school age 2012/2013 population is still out of the education system. The results clearly indicated that, in that academic year, more than 156,000 school age children were out-of-school. This, added to the hundreds of thousands of adults (15 years old and above) with little or no education at all, constitutes a very serious challenge. Yet, it is important to note that, in the last 25 years steady progress has been recorded in enrolment. As the tables and graphs below show, enrolment in adult literacy in the last five years alone has reached 231,553 of, which 88% relates to women. Despite this promising increase in enrolment, the literacy program faces huge challenges in terms of access in disadvantaged areas.

Table 8.1: Number of villages with and without literacy programs so far

Zoba	No of Sub-zobas	No of kebabis	No. of villages	Villages With literacy access	%	Villages With No literacy access	%
Anseba	*11*	*110*	*516*	*331*	*64%*	*185*	*35.80%*
Debub	*12*	*227*	*998*	*818*	*77%*	*163*	*16.10%*
DKB	*4*	*30*	*106*	*49*	*46%*	*59*	*55.70%*
Gash Barka	*14*	*191*	*822*	*477*	*58%*	*197*	*24.00%*
Maekel	*7*	*59*	*102*	*100*	*98%*	*2*	*5.90%*
SKB	*10*	*101*	*289*	*216*	*74.70%*	*73*	*25.2.8%*
Total	**58**	**718**	**2849**	**1991**	**76%**	**679**	**23.80%**

Table 8.1 shows that there are still 679 villages nationwide with no literacy activities so far. Most of these villages are in the above mentioned four zobas with lower literacy rates.

As indicated earlier, in 2008, about 35% of the Eritrean people could not read and write (ENLS 2008). How many of those category are really literate in the technical sense of the term (i.e. are able to read and write simple statements and do simple calculations), needs further study and care. This issue arises because the overall goal is to make all Eritreans functionally literate, and to enable them to act and perform well in situations that require literacy skills, including the ability to participate in relevant training programs and social functions (as citizens, workers, parents, etc.)

8.2.2. Enrolment, Learning Carriers and Internal Efficiency

Current Situation of the Literacy and Post-literacy programs

Adult literacy in Eritrea is composed of basic literacy and post-literacy, which is equivalent to five years of formal primary education. At the end of the basic literacy phase, participants are expected to attain a basic level of reading, writing and numeracy. The main thrust of the post-literacy level, is the consolidation of previously acquired literacy skills, including basic science and social studies. Adult literacy is understood as part and parcel of basic education in the education system. The target groups for this programme are adults and youth (men and women) 15 years old and above, with an emphasis on the15-45 years age group, who missed the opportunity of formal education during their childhood years.

Adult literacy in Eritrea is implemented in a co-ordinated manner. Ministry of Education with the support of stakeholders has the leading role in planning, implementing and evaluating the national literacy programme. Since 1998/9 it was agreed among the stakeholders that national literacy programme should be jointly dealt with, rather than duplicating efforts and materials in implementing fragmented literacy projects.

Access and Equity

One of the important measures of educational success is accessibility. Before independence and in the first few years of independence provision of literacy program was very limited. However, since 1998 as a result of the relentless and collaborative efforts from the government and development partners literacy enrolment was boomed to tens of thousands. In the last 10 year (since 2008) a total of 364,697 adults (of which 323,436 women) were registered at the learning centers of adult literacy programmes. This large number of enrolment will definitely have an impact on the increase of literacy rate in the country.

Table 8.2: Literacy enrolment 1993/1998

Year	Registered			Drop outs			Completers		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
93/94	*2494*	*1537*	*4031*	*1611*	*994*	*2605*	*883*	*543*	*1426*
94/95	*869*	*1286*	*2155*	*459*	*564*	*1023*	*410*	*722*	*1132*
95/96	*648*	*6929*	*7577*	*433*	*2095*	*2528*	*215*	*4834*	*5049*
96/97	*331*	*5816*	*6147*	*184*	*1253*	*1437*	*147*	*4563*	*4710*
97/98	*655*	*10922*	*11577*	*300*	*3311*	*3611*	*355*	*7611*	*7966*

Table 8.3: Literacy enrolment 1999/2009

Year	Registered			Drop outs			Completers		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
98/99	*1431*	*19442*	*20873*	*764*	*5759*	*6523*	*667*	*13683*	*14350*
99/00	*2835*	*49497*	*52332*	*1205*	*12233*	*13438*	*1630*	*37264*	*38894*
00/01	*3362*	*51084*	*54446*	*1321*	*15646*	*16967*	*2041*	*35438*	*37479*
01-Feb	*5112*	*47719*	*52831*	*1707*	*13170*	*14877*	*3405*	*34549*	*37954*
02-Mar	*5524*	*51258*	*56782*	*1334*	*10561*	*11895*	*4190*	*40697*	*44887*
03-Apr	*7114*	*53963*	*61077*	*1562*	*12172*	*13734*	*5552*	*41791*	*47343*
04-May	*9671*	*72530*	*82201*	*1902*	*7780*	*9682*	*7769*	*64750*	*72519*
05-Jun	*10189*	*91548*	*101737*	*2162*	*9833*	*11995*	*8027*	*81715*	*89742*
06-Jul	*7978*	*62554*	*70532*	*1914*	*10464*	*12378*	*6064*	*52090*	*58154*
07-Aug	*6277*	*48911*	*55188*	*2017*	*11105*	*13122*	*46894*	*37806*	*42066*
08-Sep	*4081*	*42749*	*46830*	*1331*	*9662*	*10993*	*2750*	*33087*	*35837*

Table 8.4: Literacy enrolment 2010/2016

Year	Registered			Drop outs			Completers		
	Male	**Female**	**Total**	**Male**	**Female**	**Total**	**Male**	**Female**	**Total**
09-Oct	*3550*	*36639*	*40189*	*887*	*7903*	*8790*	*2663*	*28736*	*31399*
10-Nov	*5297*	*40828*	*46125*	*1241*	*9664*	*10905*	*4056*	*31164*	*35220*
11-Dec	*4255*	*47449*	*51704*	*1518*	*10406*	*11924*	*2737*	*37043*	*39780*
Dec-13	*5529*	*41216*	*46743*	*1673*	*9735*	*11408*	*3856*	*31481*	*35337*
13/14	*9387*	*45831*	*55218*	*2261*	*6904*	*9165*	*7126*	*38927*	*46053*
14/15	*4247*	*35222*	*39469*	*1090*	*8913*	*10003*	*3157*	*26309*	*29466*
15/16	*4915*	*33502*	*38417*	*1471*	*7924*	*9395*	*3444*	*25578*	*29022*

Figure 8.3: Enrolment trend 1993/2016

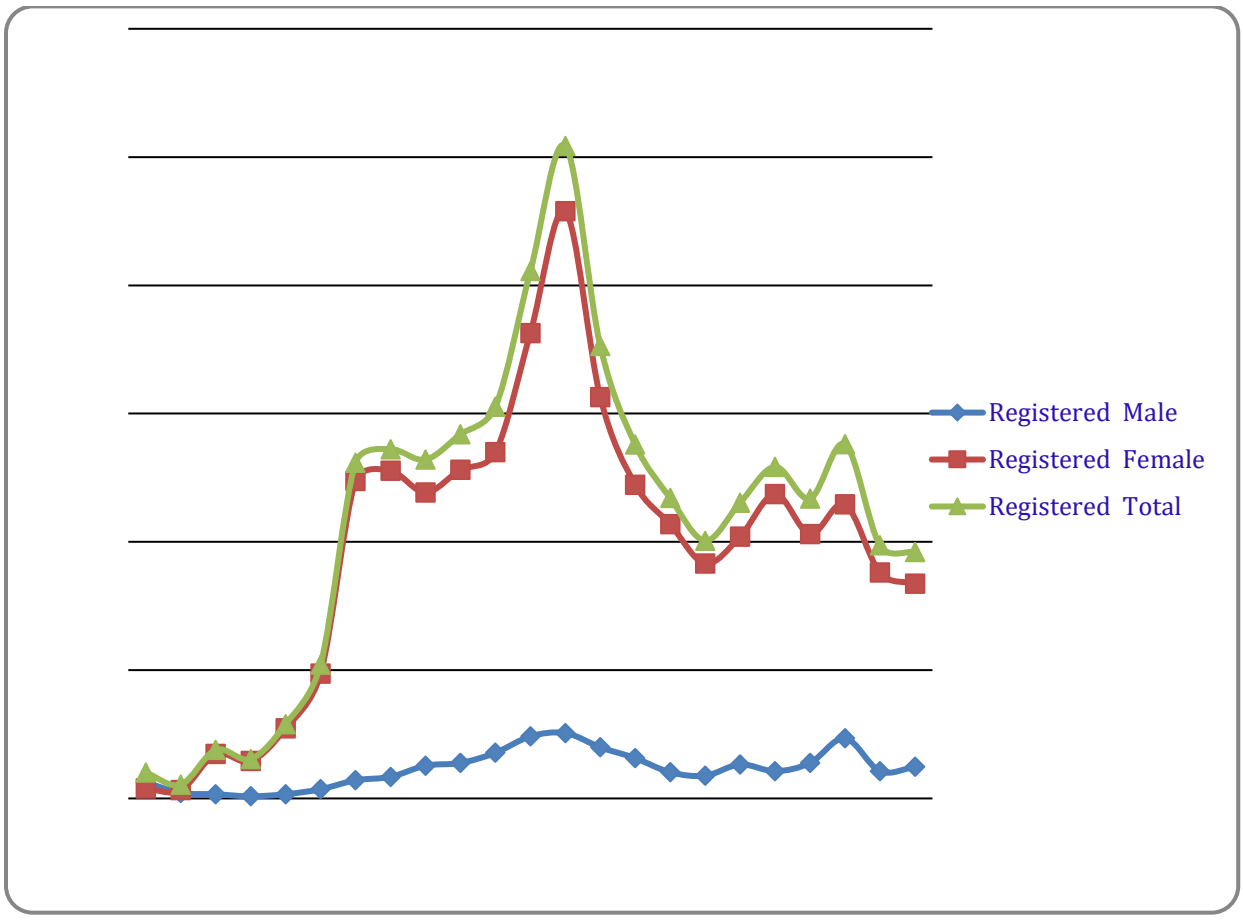


Table 8.5: Literacy participants by Zoba

Academic Year	Zobas						Total
	Anseba	Debub	DKB	Gash Barka	Maekel	SKB	
2011/12	*11165*	*11585*	*1204*	*15711*	*1449*	*10590*	*51704*
2012/13	*11336*	*5962*	*1538*	*16183*	*945*	*10782*	*46743*
2013/14	*13162*	*6017*	*2251*	*20333*	*1068*	*12387*	*55218*
2014/15	*7318*	*5224*	*1754*	*13563*	*607*	*11003*	*39469*
2015/16	*5276*	*4022*	*1780*	*16985*	*157*	*10197*	*38417*

If we look at the share of enrolment by zoba depicted in table 8.5 we see that, the majority of the literacy participants (89%) came from the 4 disadvantaged Zobas (Anseba, SKB, DKB and Gash Barka). Furthermore, it can be observed that the majority of the literacy program participants (87%) were women. More importantly, the literacy enrolment was higher in Zoba Gash Barka than the other zobas. For instance, in the 2015/16 academic year 44.2 % of those enrolled came from Zoba Gash Barka and second

26.5 % from Zoba SKB. This is an encouraging move, considering that Zoba Gash Barka was listed at the bottom in the order of literacy status in the 2008 national Literacy Survey with a literacy rate of only 39%.

Table 8.5 also shows the irregularity in the increase of enrolment among the six zobas. In two zobas, namely Maekel and Debub, enrolment decreased, which is in line with the findings of the 2008, where these zobas had the highest literacy rates, 87% in Maekel and 70.5% in Debub. On the other hand, enrolment almost increased in the other 4 zobas, except in Zoba Anseba, where it decreased in the last 2 years. Although such an enrolment trend is not totally out of expectation, further investigation is needed.

Table 8.6: Literacy program centers by zoba

Academic Year	Learning Centers						Total
	Maekel	Debub	Anseba	Gash Barka	SKB	DKB	
2011/12	72	302	275	245	159	37	1090
2012/13	55	221	269	256	167	40	1008
2013/14	53	229	325	323	209	51	1190
2014/15	28	162	202	238	187	48	865
2015/16	8	176	191	302	182	47	906

The number and distribution of literacy centers across the country shows the program coverage in the country in terms of creating access, as illustrated by/in table 8.6.

Equity

The equity issue is strategically addressed in the provision of adult literacy in Eritrea. To this end, most literacy participants are from the disadvantaged areas of the country. Besides, the program is delivered in all nine local languages at the basic literacy level. The table below shows, the participation in adult literacy by ethnicity in the past 5 years. The table also shows that, learners from the 9 ethnic groups attended the literacy program in the country.

Table 8.7: Literacy participants by ethnicity

Academic year	Ethnic Groups									Total
	Tigrigna	Tigre	Bilen	Kunama	Nara	Saho	Afar	Bdawyet	Rashaida	
2011/12	*14620*	*22699*	*1669*	*1505*	*3554*	*4040*	*2431*	*1147*	*39*	*51704*
2012/13	*9808*	*24650*	*1224*	*1274*	*3660*	*3090*	*2758*	*1145*	*17*	*46743*
2013/14	*17079*	*26688*	*1309*	*1613*	*4052*	*1281*	*2133*	*1064*	-	*55218*
2014/15	*7197*	*21209*	*722*	*477*	*2592*	*2720*	*2833*	*1712*	*7*	*39469*
2015/16	*6573*	*20365*	*557*	*1304*	*3239*	*2110*	*2946*	*1290*	*33*	*38417*

Table 8.8: Enrolment by language of instruction

Academic year	Language of Instruction									Total
	Tigrigna	Tigre	Bilen	Kunama	Nara	Saho	Afar	Bdawyet	Rashaida	
Dec-13	*10259*	*23720*	*881*	*1178*	*2780*	*2579*	*2425*	*2967*	*54*	*46843*
13/14	*11813*	*28995*	*906*	*1510*	*3461*	*2280*	*3370*	*2756*	*127*	*55218*
14/15	*8435*	*20245*	*709*	*486*	*2274*	*2652*	*2761*	*1655*	*252*	*39469*
15/16	*7862*	*19631*	*544*	*1271*	*2628*	*1405*	*2842*	*1985*	*249*	*38417*

The literacy program targeted the age group of 15 years old and above. As can be seen from the table below, the majority of the literacy program participants were from the age group of 15 – 45 years (86%) or the most productive population group.

Table 8.9: Literacy Participants by age and sex

Academic year	Below 15		15 – 19		20 - 24		25 – 45		46+		Total	
	F	T	F	T	F	T	F	T	F	T	F	T
11-Dec	*2293*	*3213*	*6706*	*7895*	*12546*	*13321*	*23323*	*24412*	*2581*	*2863*	*47449*	*51704*
Dec-13	*2315*	*2752*	*5490*	*6257*	*10862*	*12498*	*19597*	*21648*	*2952*	*3618*	*41216*	*46746*
13/14	*2859*	*3422*	*6910*	*7837*	*11083*	*12498*	*21584*	*25987*	*3425*	*5474*	*45831*	*55218*
14/15	*1471*	*1805*	*4569*	*5040*	*10190*	*11144*	*17267*	*19379*	*1725*	*2101*	*35222*	*39469*
15/16	*2006*	*2308*	*5987*	*6695*	*9165*	*10195*	*14456*	*16612*	*1888*	*2607*	*33502*	*38417*

Source DAME annual reports

Quality and Relevance

The Adult literacy program covers two phases, namely literacy and post-literacy. The first level (basic literacy and numeric) is a six months (475 hours a year) course comprising two subjects, mother tongue and mathematics. This is the fundamental level which helps adult learners to acquire essential literacy and numeric skills.

The post literacy level, on the other hand, is a 12 months course. The main trust for this level is to consolidate the basic literacy skills acquired in the initial stage of the literacy program and to serve as a bridge between adult literacy and primary education and to lay the foundation for self-directed learning and lifelong learning.

The Mother tongue is the medium of instruction in both the adult literacy and post-literacy stages. One of the major achievements of the literacy program during the first few years of independence was the preparation and implementation of instructional materials in all local languages. Preparing and implementing locally relevant supplementary reading materials in many local languages has also enforced the quality of learning. Many supplementary reading materials have also been bought from the local market and sent to the community reading rooms in the zobas to improve the quality of learning.

Internal efficiency

Since 1993 the national drop-out rate in the literacy program has stood at an average of 22% (29% men and 20% women). With all the challenges facing the literacy program, the completion rate which stands at an average of 78% is indeed promising. In the adult literacy program, one indicator that is related with internal efficiency is the completion rate compiled from the reports of the zoba education offices, the following table illustrates the number of adults who completed the literacy program at all three levels.

Table 8.10: Literacy enrolment, drop out and completion 2011 – 2016 by Level and Gender

Academic year	Level	Registered		Drop out			Completed		
		F	T	F	T	%	F	T	%
2011/12	1st	23934	26700	5465	6446	24.14%	18469	20254	75.86%
	2nd	15265	16339	3305	3671	22.47%	11960	12668	77.53%
	3rd	8250	8665	1636	1807	20.85%	6614	6858	79.15%
	Total	47,449	51,704	10,406	11,924	23.10%	37,043	39,780	76.90%
2012/13	1st	18,910	22,845	4,713	5,878	25.73%	14,197	16,967	74.27%
	2nd	13,837	14,813	3,238	3,567	24.08%	10,599	11,246	75.92%
	3rd	8,469	9,087	1,784	1,963	21.60%	6,685	7,124	78.40%
	Total	41,216	46,745	9,735	11,408	24.40%	31,481	35,338	75.60%
2013/14	1st	21,944	28,666	3,575	4,857	16.94%	18,369	23,809	83.06%
	2nd	14,401	16,298	2,224	2,658	16.31%	12,177	13,640	83.69%
	3rd	9,486	10,251	1,505	1,650	16.10%	7,981	8,601	83.90%
	Total	45,831	55,218	6,904	9,165	16.60%	38,927	46,053	83.40%
2014/15	1st	13,794	16,041	3,361	4,099	25.55%	10,433	11,942	74.45%
	2nd	12,643	13,999	3,320	3,445	24.61%	9,369	10,554	75.39%
	3rd	8,739	9,429	2,232	2,459	26.08%	1,507	6,970	73.92%
	Total	35,222	39,469	8,913	10,003	25.30%	26,309	29,466	74.70%
2015/16	1st	15,643	1,878	3,665	4,495	239.35%	11,978	14,287	760.76%
	2nd	10,609	11,824	2,512	3,007	25.43%	8,097	8,817	74.57%
	3rd	7,250	7,811	1,746	1,893	24.24%	5,504	5,918	75.76%
	Total	33,502	38,417	7,924	9,395	25.00%	25,578	29,022	75.00%

From the table above it can be observed that in the last five years more than 32,000 adults have completed their third years in the literacy. However, many participants dropped out before going in to the second year of the program.

Another important indicator of internal efficiency is the number of third year graduates who are employed in different government offices.

From the reports of two zobas (Anseba and SKB), it can be seen that the literacy program is serving its purpose, since, there are many literacy graduates who were employed in tasks which demand reading and writing skills. In Zoba Anseba alone, as a small survey conducted by the zoba indicates, 560 literacy

program completers have been identified, who were assigned in tasks that demand writing and reading skills,. In Zoba SKB, in the town of Afabet, almost all the office workers (registrars, operators, and cashiers, etc.) are products of the adult literacy program in the area. Some of these people have even continued their education through evening classes joined middle and secondary schools. (Source, Zoba reports.)

However, it is noteworthy that because English is not provided as a subject in most adult centers, many third year level literacy completers have not been able to continue into higher levels of education (through evening programs or other alternatives).

Quality

Beyond the steady progress in access, the issue of quality is of great concern for the program. The availability of academically and professionally qualified facilitators, favorable learning environments and relevant curriculum content are some of the main features of quality education.

Yet, as the table 8.12 below shows 61.2% of literacy teachers did not complete their secondary education. In addition, apart from getting very short in-service training, they lack adequate professional capacity. As the mother tongue is the instructional language in the literacy program, the program suffers from lack of qualified mother tongue facilitators. Besides, many literacy classes are still conducted under the shade of trees in rented houses and in shacks.

Availability of qualified teachers

Currently the main sources of literacy facilitators are the nearby primary school teachers and some teachers recruited from the community. The regular facilitators in adult literacy are primary school teachers from nearby schools. Community teachers refer to facilitators recruited from within community. Most of the community teachers lack both academic knowledge and pedagogic training.

Table 8.11: Literacy teachers by type

Academic year	Total No. of teachers		Regular		%	Community Teachers		%
	F	T	F	T	%	F	T	%
2011/12	*1226*	*2662*	*273*	*1299*	*48.80%*	*953*	*1363*	*51.20%*
2012/13	*1050*	*2443*	*329*	*1266*	*51.82%*	*721*	*1177*	*48.18%*
2013/14	*1082*	*2881*	*257*	*1511*	*52.45%*	*825*	*1370*	*47.55%*
2014/15	*745*	*2585*	*89*	*1307*	*50.56%*	*656*	*1278*	*49.44%*
2015/16	*635*	*2144*	*72*	*1044*	*48.69%*	*563*	*1100*	*51.31%*

Table 8.12: Literacy teachers by academic qualification

Academic year	Academic Level				Total
	below 6	06-Aug	09-Dec	above 12	
Dec-13	*24*	*368*	*772*	*1059*	*2223*
13/14	*72*	*475*	*660*	*780*	*1987*
14/15	*86*	*283*	*1271*	*562*	*2202*
15/16	*25*	*422*	*807*	*890*	*2144*

The above table indicates that 61.2% of literacy teachers have academic qualifications below the national standard of primary school teacher (grade 12). Even worse 26% of them did not complete their secondary level education. Moreover many of them lack teaching experience. Every year new facilitators are recruited. Of these new recruits, many never stay for the next academic year, which in turn affects the quality of learning.

Although there is limited statistical data of teachers by language of instruction, the shortage of mother tongue teachers (particularly in some ethnic groups) is one of the major challenges in the literacy program.

Supervision and Monitoring

The facilitators described above need continuous guidance and close professional. To this end, the MoE has assigned at least one adult education representative or supervisor in each zoba and sub-zoba to support and guide the teachers. However, due to various reasons like the lack of transport, low competence of supervisors, and the remoteness of many literacy centers, conducting proper supervision turns out to be extremely difficult.

Not only the quality of teachers, but also the learning environment negatively affect the quality of education. In this case, as Table 8.13 indicate, the literacy program is mostly carried out in a very harsh environment. Apart from a few centers which use the premises of nearby primary schools (27%), the majority of literacy classes (73%) are run under the shade of trees, in rented small houses and in shacks. These types of classes are easily exposed to extreme weather conditions caused by wind and very strong sunshine.

Table 8.13: Types of literacy classes

Academic year	Types of learning centers					Total
	School Premises	Rented Houses	Shacks	Tree Shades	Others	
2011/12	*311*	*106*	*422*	*117*	*14*	*970*
2015/16	*180*	*46*	*334*	*210*	*89*	*859*

Current situation of the Complementary Elementary Education (CEE) program for out-of-school children

In the year [2]2006, it was agreed that the program be officially launched in the four most disadvantaged zobas, namely, SKB, DKB, Anseba and Gash Barka, targeting out-of-school children in the age range of 9-14 years. It has been named the Complementary Elementary Education (CEE) program and its purposes have been to:

- Provide an equivalent package of basic education to children of ages 9-14 years who don't attend school.
- Mainstream the out-of-school-children into appropriate levels in the formal school system or into apprenticeship or vocational training depending on their ages, capacities and interests.
- Provide further guidance to ensure that they remain in the school system, get into technical and vocational education or any organized apprenticeship.

The program has been providing educational access to the four targeted zobas for more than ten years. To evaluate and identify the status and challenges of the program, a comprehensive analysis has been conducted by focusing on access, equity, quality and the challenges encountered.

ACCESS AND EQUITY

Access

Learning centers

Table 8.14: Number of learning centers across regions

Academic year	Anseba	Gash Barka	SKB	DKB	Total
2011/12	*34*	*25*	*17*	*3*	*79*
2012/13	*33*	*26*	*14*	*3*	*76*
2013/14	*40*	*31*	*15*	*3*	*89*
2014/15	*45*	*26*	*22*	*3*	*96*
2015/16	*49*	*30*	*25*	*3*	*107*

Source: MOE, Department of Adult Education and Media, 2015/16.

The CEE program started in 18 learning centers in the four regions in 2007. [3]At that time, there were 2, 3, 9 and 4 learning centers in the Anseba, Gash Barka, SKB and DKB regions respectively. The program was expanded by opening additional learning centers in the target regions. The more the learning centers

[2]Ministry of Education (2008): Concept Paper on Complementary Basic Education for Out-of-School Children Eritrea.

[3]. MOE (2015/16): Statistical data Department Adult Education and Media.

increased the more the educational opportunities increased. For instance, if we look at the number of learning centers in the 2011/12 and 2015/16 academic years in the table above, we observed an increase of 26% (from 79 to 107). The trend, shows the expansion of access in the target regions. Moreover, some of the learning centers have eventually evolved into regular primary schools.

Enrolment

The total number of learners who have been enrolled in the CEE program since its inception in 2006 is 28,070, out which 12,698 were females (45.2 %). The detailed enrolment data the four target zobas (2005/06 – 2015/16) were as follows:

Table 8.15: Level 1 Enrollment, Dropout and Promotion by Zoba

Academic year	Zoba	Enrolment			Dropouts				Promoted			
		M	F	T	M	F	T	%	M	F	T	%
2011/12	Anseba	1037	809	1846	178	128	306	17%	681	542	1219	66
	GB	686	421	1107	110	58	168	15%	470	271	741	67.9
	SKB	345	244	589	34	52	86	15%	261	157	418	71
	DKB	30	0	30	1	0	1	3%	26	0	26	86.7
	Total	2098	1474	3572	323	238	561	0.5	1438	970	2404	
2012/13	Anseba	825	587	1412	287	166	453	32%	360	278	638	45
	GB	578	394	972	105	80	185	19%	398	236	634	65
	SKB	403	286	689	38	25	63	9%	347	254	601	87
	DKB	24	2	26	2	1	3	12%	22	1	23	81
	Total	1830	1269	3099	432	272	704	0.72	1127	769	1896	
2013/14	Anseba	817	635	1452	142	88	230	16%	571	473	1044	72
	GB	665	471	1136	112	68	180	16%	471	323	794	70
	SKB	409	286	695	44	25	69	10%	347	254	601	86
	DKB	20	7	27	2	0	2	7%	17	5	22	88
	Total	1911	1399	3310	300	181	481	0.49	1406	1055	2461	
2014/15	Anseba	808	618	1426	207	162	369	26%	543	406	949	67
	GB	437	368	805	67	58	125	16%	329	274	603	75
	SKB	278	200	478	81	64	145	30%	170	125	295	62
	DKB	26	0	26	1	0	1	4%	23	0	23	100
	Total	1549	1186	2735	356	284	640	0.76	1065	805	1870	
2015/16	Anseba	885	774	1659	184	173	357	22%	140	119	1282	77
	GB	556	490	1046	94	52	146	14%	415	385	800	76
	SKB	293	253	546	94	67	161	29%	184	180	364	67
	DKB	57	23	80	0	0	0	0%	57	23	80	92
	Total	**1791**	**1540**	**3331**	**372**	**292**	**664**	**0.65**	**796**	**707**	**2526**	
G.Total		**9179**	**6868**	**16047**	**1783**	**1267**	**3050**	**19%**	**5998**	**4775**	**11157**	**69.5**

Table 8.16: Level 1 Enrollment, Dropout and Promotion by level

		Enrollment			Dropout				Promotion			
Academic year	**Zoba**	**M**	**F**	**T**	**M**	**F**	**T**	**%**	**M**	**F**	**T**	**%**
	Anseba	*579*	*568*	*1147*	*58*	*59*	*117*	*10*	*436*	*399*	*839*	*73*
	GB	*402*	*318*	*720*	*46*	*32*	*78*	*11*	*271*	*194*	*465*	*65*
	SKB	*387*	*245*	*632*	*57*	*34*	*91*		*297*	*189*	*486*	
	DKB	*32*	*1*	*33*	*2*	*0*	*2*		*29*	*0*	*29*	
	Total	***1400***	***1132***	***2532***	***163***	***125***	***288***	***11***	***1033***	***782***	***1819***	*72*
2012/13	Anseba	*621*	*566*	*1187*	*14*	*5*	*19*	*2*	*522*	*455*	*977*	*82*
	GB	*382*	*269*	*651*	*62*	*46*	*108*	*17*	*237*	*172*	*409*	*63*
	SKB	*194*	*150*	*344*	*22*	*22*	*44*		*151*	*116*	*267*	
	DKB	*29*	*0*	*29*	*8*	*0*	*8*		*21*	*0*	*21*	
	Total	***1226***	***985***	***2211***	***106***	***73***	***179***	***8***	***931***	***743***	***1674***	***76***
2013/14	Anseba	*868*	*710*	*1578*	*243*	*115*	*358*	*23*	*421*	*434*	*855*	*54*
	GB	*390*	*251*	*641*	*63*	*33*	*96*	*15*	*299*	*191*	*490*	*76*
	SKB	*200*	*152*	*352*	*28*	*24*	*52*		*151*	*116*	*267*	
	DKB	*21*	*1*	*22*	*2*	*1*	*3*		*19*	*0*	*10*	
	Total	***1479***	***1114***	***2593***	***336***	***173***	***509***	***20***	***890***	***741***	***1622***	***63***
2014/15	Anseba	*599*	*468*	*1067*	*9*	*35*	*44*	*4*	*536*	*383*	*919*	*86*
	GB	*398*	*257*	*655*	*111*	*3*	*114*	*17*	*272*	*188*	*460*	*70*
	SKB	*326*	*227*	*553*	*62*	*54*	*116*		*252*	*161*	*413*	
	DKB	*18*	*7*	*25*	*2*	*0*	*2*		*16*	*7*	*23*	
	Total	***1341***	***959***	***2300***	***184***	***92***	***276***	***12***	***1076***	***739***	***1815***	***79***
2015/16	Anseba	*666*	*488*	*1154*	*94*	*109*	*203*	*18*	*498*	*317*	*815*	*70*
	GB	*308*	*318*	*626*	*51*	*32*	*83*	*13*	*231*	*252*	*483*	*77*
	SKB	*207*	*187*	*394*	*45*	*46*	*91*		*148*	*126*	*274*	
	DKB	*22*	*0*	*22*	*4*	*0*	*4*		*18*	*0*	*18*	
	Total	***1203***	***993***	***2196***	***194***	***187***	***381***	***17***	***895***	***695***	***1590***	***72***
G.Total		***6649***	***5183***	***11832***	***983***	***650***	***1633***	***14***	***4825***	***3700***	***8520***	***72***

Table 8.17: Level 2: Enrollment, Dropout and Promotion by zoba

		Enrollment			Dropout				Promotion			
Academic year	**Zoba**	**M**	**F**	**T**	**M**	**F**	**T**	**%**	**M**	**F**	**T**	**%**
	Anseba	*579*	*568*	*1147*	*58*	*59*	*117*	*10*	*436*	*399*	*839*	*73*
	GB	*402*	*318*	*720*	*46*	*32*	*78*	*11*	*271*	*194*	*465*	*65*
	SKB	*387*	*245*	*632*	*57*	*34*	*91*		*297*	*189*	*486*	
	DKB	*32*	*1*	*33*	*2*	*0*	*2*		*29*	*0*	*29*	
	Total	***1400***	***1132***	***2532***	***163***	***125***	***288***	***11***	***1033***	***782***	***1819***	*72*
2012/13	Anseba	*621*	*566*	*1187*	*14*	*5*	*19*	*2*	*522*	*455*	*977*	*82*
	GB	*382*	*269*	*651*	*62*	*46*	*108*	*17*	*237*	*172*	*409*	*63*
	SKB	*194*	*150*	*344*	*22*	*22*	*44*		*151*	*116*	*267*	
	DKB	*29*	*0*	*29*	*8*	*0*	*8*		*21*	*0*	*21*	
	Total	***1226***	***985***	***2211***	***106***	***73***	***179***	***8***	***931***	***743***	***1674***	***76***
2013/14	Anseba	*868*	*710*	*1578*	*243*	*115*	*358*	*23*	*421*	*434*	*855*	*54*
	GB	*390*	*251*	*641*	*63*	*33*	*96*	*15*	*299*	*191*	*490*	*76*
	SKB	*200*	*152*	*352*	*28*	*24*	*52*		*151*	*116*	*267*	
	DKB	*21*	*1*	*22*	*2*	*1*	*3*		*19*	*0*	*10*	
	Total	***1479***	***1114***	***2593***	***336***	***173***	***509***	***20***	***890***	***741***	***1622***	***63***
2014/15	Anseba	*599*	*468*	*1067*	*9*	*35*	*44*	*4*	*536*	*383*	*919*	*86*
	GB	*398*	*257*	*655*	*111*	*3*	*114*	*17*	*272*	*188*	*460*	*70*
	SKB	*326*	*227*	*553*	*62*	*54*	*116*		*252*	*161*	*413*	
	DKB	*18*	*7*	*25*	*2*	*0*	*2*		*16*	*7*	*23*	
	Total	***1341***	***959***	***2300***	***184***	***92***	***276***	***12***	***1076***	***739***	***1815***	***79***
2015/16	Anseba	*666*	*488*	*1154*	*94*	*109*	*203*	*18*	*498*	*317*	*815*	*70*
	GB	*308*	*318*	*626*	*51*	*32*	*83*	*13*	*231*	*252*	*483*	*77*
	SKB	*207*	*187*	*394*	*45*	*46*	*91*		*148*	*126*	*274*	
	DKB	*22*	*0*	*22*	*4*	*0*	*4*		*18*	*0*	*18*	
	Total	***1203***	***993***	***2196***	***194***	***187***	***381***	***17***	***895***	***695***	***1590***	***72***
G.Total		***6649***	***5183***	***11832***	***983***	***650***	***1633***	***14***	***4825***	***3700***	***8520***	***72***

Table 8.18: Level 2 Enrollment, Dropout and Promotion by level

Academic year	Level	Enrolment			Dropouts				Promoted			
		M	F	T	M	F	T	%	M	F	T	%
2011/12	**Level 2**	1400	1132	2532	163	125	288	11%	1033	782	1819	72%
2012/13	**Level 2**	1226	985	2211	106	73	179	8%	931	743	1674	76%
2013/14	**Level 2**	1479	1114	2593	336	173	509	20%	890	741	1622	63%
2014/15	**Level 2**	1341	959	2300	184	92	276	12%	1076	739	1815	79%
2015/16	**Level 2**	1203	993	2196	194	187	381	17%	895	695	1590	72%
Total		6649	5183	11832	983	650	1633	14%	4825	3700	8520	72%
Percent Female												

Table 8.19: Level 3: Enrollment, Dropout and Promotion by level

Year	Zoba	Enrolment			Dropouts				Promoted			
		M	F	T	M	F	T	%	M	F	T	%
2011/12	**Anseba**	176	130	306	19	12	31	10%	121	90	211	69
	GB	157	107	264	14	15	29	11%	93	78	204	67
	SKB	212	187	399	34	35	69	17%	153	136	289	72
	DKB	30	0	30	2	0	2	7%	27	0	27	90
	Total	575	424	999	69	62	131	13%	394	304	731	73
2012/13	**Anseba**	471	379	850	63	38	101	12%	372	313	685	81
	GB	281	237	518	28	33	61	12%	223	181	404	78
	SKB	190	131	321	25	17	42	13%	154	101	255	79
	DKB	28	0	28	4	0	4	14%	22	0	22	79
	Total	970	747	1717	120	88	208	12%	771	595	1366	80
2013/14	**Anseba**	513	423	936	79	90	169	18%	387	299	686	73
	GB	320	256	576	44	29	73	13%	238	212	450	78
	SKB	184	129	313	19	15	34	11%	154	101	255	81
	DKB	18	2	20	2	0	2	10%	14	2	16	80
	Total	1035	810	1845	144	134	278	15%	793	614	1407	76
2014/15	**Anseba**	361	277	638	92	86	178	28%	189	159	348	55
	GB	226	195	421	33	28	61	14%	157	146	303	72
	SKB	166	103	269	32	24	56	21%	128	76	204	76
	DKB	18	0	18	0	0	0	0%	17	0	17	94
	Total	771	575	1346	157	138	295	22%	491	381	872	65
2015/16	**Anseba**	463	351	814	73	58	131	16%	382	291	673	83
	GB	310	204	514	47	32	79	15%	237	161	398	77

	SKB	220	156	376	42	24	66	18%	163	124	287	76
	DKB	17	8	25	1	1	2	8%	16	5	21	84
	Total	**1010**	**719**	**1729**	**163**	**115**	**278**	**16%**	**798**	**581**	**1379**	**80**
Total		**4361**	**3275**	**7636**	**653**	**537**	**1190**	**16%**	**3247**	**2475**	**5755**	**75**
Percent Female												

Table 8.20: Level 3Enrollment, Dropout and Promotion by level

Academic year	**Level**	**Enrolment**			**Dropouts**				**Promoted**			
		M	**F**	**T**	**M**	**F**	**T**	**%**	**M**	**F**	**T**	**%**
2011/12	**Level 3**	*575*	*424*	*999*	*69*	*62*	*131*	*13*	*394*	*304*	*731*	*73*
2012/13	**Level 3**	*970*	*747*	*1717*	*120*	*88*	*208*	*12*	*771*	*595*	*1366*	*80*
2013/14	**Level 3**	*1035*	*810*	*1845*	*144*	*134*	*278*	*15*	*793*	*614*	*1407*	*76*
2014/15	**Level 3**	*771*	*575*	*1346*	*157*	*138*	*295*	*22*	*491*	*381*	*872*	*65*
2015/16	**Level 3**	*1010*	*719*	*1729*	*163*	*115*	*278*	*16*	*798*	*581*	*1379*	*80*
Total		***4361***	***3275***	***7636***	***653***	***537***	***1190***	***16***	***3247***	***2475***	***5755***	***75***

Enrollment Status in the four zobas Level 1

Zoba Anseba

In the Anseba region, the number of learners who were enrolled in the CEE program in the ten academic years (2006/07- 20115/16) was12, 435, and 5529 of them were females. For example, the total number of learners in the first 5 academic years (2006/07 - 2010/11) was 4640 out of which 2106 were females. During this period the enrollment in the zoba showed an increment of 36% increasing from 167 in 2006/07 to 1846 in 2010.

On the other hand, the total number of learners during the latter five academic years (2011/12 - 2015/16) was 7795, out of which 3423 were females. Here, the enrolment showed a decreasing trend with some rises and falls. As mentioned earlier, this might be due to the phasing out of some learning centers, as the program is expected to terminate in areas where there are no longer any children aged 9-14 years.

Gash-Barka

In Gash-Barka the number of learners who were enrolled in the CEE program in the nine academic years (2007/08- 20115/16) was 6825, out of which 2967 were females. The total number of students during the first 4 years from 2007/08 to 2010/11 was 1759, out of which 823 were females. Table 8.15 vividly shows that the enrolment in the specified years had shown increments from year to year, with a total increase of 22%, from 108 in 2007/08 to 494 in 2010/11.

The total number of learners in the latter 5 years (2011/12 to 2015/16) was 5066, out of which 2144 were females. Here, the enrolment had shown a very slight decline of 0.06%, from 1107 in 2011/12 to 1046 in 2015/16.

SKB

In Zoba SKB the number of students in the eleven academic years (2005/06- 20115/16) was 8124, out of which 4060 were females. The total number of learners in the first 5 academic years (2005/06 - 2010/11) was 5127, out of which 2791 were females. During this interval the enrollment has shown an increment of 63%, from 568 in 2005/06 to 925 in 2010/11.

On the other hand, the total number of learners during the latter five years (2011/12 - 2015/16) was 2997, out of which 1269 were females. Unlike in the first 5 years, however, during the latter five years the enrolment had shown a very slight decline of 43, from 589 in 2011/12 to 546 in 2015/16.

DKB

In Zoba DKB the number of students in the nine academic years (2006/07- 20115/16) was 686, 142 of whom were females. The total number of learners in the first 4 years (2006/07 - 2010/11) was 497, out of which 110 were females. During this interval the enrolment had decreased from 277 in 2007/08 to 49 in 2010/11.

The total number of learners during the latter five years from 2011/12 to 2015/16 was 189, out of which 32 were females. Here, the enrolment had shown an increment of 50 from 30 in 2011/12 to 80 in 2015/16. During the latter five academic years though the enrolment had shown an increment of 50%, the learners were very few in comparison to the first four years. As mentioned earlier, this might be due to the phasing out of learning centers, as the out-of-school children aged 9-14 years all get enrolled.

Gender disparity

Table 8.21: Level 1 Enrolment by zoba & sex 2011/12- 2015/16

Source DAME 2015/2016

Aca/ year	Anseba			Gash Barka			SKB			DKB			Total		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
2011/12	*1037*	*809*	*1846*	*686*	*421*	*1107*	*345*	*244*	*589*	*30*	*0*	*30*	*2098*	*1474*	*3572*
2012/13	*825*	*587*	*1412*	*578*	*394*	*972*	*403*	*286*	*689*	*24*	*2*	*26*	*1830*	*1269*	*3099*
2013/14	*817*	*635*	*1452*	*665*	*471*	*1136*	*409*	*286*	*695*	*20*	*7*	*27*	*1911*	*1399*	*3310*
2014/15	*808*	*618*	*1426*	*437*	*368*	*805*	*278*	*200*	*478*	*26*	*0*	*26*	*1549*	*1186*	*2735*
2015/16	*885*	*774*	*1659*	*556*	*490*	*1046*	*293*	*253*	*546*	*57*	*23*	*80*	*1791*	*1540*	*3331*
Total	*4372*	*3423*	*7795*	*2922*	*2144*	*5066*	*1728*	*1269*	*2997*	*157*	*25*	*189*	*9179*	*6868*	*16047*
%		43.9			42.3			42.3			13			42.8	

The statistical data of DAME show that the total enrolment of CEE learners since the inception of the program was 28,070, out of which 55% (15,372) were males and 45% (12,698) were females. The total enrolment of both sexes has shown an enormous increment from 568 in 2005/06 to 3331 in 2015/16. Nevertheless, despite the increase of female learners over the years from 483 in 2005/06 to 1540 in 2015/16, their percentage increase was less than that of male learners by 10%.

On the other hand, as could be seen in the table 8.20, during the latter five academic years ranging from 2011/12 to 2015/16, the total enrollment of both sexes was 16,047, out of which 9179 (57%) were males and 6868 (43%) were females. The female enrolment had shown an increment from1474 in 2011/12 to 1540 in 2015/16 (4.4%). On the contrary, the male enrollment had shown a decrease from 2028 in 2011/12 to 1791 in 2015/16 (-13%). However, there was still an imbalance during the latter five academic years in favor of male learners.

Quality and relevance

Table 8.22: Enrolment, completers and dropouts

Zoba	Enrollment (2007-2016)			Learning in Level 1, 2, &3 (2013-2015/26)				Level 3 Completers (2006/07-2015/16)				Dropouts (2006/07-2015/16)			
	M	**F**	**T**	**M**	**F**	**T**	**%**	**M**	**F**	**T**	**%**	**M**	**F**	**T**	**%**
Anseba	6906	5529	12435	2510	2027	4537	36	1838	1472	3310	27	2558	2030	4588	37
G/Barka	3858	2967	6825	856	655	1511	22	1177	944	2121	31	1825	1368	3193	47
SKB	4064	4060	8124	445	301	746	9	1158	1050	2208	27	2461	2709	5170	64
DKB	544	142	686	53	10	63	9	454	109	563	82	37	23	60	9
Total	15372	12698	28070	3864	2993	6857	24	4627	3575	8202	29	6881	6130	13011	46
Percent		45			44				44				47		

Source: Statistical data from DAEM 2015/16

Dropout rate

As described in the table above, the learners who have been enrolled since the inception of the program till 2015/16 were 28,070 out of which 12,698 were females. In the past 5 years the dropout rate by level was 19% for level one, 14% for level two and 16% for level three. Although, there have been improvements as compared to the previous 5 years, the dropout rate is still high.

As mentioned earlier, the number of learners who dropped out during the 10 academic years was 13,011(46). As reports and evaluation meetings in the target zobas indicated, the main reasons why a lot of learners dropped out of the CEE program were the following:

- Long school distances
- Early marriage

- The nomadic life style
- Low community awareness about the value of education
- Poor infrastructure in learning centers and lack of classroom furniture

Completion rate

As described in the table above, the total number of the learners who dropped out plus the learners who were still in CEE program in 2015/2016 was 19,868. The CEE level three completers were 8202, out of whom 3575 were females (43.6%). The ranking of the target zobas, from the highest to the lowest, in the number of both male and female completers is as follows: Anseba 3310, SKB 2208, Gash Barka 2121 and DKB 563. Similarly, with respect to female completers, the zobas could be ranked as follows: Anseba 1472, SKB 1050, Gash-Barka 944 and DKB 109.

CEE learners mainstreamed to formal schools

Table 8.23: Level 3 completers and mainstreamed CEE learners

Zoba	Level 3 Completers (2006/07-2015/16)			Mainstreamed to formal education											
				Junior (6^{th} – 8^{th}) in 2015/16				secondary (9^{th} – 11^{th})in 2015/16)				Total mainstreamed (6^{th} – 11^{th}) in 2015/16			
	M	F	T	M	F	T	%	M	F	T	%	M	F	T	%
Anseba	1838	1472	3310	426	264	690	21	71	14	85	3	497	278	775	23
G B	1177	944	2121	206	79	285	13	21	6	27	1	227	85	312	15
SKB	1158	1050	2208	487	215	702	32	60	35	95	4	547	250	797	36
DKB	454	109	563	50	0	50	9	46	1	47	8	96	1	97	17
Total	4627	3575	8202	1169	558	1727	21	198	56	254	3	1367	614	1981	24
(%)	56	44	100	68	32	100		78	22	100		69	31	100	

Source: DAME 2015/16

N.B Students who attended the12^{th} grade and above are not included.

As described in the table above, the total number of CEE learners who were mainstreamed in to lower and higher secondary schools in the academic year of 2015/16 was 1981, out of which 614 (31%) were females. The number of learners who attended lower secondary schools was 1727, out of which 558(32%) were females. Similarly, the number learners who attended higher secondary schools, excluding those in Grade 12 and above, was 254, out of which 56(22%) were females.

The rank of the target zobas, from the highest to the lowest, with respect to the number of CEE learners of both sexes lower secondary schools is as follows: SKB 702(32%), Anseba 690 (21%), Gash-Barka

285(13%) and DKB 50(9%). Similarly, with respect to female learners the ranking is: Anseba 264, SKB 215, Gash-Barka 79 and DKB none.

Concerning the mainstreaming into a higher secondary school, for both males and females and excluding students in Grade 12 and above the zobas ranked as follows: SKB 95(4%), Anseba 85(3%), DKB 47(8%) and Gash-Barka 27(1%). Likewise with respect to female students, the ranking was: SKB 35, Anseba 14, Gash-Barka 6 and DKB 1.

Learning Environment

1. Pupils to classroom ratio

There was no data which clearly showed the number of CEE learners in a classroom. However, the reports of DAME and supervisors who visited some of the target regions indicate that an average the number of students in a classroom was manageable. Such manageable class sizes are conducive to teaching and learning.

2. Infrastructure in learning centers

The CEE program had good acceptance by the communities. As a result, some of the learning centers in the target zobas were constructed by the communities themselves. Nevertheless, many learning centers functioned under the shade of trees, in shacks, in unsafe buildings, in class rooms with only rafters and mats, and in classrooms wholly constructed of corrugated iron sheets. Moreover, the majority of CEE learners had no desks, and sat on hard stones.

Teaching aids

The availability of teaching aids enables a teacher to conduct a lesson with confidence and helps the learners follow the lesson with greater interest. It also helps to make the lesson more real and stimulating. Good teaching aids are not just used once, but again and again, and can be shared by different teachers. However, unlike learners in formal schools who often get chances to learn their lessons with the support of some teaching aids, CEE learners do not have such chances. This needs attention in the future.

Program duration and learning days

Complementary Elementary Education is not parallel to formal education in terms of duration to complete primary level. The time allotted to complete the three levels of the CEE program is a maximum of three years. Each semester runs for six months, with five days a week and four contact hours a day. The learning schedule proposed by MoE (2008:22) was as follows:

Table 8.24 Learning days and periods of non-formal and formal education

Activities	Non-formal	formal
Number of learning days	*123*	*210*
Days per week	*5*	*5*
Contact/learning hours	*4*	*3-5*
Learning periods	*600-700*	*840-980*
Periods per week	*23-30*	*30-35*
Duration of lessons	*40 minutes*	*40 minutes*

Source: MoE (2008)

As indicated in the table above, the non-formal (CEE) and formal education have a difference of 87 days and 240-280 periods. Despite the fact that there is a difference between non-formal (CEE) and formal education in the number of learning days and learning periods, the DAME proposed the above learning schedule, by taking into consideration the fact that the CEE learners are more matured and likely to learn at a faster pace than learners in formal schools. Furthermore, as MOE (2008:22) had put it, [4]'the overriding consideration is not how long they have spent at the center, but what they have learnt and where what they have learnt empowers them to go". The CEE program has provided educational access to out-of –school children since 2007, with limited teaching resources, unqualified, locally recruited teachers, and other challenges. Thousands of learners have completed the program, and some have been integrated into lower and higher secondary schools. Moreover, according to reports from the education offices in the target zobas, some of these learners have performed very well academically and turned out to be quite exemplary in extracurricular activities.

Curriculum

Curriculum Development and Dissemination

The basic subjects which have been offered in the program are four; namely, Social Science (which is the integration of History, Geography, Science and Life skills Education), Mathematics, the Mother Tongue and English. To establish equivalency between the syllabuses offered in the three years of CEE and in the five years of formal education, the content has been condensed in a pattern that is similar to the one described in the table below. For example, if we take English as representative of the other subjects, it has been condensed as follows:

[4] Ministry of Education (2008: 22): Concept Paper on Complementary Basic Education for Out-of-School Children Eritrea.

Table 8.25 CEE program progression

CEE English syllabus across levels	Corresponding syllabus in the main stream program
Level 1	Grades 1 and 2
Level 2	Grade 3 and ¾ of Grade 4
Level 3	Part of Grade 4 and Grade 5

The textbooks were prepared accordingly and then printed and distributed to the target regions. They have already been in use in the learning centers for about a decade. Nevertheless, despite the glaring achievements performed in preparing, printing and disseminating the textbooks, no implementation follow up has been conducted to check whether the textbooks are adequate and whether they could be covered within the three academic years. This was mainly due to financial constraints and transportations limits, but it is advisable to do it as soon as possible.

Teachers:

As indicated in the table below, the number of teachers who had worked in the CEE program doing the five academic years of 2011/12 to 2015/16 in the target regions was 1849, out of which 285 (15%) were females. The number of teachers had increased from year to year, except in 2012/13. There was an increment of 20 percent between 2011/12 (342) and 2015/16 (427). 85% of the teachers were males and 15% females. This shows that there was a clear gender imbalance in the CEE centers and an obvious shortage of female role model. This might have lead female learners to feel less confident in front of male teachers and to drop out early.

Source and Qualification of teachers

Table 8.26: Teachers by type and qualification

Academic year	Total		Community teachers									Formal education teachers		
			7th – 8th grade			9th - 12th grade			Total			Above 12 th grade		
	F	T	F	T	%	F	T	%	F	T	%	F	T	%
2011/12	52	342	5	5	1	18	76	22	23	81	24%	29	261	76
2012/13	49	331	3	7	2	15	36	11	18	43	13%	31	288	87
2013/14	63	372	5	12	3	19	100	27	24	112	30%	39	260	70
2014/15	61	377	3	7	2	24	120	32	27	127	34%	34	250	66
2015/16	60	427	5	12	3	25	135	32	30	147	34%	30	280	66
Total	285	1849	21	43	2	101	467	26	122	510	28%	163	1339	72
%	15		7			36	26		43			57	72	

Source: Statistical Data from DAME 20115/16

There were 510 (28%) teachers from the local community and 1339 (72%) teachers from formal education. Out of the total 285 female teachers 122 (43%) came from the communities and 163 (57%) from formal education. The academic qualifications of the community teachers were below that of grade 12, with 7% of them in Grades 7^{th} – 8^{th} and 36% in Grades 9-12^{th}. In contrast, all the formal teachers obtain certificates from the Asmara Teacher Training Institute.

Current Situation in Continuing Education (evening programs)

The process of spreading the continuing education program is still more demanding for the following reasons. (1) There are many villages that have declared themselves free from illiteracy: therefore, these villages need to be provided with continuing education to sustain the literacy skills and for further education and training. (2) The dropout rate from formal schools and CEE programs has been getting higher in the last decade due to various socio-economic reasons

Evening (Extension) Program

Access

Enrolment rates

Table 8.27: Yearly enrolment of learners across (2012-2016)

Year	Level					
	Middle			Secondary		
	M	F	Total	M	F	Total
2011/12	*1865*	*770*	*2635*	*2239*	*831*	*3070*
2012/13	*2305*	*779*	*3084*	*2515*	*763*	*3278*
2013/14	*2811*	*1179*	*3990*	*2419*	*652*	*3071*
2014/15	*1039*	*275*	*1314*	*1474*	*261*	*1735*
2015/16	*884*	*481*	*1199*	*1790*	*345*	*2135*
Total	*8904*	*3484*	*12388*	*10437*	*2852*	*13289*

The enrollments in evening schools in the last five academic years (2011/12-2015/16) was for the middle level **12388** (with 72% male and 28% female) and for the secondary **13289** (with 79% male and 21% female) and in total 25677. As compared to the enrollments of the first few years of independence, this number is very low.

Enrolment rates by zoba

Table 8.26 shows the enrolment rates across zobas. The middle school enrolment is 19% for zoba Maekel, 10.5% for Anseba, 6% for SKB, 0.5% for DKB, 13% for Gash Barka and 51% for zoba Debub. The table shows that more than 50% of the enrolment was covered by zoba Debub only in the past five years. There was a similar trend in secondary school enrolment, i.e. 28% in Maekel, 8% Anseba, 8% SKB, 3% in DKB, 13% Gash Barka and 40% Zoba Debub.

Table 8.28: Yearly enrolment of learners by Zoba

	Middle				**Secondary**			
Zoba	**M**	**F**	**T**	**%**	**M**	**F**	**T**	**%**
Maekel	*1177*	*1163*	*2340*	*19%*	*2341*	*1400*	*3741*	*28%*
Anseba	*899*	*402*	*1301*	*10.50%*	*983*	*171*	*1154*	*8%*
SKB	*126*	*607*	*733*	*6%*	*492*	*524*	*1016*	*8%*
DKB	*11*	*49*	*60*	*0.50%*	*195*	*153*	*348*	*3%*
Gash Barka	*1213*	*369*	*1582*	*13%*	*1561*	*189*	*1750*	*13%*
Debub	*5478*	*894*	*6372*	*51%*	*4865*	*415*	*5280*	*40%*
Total	***8904***	***3484***	***12388***	***100%***	***10437***	***2852***	***13289***	***100%***

Table 8.29: Learning Centers by zoba and by Year

A/year	**Maekel**		**Anseba**		**SKB**		**DKB**		**Gash Barka**		**Debub**	
	Middle	**Sec.**	**Middle**	**Sec.**	**Middle**	**Sec.**	**Middle**	**Sec.**	**Middle**	**Sec.**	**Middle**	**Sec.**
2011/12	***5***	***3***	***1***	***1***	***3***	***2***	***2***	***1***	***2***	***2***	***7***	***6***
2012/13	***5***	***2***	***1***	***1***	***2***	***2***	***1***	***1***	***4***	***2***	***8***	***8***
2013/14	***5***	***2***	***1***	***2***	***4***	***2***	***3***	***1***	***1***	***3***	***9***	***8***
2012/15	***3***	***2***	***2***	***3***	***2***	***2***	***-***	***1***	***3***	***2***	***4***	***4***
2015/26	***2***	***2***	***-***	***-***	***3***	***3***	***-***	***1***	***4***	***3***	***6***	***6***
Total	***20***	***11***	***5***	***7***	***14***	***11***	***6***	***5***	***14***	***12***	***34***	***32***

Enrolment Trend

The annual zoba reports show that, generally, enrolment in evening schools had increased across levels, but decreased across years in the last five years. In the first fifteen years of independence, there was a high enrolment in evening programs of about 174 thousands with a high completion rate of about 85.5%. But, during the last 5 years, the completion rate was only 40.6%. However, the learning needs assessment survey conducted in 2009 had showed that there was a high demand for continuing education (89%) from the post-literacy graduates in adult education program. Yet, despite all the demand, enrolment has remained very limited during the last ten years.

Equity

Gender Disparity

Zoba reports show that the program is accessible to both genders. However, there is a progressive decrease in the participation of female students across the academic levels (Primary =.95%, middle school = 30.5%, and secondary = 22.8%) as compared to the increasing trend for males (Primary =.5%, middle school = 69.5%, and secondary = 77.2%). Statistical figures show that female enrolment in evening programs has only been 31% as compared to that of males in the last five years.

Quality and Relevance

The internal efficiency of the evening program is not as intended. As we can see from the table below, there is a high dropout rate and generally a low completion rate.

Internal Efficiency

Table 8.30: Status of learners (Registered, Promoted, Failed and Dropout)

Level	Registered			PROMOTED			%	FAILED			%	DROPOUT			%
	M	F	Total	M	F	Total		M	F	Total		M	F	Total	
Primary	139	2753	2892	92	2000	2092	72%	8	78	86	3%	41	659	700	24%
Middle school	7014	3079	10093	2206	1400	3606	36%	2350	610	2960	29%	2748	688	3436	34%
Secondary	9695	2865	12560	5604	900	6504	52%	2040	379	2419	18%	3808	479	4287	34%
Total	**16848**	**8697**	**25545**	**7902**	**4300**	**12202**	**48%**	**4398**	**1067**	**5465**	**21%**	**6597**	**1826**	**8423**	**33%**

In the last five academic years, about 25545 learners registered in the evening programs at all levels. From those who registered, 67% completed the program, but 33% were dropouts. The aggregated result in the performance of learners with respect to the levels was primary 72%, middle schools 36%, and secondary

schools 52%. The aggregate result of the evening program was 48% promotion, 21% repetition and 33% dropouts.

Quality of the Learning Environment

There are manageable class sizes, with teacher to student ratios of Primary = 1:21, Middle schools = 1:34, and Secondary schools = 1:18.

Curriculum Relevance

The curricula for the evening programs are the same as those for formal education. The same subjects are offered to the same grades and streams as in the formal classes. There are three daily contact hours. One period is 45 minutes. However, since the curriculum is not provided on the basis of the needs of the learners there is lack of relevance in it. Some of the factors which affect the quality evening education are the lack of support systems, poor curriculum relevance, and shortage of books, lack of proper follow up and evaluation and limited contact hours.

Teachers Participation and Quality

From those teachers 18% are female while the rest 82% are males. The teachers of the program are also the teachers of the formal schools with adequate qualifications from respected formal colleges. Most of the teachers are also qualified with diploma and degree levels.

Supervision and Monitoring

Due to financial and transportation limitations, supervisors couldn't carry out their supervisory activities as required. As a result, supervisory activities and support services for evening programs have mainly remained under the mandates of school directors.

Recommendations

- Various programs must be devised in order to respond to the needs of post-literacy graduates
- The Department should assess the reasons for these high dropout rates of about 33%.
- Reports show that the monitoring and quality assurance process is not satisfactory. Therefore, the Department must find ways for improving the situation.
- Quality enhancement programs must be widely implemented in order to improve the performance of learners.
- Consideration must be given to government for contribution for the remuneration of teachers who participate in evening programs.

SECTION 3: SUPPORT SYSTEM FOR ANFE

8.3.1. Opening Community Reading Rooms (libraries)

Community reading rooms are important features of the literacy programme. They are an important sources of information for learners and as such are expected to cultivate reading habits among the people. However, their coverage is limited, as there are only about 70 nationwide with the majority of them in the 3 zobas: Maekel, Debub and Anseba. These reading centers currently possess very limited reading materials in science, social science, and language and particularly in the mother tongue. The attendants or para-librarians have not received any relevant training, apart from about ten days of initial orientation.

To develop and maintain continuous learning opportunities, it would be essential to ensure the existence feasible information resource centers such as reading rooms in selected catchments areas. Community reading rooms (libraries) are seen as part of adult basic education and serve as centers of resources, especially in predominantly illiterate environments. These centers are expected to enable adult learners to continue learning on their own during and after the completion of the basic literacy and post-literacy courses. These reading centers could also be used to provide access to information and communication not only for the learners (neo-literates) but also for the whole community. To reach the people in remote areas, mobile libraries could be introduced. The development of network within the country could also be considered as appropriate in the future for the sustainable and effective management of community reading rooms.

Community reading rooms are expected to increase access to information and communication by supplying adequate and varied reading materials in local languages and relevant literature in English. This is also very helpful for cultivating the habit of reading and checking regression into illiteracy. To prevent neo-literates from relapsing into illiteracy, they must be assisted to continue practicing their literacy skills by providing them with relevant and readable literature.

8.3.2. Educational Media

Progress in improving access and equity

- The Adult Education Radio had broadcasted a total of 12,369.5 hours of radio programs in the past 14 years of independence (1995-2008). Health, Agriculture, Environment, Child care, Micro-credit management, Civic education and edutainment radio shows gave learners a solid foundation for engaging actively in sustainable development agendas. Many adults who lived in rural and remote areas got access to these useful radio lessons.
- Broadcasting in four local languages- Tigrigna, Tigre, Saho and Blien comprised a big step towards ensuring equitable access to information and knowledge. It was also very helpful in the development of these local languages.
- More than 350 radio spots, short stories and plays as well as serial plays were aired in four local languages. These were very effective in sensitizing communities on gender issues, as well as harmful practices and beliefs.

- Recorded educational audio cassettes, tape recorders/players and transistor radios were distributed to areas with poor radio signal reception. This helped to ensure that as few people as possible were left out and lagging behind.
- All these interventions were helpful in improving sustainable and equitable access to knowledge and information.

8.3.3. Progress in improving quality and relevance

- The adult radio programs enriched the adult literacy program by broadcasting locally relevant content and gave learners opportunity to share and discuss issues that affected and concerned them. It was also helpful in ensuring that all learners get the same content at the same time.
- Listening centers were organized and an animators' guide was developed to enrich the adult literacy classes, which mainly focused on the 3R's skill training (level-1).This helped to consolidate the effective use of the program. There were 96 listening centers and more than 340 radio sets were distributed to these centers. This served as a discussion forum and as a source of feedback for tune programs in line with their needs. Solar and mechanical, wind up radios were distributed to ensure the sustainability of the listening centers. However, due to lack of follow up and logistical constraints the listening centers have declined.
- Close collaboration and coordination between all concerned ministries and organizations had made the program very reliable and productive in its nature. The content was worked out in close consultation and collaboration with the concerned ministries and agencies, namely Ministry of Agriculture, Ministry of Health and Ministry of Environment, Land and Water, SMCP (Mewul), etc.
- The radio support provided to the ODL in service training program for teachers helped teachers and facilitators in rural and remote areas to get quality support. The formal education teachers too, upgraded their qualifications and competencies and this was paramount importance to the non-formal education programs.
- English language lessons were broadcasted, and these helped to improve students and basic education teachers' accuracy and fluency skills, which had affected students' achievement.
- Broadcasted programs were distributed to schools, PRC's, literacy centers, rural libraries in print and audio formats. These served as teaching aids, supplementary materials, training resources, etc.

Audio-visual unit

The audio visual unit was in its infancy. It had got some up-to date technologies for producing educational programs. The bottle neck was shortage of skilled personnel. Despite these shortages some attempts were made to develop educational films.

- Two English and Mathematics video lessons for primary schools were developed. This attempt helped the staff to build up their skills and confidence.
- 58 black and white film stripes (16mm) on different educational topics were digitized and distributed to some schools in Zoba Maekel.

- This experience will hopefully serve as a strong foundation for developing multi-media teaching materials to support the post-literacy, CEE and evening programs.

Challenges

- Topographic barriers block radio signals from reaching all over the country, thereby widening the information gap.
- The shortage of resources hindered broadcasting in all local languages.
- Monitoring and evaluation mechanisms were not well developed
- In most cases, it was one way communication, and there was very limited feedback.
- Due to low academic qualifications, some of the adult literacy facilitators failed to benefit from the pedagogic and English language programs.
- There was low enthusiasm among teachers to follow professional development radio programs which were not linked to any certification.
- The interruption of the radio program has been a serious setback.

SECTION 4: COST AND FINANCING

Introduction

Investment in education is fundamental for stimulating long-term economic growth and also for improving the overall wellbeing and welfare of the society. Within this framework of development, the Macro-Policy of the government clearly prioritizes education as a productive investment in human capital formation with the aim of "producing a population equipped with the necessary skills, knowledge and culture for a self-reliant economy".

Equal importance needs to be given to the different education sub-sectors within a holistic education system. Investments in formal education need to be complemented by systematic efforts to ensure the provision of high-quality non-formal and informal learning opportunities to those who have not had a chance to benefit from formal education or are beyond the formal school age: adults, out-of-school youth and children. Providing skills, knowledge and competences to all is one way of establishing a foundation for the active and effective participation of the citizens and a meaningful contribution to Eritrea's society and development, as well as to the self-development and empowerment of individuals. Moreover, providing educational opportunities to all members of society enable them to exercise their right to education more effectively.

Though there has been a substantial increase in the amount of government expenditure on adult education, mainly on literacy and for out-of-school children in Eritrea in the last 17 years, it is still small as compared to the diversity and nature of the ANFE subsector.

Financing and Resource Mobilization

Education is free of charge for all Eritreans at the basic level. This corresponds to the literacy and post-literacy components of the Adult Education Programme. However, at the continuing education levels,

learners and stakeholders will need to share the costs. Furthermore the implementation of the Adult Education Programme is expected to maximize the use of national resources by sharing the physical space with formal education, and recruiting adult educators and literacy facilitators from among the relatively better trained formal school teachers.

8.4.1. ANFE Financing Situation and Prospects

Table 8.31: Expenditure on Literacy and Continuing Education as a percentage of total government expenditure on education.

Sub-sector	Recurrent				Development			
	2013	2014	2015	2016	2013	2014	2015	2016
Adult	1.95%	2.08%	2.23%	6.72%	-	1.05%	3.23%	1.47%

Source: Ministry of Finance

Currently the main sources of finance for implementing adult education programmes are:-

- The Government of the State of Eritrea (GoSE);
- UNICEF, in implementing Complementary Elementary Education (CEE);
- The Global Partnership for Education (GPE), in enhancing CEE & adult literacy and
- The African Development Bank (ADB) in providing financial support to link literacy with vocational skills training.

The GoSE has been allocating funds for adult literacy annually since 2000 and this has been slightly increased. For instance, the above table shows that the recurrent expenditure on adult literacy increased from 1.95% in 2013 to 6.72% in 2016. The table below the public expenditure on Adult Education which constituted 1.79%, 1.95%, 2.35% and 6.62% from 2013 to 2016 respectively. This shows that the education expenditure had increased from year to year, and that the Government of the State of Eritrea is committed to funding adult education at this critical stage in the economic development of the country.

Table 8.32 Government Spending on Education by level of classification

Year	2013	2014	2015	2016
Adult Education	1.79%	1.95%	2.35%	6.62%

Source: Ministry of Finance

Complementary Elementary Education has been jointly funded by the GoSE and UNICEF since 2007. From 2013 to 2016 UNICEF contributed USD 439,385.50 for the implementation of Adult literacy and GPE allocated USD 1,068,266.67 to complement the effort made by the GoSE in the past 4 years. The support of GPE aims to enhance the provision of adult literacy and complementary elementary education for out-of-school children.

The financial support by the ADB is aimed at enhancing the existing vocational skills training so as to encourage literacy graduates to attend it and benefit from it. This is a new initiative that is expected to be enhanced and expanded in the future (based on the result of the initial collaboration).

The funding for advocacy, civic education, and life skills programmes is generally fragmented and unsustainable because it is tied up to projects that have short pre-determined life spans.

From the time of independence up to 2002, the adult literacy programme run by the MoE was jointly funded by the state and its many partners, which included UNESCO, UNICEF, UNDP, WVI and SIDA. In the years 1999-2002 for instance, the Government of the State of Eritrea, jointly with SIDA (Sweden), made substantial contributions towards the implementation of an organized literacy programme in the country. Since 2002, however, the literacy program has been solely funded by the State of Eritrea. It is difficult to quantify the annual expenditure on adult literacy. But most of this money has been spent on teachers' salaries, stationery, materials production, orientation training, and awareness raising seminars and workshops. It is encouraging that partners such as UNICEF, GPE, UNESCO, and ADB are currently supporting the Government of the State of Eritrea in implementing the literacy, the vocational skills training, and the out-of-school children's programs.

Continuing education for adults (the evening programme) has been provided by using the resources of the formal system (premises and staff). This programme is based on cost sharing, since students are also obliged to, contribute to teachers' honoraria and running costs. It is very difficult to indicate the amount of investment made in all adult education provision in the country due to the lack of adequate data and co-ordination with the different providers.

Table 8.33: Government Budget Allocated for the implementation of Literacy and Continuing Education for 5 years (2011-2015) at the national and zoba levels in ERN

Year 2011

Description	**Dep. Of adult & Media Edu.**	**Debub**	**Maekel**	**Anseba**	**Gash-Barka**	**SKB**	**DKB**	**Total**
Compensation of employees	805,190	2,523,600	588,000	2,640,000	4,533,000	2,010,000	304,200	13,403,990
None personal & contractual Services	987,360	930,300	213,000	314,000	459,800	191,200	139,180	3,234,840
Materials & supplies	412,590	30,000	147,130	444,206	626,370	354,510	69,960	2,084,766
Acquisition of fixed Capital assets	30,000	0	10,000	-	-	-	-	40,000
Total	**2,235,140**	**3,483,900**	**958,130**	**3,398,206**	**5,619,170**	**2,555,710**	**513,340**	**18,763,596**

Year 2012

Description	Dep. Of adult & Media Edu.	Debub	Maekel	Anseba	Gash-Barka	SKB	DKB	Total
Compensation of employees	565,164	2,523,600	588,000	2,640,000	4,533,000	2,010,000	304,200	13,163,964
None personal & contractual Services	982,790	248,400	213,000	314,000	459,800	191,200	139,160	2,548,350
Materials & supplies	342,130	722.300	147,130	444,210	626,370	354,510	69,960	1,985,032.3
Acquisition of fixed Capital assets	60,000	-	-	-	-	-	-	60,000
	1,950,084	**3,494,300**	**948,130**	**3,398,210**	**5,619,170**	**2,555,710**	**513,320**	**18,478,924**

Year 2013

Description	Dep. Of adult & Media Edu.	Debub	Maekel	Anseba	Gash-Barka	SKB	DKB	Total
Compensation of employees	582,980	2,752,000	432,000	2,640,000	4,533,000	2,010,000	304,200	13,254,180
None personal & contractual Services	4,191,800	248,400	213,000	314,000	459,800	191,200	139,160	5,757,360
Materials & supplies	455,830	722,300	137,130	444,210	626,370	354,510	69,960	2,810,310
Acquisition of fixed Capital assets	100,000	-	-	-	-	-	-	100,000
	5,330,610	**3,722,700**	**782,130**	**3,398,210**	**5,619,170**	**2,555,710**	**513,320**	**21,921,850**

Year 2014

Ex. Code	Description	Dep. Of adult & Media Edu.	Debub	Maekel	Anseba	Gash-Barka	SKB	DKB	Total
61	Compensation of employees	826,692	2,314,800	432,000	2,700,000	4,535,000	2,572,800	409,800	13,791,092
62	None personal & contractual Services	4,554,300	248,400	213,000	321,640	459,800	316,240	139,180	6,252,560
63	Materials & supplies	457,674	186,600	170,000	530,940	749,640	436,000	70,640	2,601,494

71	Acquisition of fixed Capital assets	120,000	-	-	-	-	-	-	120,000
TOTAL		**5,598,666**	**2,749,800**	**815,000**	**3,552,580**	**7,744,440**	**3,325,040**	**619,620**	**24,405,146**

Year 2015

Description	**Dep. Of adult & Media Edu.**	**Debub**	**Maekel**	**Anseba**	**Gash-Barka**	**SKB**	**DKB**	**Total**	
61	Compensation of employees	822,984	2,302,800	432,000	2,800,000	4,600,000	2,600,000	409,800	13,967,584
62	None personal & contractual Services	5,063,480	341,300	309,550	432,700	566,560	372,000	144,080	7,229,670
63	Materials & supplies	550,600	203,900	182,900	590,200	895,400	519,400	80,185	3,022,585
71	Acquisition of fixed Capital assets	516,000	0	5,000	242,000	66,000	150,000	-	979,000
TOTAL		**6,953,064**	**2,848,000**	**929,450**	**4,064,900**	**6,127,960**	**3,641,400**	**634,065**	**25,198,839**
GRAND TOTAL		**22,067,564**	**16,298,700**	**3,728,923**	**17,812,106**	**30,729,910**	**14,633,570**	**2,793,665**	**108,064,438**

SECTION 5: RESULTS AND QUALITY AND RELEVANCE INDICATORS

Provision of ANFE in Eritrea and its results

The literacy program has improved in scope and coverage since 1998/1999. The program has been sustained and expanded and many illiterate adults have been able to attend and complete it.

Adult literacy is continuously advocated and communicated through different means of sensitization and awareness raising, consultation, evaluation and assessment. As a result, awareness among the population on the importance of adult education in general and adult literacy in particular, is much better than it was some years back. This development needs to be consolidated and enhanced.

As the result of the concerted and collaborative efforts, remarkable achievements had been registered in Eritrea in implementing the literacy program and the out-of-school children's program a total of 1,000,000 adult learners (more than 80% females) had enrolled in the past 16 years (2000 – 2016) with an average completion rate of more than 75%. In terms of participation by age, about 40% of the total enrollees were youth 15 – 24 years old, and 82% came under the 15 – 45 years age range. These were the two main targets of the literacy program.

Generally the illiteracy rate has been reduced from about 80% at the time of liberation (1991) to about 33% in 2008 and it is currently estimated to stand at about 20%. Not only the achievement made in reducing the illiteracy rate, but the work done in the area of curriculum development and preparation of learning materials in local languages, policy formulation, the awareness and collaborations created are among the main achievements made to boost the implementation of the literacy and continuing education programs and to meet the objectives of the 2030 Education Agenda.

As a source of comparative analysis, the Mid-term evaluation report (2011) released by the Global Literacy Initiative for Empowerment (LIFE) showed that Eritrea was one of the few LIFE member countries that showed progress in decreasing the illiteracy rate substantially. According to the report, the literacy rate in Eritrea was increased from 52.5% in 1994-2004 to 66.6% in 2005-2009 (14.1% decrease in the illiteracy rate – UIL/UNESCO 2012). This report was presented and shared in a high level round table meeting on literacy held in Paris in September 2013 where a delegation from Eritrea participated. This was an encouraging development in which Eritrea committed itself to reinforcing the literacy program in the country by focusing on disadvantaged areas with the purpose to maintain the achievements and to scale up the implementation of the literacy and continuing education activities.

Summary Findings

- Literacy has been provided as a government (MoE) program ever since the liberation of the country in 1991 with the support of partners.
- The literacy rate increased from about 20% during the time of liberation (1991) to about 65% in 2008 and is currently estimated at about 80% (DAME Report 2016).
- The National Policy on Adult Education was prepared in 2005.
- Sustaining the provision of literacy for children, youth and adults outside the formal system by focusing on the disadvantaged areas and sections of the society (women and girls) with more than 80 % female participation in the adult literacy program and about 45% girls' participants in the CEE program. More than 80 percent of the participants were rural dwellers.
- Basic education, including literacy, is also given by the Ministry of Defense (MoD) for soldiers and in the Prison & Rehabilitation Services for prisoners. As the report from the MoD indicated, the provision of basic education for soldiers has been implemented successfully to achieve universal literacy (the majority of the learners were males). The basic education program provided by the Prison and Rehabilitation Services has also been implemented successfully. The course includes academic and vocational training. In this way prisoners are assisted to improve their educational levels and acquire skills that can assist them later on in their lives.
- Printing and reprinting of literacy texts in the mother tongue and in English. Textbooks and teachers' guides have been prepared in all the local languages in the country. English language texts have also been prepared for adults and out-of-school children.
- Opening more than 80 community reading rooms (rural libraries) in different parts of the country as part of the adult and youth literacy program was another area of intervention that was implemented with the aim to enhance the literacy achievements and cultivate the habit of reading among the population.
- Compiling and analyzing adult literacy data since independence by age, sex, occupation, ethnicity, medium of instruction, level, etc., by each of the six zobas and at the national level as well.
- Identification and categorizing of all the villages in the country in three categories, based on the status of educational provision and its impact. That is (a) number and names of villages that are most disadvantaged(with no access to any education and training programs, b) number and names of villages that are estimated to be free from illiteracy (by the respective zobas) and, c) number and list of names of villages that are almost illiteracy free. It is encouraging to note that the number

of villages with no access to education has been reduced. This became possible because data has been collected since 2010, and the respective zobas have been able to act properly by focusing on the most disadvantaged ones in terms of organizing awareness raising seminars and meetings and opening new learning centers. Identification of disadvantaged areas has been useful for planning and prioritizing with limited resources. However, many sections of the population in Eritrea are still disadvantaged and need special attention (especially the nomadic communities).

- Deployment of adult education staff at the national, zoba, and sub-zoba levels on permanent bases (there are about 100 staff working as program coordinators, curriculum developers, supervisors, etc.). In line with this an average of about 2,400 facilitators have been recruited to teach in local languages annually.
- The UNESCO Institute of Statistics (UIS) was able to estimate whether the EFA goal on adult literacy could be reached by 2015 or not by member countries. In its findings, it was encouraging to note that five countries were projected to come within 5 percentage points of the targeted adult literacy rate in 2015: and these were Brazil, Egypt, Eritrea, Mexico, and Timor-Leste. Moreover, it was indicated that in five more countries, at least nine out of ten youths were expected to be literate in 2015: Cambodia, Egypt, Eritrea, India, and Yemen. In terms of gender equity, UIS projections show gender parity in youth literacy in 13 of 37 countries with data: for Brazil, Cambodia, China, the Democratic Republic of the Congo, Eritrea, Haiti, Indonesia, Iran, Iraq, Madagascar, Mexico, Rwanda, and Timor-Leste (UNESCO- UIS 2012). In the case of Eritrea, this is an encouraging reference, because it indicates the commitment of the Government of the State of Eritrea and the progress made in implementing the literacy program in the country.
- Since the inception of the CEE programme, 28,070 learners, out of which 45% were females have got educational access in the 4 target zobas. Furthermore, more than 1800 learners have got the chance to continue their education at the lower and higher secondary levels and some have even joined colleges. These are exemplary and motivating achievements for potential learners in the disadvantaged areas of the country.

Challenges and Constraints

In the National Policy on Adult and Non-formal Education, important strategies have been highlighted on how to implement the subsector programs. These are**:**

- Expand and diversify literacy efforts by using a variety of approaches to suit beneficiaries and by focusing on the remote disadvantaged areas and sections of the society.
- Create capacity building opportunities for adult education personnel with respect to program design, development, materials production, implementation, monitoring, and evaluation.
- Improve the quality of adult and non-formal education provision through continuous monitoring, supervision and curriculum review.
- Encourage institutions of higher education, private trainers, NGOs and others to participate in providing education and training, as well as in conducting research and related activities.
- Develop comprehensive continuing education programs (academic, vocational skills …..), designed to consolidate basic education through evening sessions, distance learning and short term

courses.

- Create opportunities for lifelong learning and enrich the literate environment of adults and youth through the use of multi-media services.

As a result of the concerted effort made since the launch of the national Adult Education Programme in 1998/99, significant gains have been made with regard to annual enrolment and completion rates in adult literacy and CEE. However, much is still needed to achieve the goals indicated by the above list strategies. The magnitude and seriousness of the challenges are as elaborated below.

The Eritrean National Literacy Survey (ENLS) conducted in 2008 showed that the adult literacy rate had risen from about 20 per cent in 1991 to about 65 per cent in 2008. However, the ENLS also revealed clear disparities in literacy levels and the extent of participation with regard to gender (73.6% male and 56.5% female), urban and rural environments (82.6% and 53.6% respectively) and local regions (87% for the highest rating region and 39% for the lowest).

In addition, the survey exposed the very low participation of eligible adults in literacy programmes (22%), with up to 73% never having participated. In the survey's analysis, such low participation was linked to the lack of awareness of literacy programmes among prospective learners, constituting up to 40% of the eligible population. In addition, an alarming number of out-of-school children came to light, amounting to over 30% in some local regions.

Among the challenges and unresolved problems which account for the disparities and low levels of participation in the Adult Education Programme, problems regarding certain components and a cohesive structure, which would make the Adult Education Programme more effective and efficient in a lifelong learning perspective, are most striking. Concretely, these include:

- Inadequate provision of all components of the comprehensive Adult Education Programme, in particular regarding continuing education in rural or remote areas.
- Inadequate strategies and measures for the recruitment, training and professional development of adult education staff.
- The lack of systematic and reliable data collection and reporting mechanisms, as well as regular monitoring and evaluation.
- Insufficient articulation between the different components of the Adult Education Programme, particularly from post-literacy towards continuing education.
- Insufficient possibilities for transition between the Adult Education Programme and formal education.
- The absence of mechanisms for the recognition and validation of learning outcomes, such as accreditation and equivalency frameworks and
- Not enough cooperation with all stakeholders, in and outside government, higher education institutes and colleges, agencies and associations to pool relevant expertise in research, programme design and development, management and the implementation of adult education.

CHAPTER 9

TECHNICAL VOCATION EDUCATION AND TRAINING (TVET)

INTRODUCTION

This document aims to provide background information, current status and some issues of the TVET sub-sector within the country. This information incorporates the role of the sub-sector in the human resource development within five years. Though not exhaustive, this document provides insight into several issues or aspects that are considered to be crucial in the understanding of TVET in the global context and which are important to incorporate within the TVET Program in the country. The document is setup as follows: Section one includes the definition and forms of TVET as they are known internationally, the historical development of TVET, the goals and objectives of TVET in Eritrea. Section two which is focusing to extend the performance of TVET, including access, equity and external efficiency of the sub-sector management, challenges, and recommendation. Sections three and four also are intending on costing and financing of TVET and internal efficiency and quality of TVET respectively.

The present sub-sector analysis is a blend of intensive documentary analysis that includes: Government policies, International development agencies and TVET reforms support program reports and relevant published literature about Eritrean's TVET system. In addition, data is collected from annual school reports of Training providers including, TVET institutions, private short term training providers in zoba administrations as well as Company based training providers in other Ministries, and companies to provide a broad picture of what really exists in the country.

Actual site visits to TVET institutions and workshops of the private training providers in different zobas are equally important to truly assess the situation of the sub-sector and make the right recommendations. However, because of the time constraint the site visits could not be performed. Instead different kinds of questionnaire were developed and distributed to TVET schools and private training providers in the zobas to collect the necessary data. These private training centers are the ones that are registered in the concerned zoba offices of the Ministry of Education.

Section 1: What is TVET

Technical Vocational Education and Training (TVET) is broadly defined as “Education which is mainly to lead trainees to acquire the practical skills, knowhow and understanding, necessary for employment in a particular occupation, trade or group of occupations (Atchoarena, D & Delluc, A 2001). According to the researchers, such practical skills or knowhow can be provided in a wide range of settings by multiple providers both in the public and private sectors.

In a report prepared in 2001, UNESCO and ILO's General Conference on Technical and Vocational Education and Training referred to TVET as *"those aspects of the educational process involving, in addition to general education, the study of technologies and related sciences, and the acquisition of practical skills, attitudes, understanding and knowledge related to occupations in various sectors of*

economic and social life." (UNESCO and ILO, 2002). In recent years, the term 'skills development' has emerged in the developed world for a concept that is synonymous with this broad definition of TVET (Netherlands Ministry of Foreign Affairs, 2009, cited in NICHE 2010).

Similarly, the Eritrean TVET definition is based on the general and internationally accepted definition which states that "vocational training is an activity directed to identifying and developing human capabilities for a productive and satisfying working life". Vocational training is simultaneously:

⇒ An educational activity oriented to provide the necessary knowledge and skills to perform a particular job post, an occupation, or a professional activity in the labor market. At the same time, it acts as a supplementary form of other types of education by training people not only as workers but also as citizens.

⇒ An activity connected with the processes of technological transfer, innovation and development. Therefore, vocational training is a strategic tool that becomes essential for the above-mentioned processes to take place.

⇒ Vocational training has a pedagogic component, as well as other types of education, but with a stronger emphasis on technical and technological aspects. Compared to other forms of education, it shows both a deeper concern about the links between the contents and methods of such training, and the changes that take place within the production and labor world.

9.1.1 Context

In the human capital framework, the Technical Vocational Education and Training creates 'specific human capital' imbibing specific job-relevant skills that can make a worker readily suitable for a given job and would make him/her thus more productive.

The development of technical and vocational skills is vital to economic development for two important reasons. First, technical and vocational skills are needed for enterprise productivity and profitability, as well as for national productivity and wealth creation. Technological innovation and economic growth fuel the demand for skilled workers. The need for technical and vocational skills is increasing because of a convergence of factors - technological change, changes in work organization, growing economic openness and competitiveness, and capital deepening (increasing capital per worker).

The second reason is that development of technical and vocational skills is of vital importance because it is essential for individual prosperity. Skills enable the individual to increase productivity and income. This is especially important for those who are seeking out a living in the informal sector of the economy. The main problem with the education and training system in the nation is the fact that it is geared to directing students toward the academic stream with very limited opportunities for access to technical and vocational education and training during the early stages of high school enrolment.

The general Education Curriculum in Eritrea was vocationalised during the mid-1940s to the 1950s at the primary level. A strong dosage of vocational education was incorporated into the curriculum, with vocational subjects like basketry and sisal work, weaving, gardening, woodwork, leatherwork and carpet

weaving. But, it could not continue. This was later abandoned with the dissolution of the Federal arrangement, followed by the forced annexation of Eritrea to Ethiopia.

Modern Technical Schools date back to 1954 with the opening of the Asmara Technical School. From the 1960s up to the period of liberation in 1991, comprehensive schools were introduced in which broad vocational subjects were offered, including the technical fields. However, these were simply nominal because they faced shortages of materials and equipment (due to high cost) and managerial problems. This trail to vocationalise secondary education in comprehensive schools has been discontinued in view of various practical difficulties. The decision to do so is in line with experiences gained in other developing countries. Overall, the Government of the State of Eritrea inherited a very backward and inefficient system of technical and vocational education.

At the time of independence there were only two formal TVET schools, namely the Asmara Technical School which was established in 1954 by the Ethiopian (Haile Selasie) regime and the Winna technical school which was established in 1985 by the Eritrean People's Liberation Front.

Following independence, there were notably three key milestones in the evolution and devolution processes of TVET. Key challenges attributed to these development challenges were that TVET centers were very much limited in their geographic coverage and the demand for semi-skilled workers in industry was growing and yet the need to equip demobilized fighters, returnees and other needy social groups with skills was paramount in the early years of independence.

The schools were providing a lengthy three year program in very limited trades and graduates were only at intermediate skill development levels. Due to the extensive building construction works which was going on at that moment, in 1994 the emergence of Skill Development Centers (SDC) that focused on the skill development needs of the nation and the nationals has been the first starting point. These SDCs were providing training in key technical areas such as: woodwork, metalwork, masonry, building, electricity, auto- mechanics, tractor operation, driving and plumbing.

Realizing the importance of TVET, the Government of the State of Eritrea has given top priority to the production of high–quality human capital which is highly trained and capable of mastering and exploiting available technology for socio-economic development of the country. The Macro-policy of the Government (GoSE, 1994: 40) states that the "emphasis of technical/vocational training will be imparting multi-craft dexterity and skills that enhance the job adaptability and retraining potential of the learner". This calls for an effective Technical Vocational Education and Training system which can increase the pool of skilled and flexibly trained workers available for employment and self-employment in line with changing technological and national development needs. In addition to what is provided by Department of Technical Vocational Education and Training in Eritrea is offered by various line ministries, non-governmental organizations, and private enterprises.

Following the Macro policy, the National Framework for TVET was drafted in 1996. This was the first draft policy document on skill development in Eritrea. This document has provided significant guidance to the development of TVET since 1996. Based on this draft National Framework Policy, skill training was structured at three levels.

- Basic level: for primary and middle school graduates, lasting 6-12 months with a maximum of 20% theory and 80% practical.
- Intermediate level: for those who completed grade 10, lasting 2 years of academic and TVET courses including1-2 months of industrial training with 30% - 40% theory and 60% - 70% practice
- Advanced level: for those who completed senior secondary school have got passing mark in Eritrea Secondary Education Certificate Examination (ESECE), lasting 2 to 3 years with 30% practice and 70% theory.

Between 1996 and 1998, four skill development centers, two technical schools, two agricultural schools at intermediate levels and two institutes at advanced level were established. In 2004 one intermediate level technical School was opened in Massawa to provide courses relevant to costal area activities. In 2006, the Massawa Technical and Commercial school was changed to the College of Marine and Aquatic Sciences and the Hamelmalo Agricultural School was upgraded to the Hamelmalo Agricultural College.

In the course of time, with the ever pressing need of equipping a large number of youth with marketable skills the number of TVET training centers, and their geographic coverage as well as their management showed some progress. The formal technical and vocational training centers grew up to 9 in number, located in four of the six zobas of the country, namely, Wina Technical School, Asmara Technical School, Mai Habar Technical School, Halay Technical School, and, Don Bosco Technical School; Denden Commercial School, Hagaz Agro-Technical School; the Music School and the Center for Vocational Training (CeVoT) which was established in 2007 in Sawa. In addition, different private non-formal technical and vocational training centers thrived.

To realize the objective of developing skilled human capital the Ministry of Education (MoE) in 2009, designed these strategies: developing organizational and managerial capacity to ensure demand orientation and more effective service delivery; building the quality of the TVET system for achieving more effective mastery of skills and competencies; broadening the coverage and expanding the quantitative output of trained manpower (that includes technology-related training, development of non-formal skills and training for the informal sector) to meet economic requirements.
In this regard, the TVET sub-sector in Eritrea aims to produce skilled people at the basic and intermediate levels in order to meet the demand for labor and improve productivity.

9.1.2 THE TVET System in Eritrea

Technical Vocational Education and Training increases opportunities for finding decent work and is central in reducing poverty by promoting economic growth through supporting learners to acquire skills, knowledge and attitudes needed for work. The skills and knowledge and attitudes they acquire help them to support themselves and their families as well as to be active and effective members of their communities.

A Well planned and organized TVET System plays a substantial role in the social and economic development of any nation, but to do this it has to be effectively planned, managed and efficiently

organized. A critical feature of its effectiveness is the systems responsiveness to the labor market and through this its capacity to provide the right skills training for the right occupations.

The Department of TVET is mandated to provide relevant, accessible, high quality and efficient technical education and skills development in support of the development of high quality middle level workers responsive to and in accordance with the Eritrean goals and priorities. In addition, the Department of TVET is mandated to regulate the skills training provided in the country.

The government intends to (i) introduce a National Qualification Framework for professional skills and (ii) significantly strengthen the quality and enrollment of TVET. TVET has been modestly delivered by various providers (line ministries, the private sector, employers, etc.). However, since the Department has no strong communication network with these training providers, there is insufficient information about the quality of training provisions, enrollment, certification, etc.

The MoE, is keen to encourage this diversity of provision. However, it is also recognized that this work has to be properly coordinated and delivered to meet both the labor market demand and are social needs of the country. At this point in time this link to the labor market is not sufficiently developed and the system lacks effective coordination.

As mentioned above, TVET was structured at three levels that include some months of industrial attachment namely the basic, intermediate and advanced levels.

The basic level is a short-term training program extending from six months to one year. The beneficiaries of this program are mainly disadvantaged groups, such as women; out-of-school youth, disabled and former combatants so that they can integrate successfully into the world of work and into society. The basic level training program is performed in collaboration with of partners in various ministries, para-statal companies, private institutions, local NGOs, etc.

The intermediate and advanced levels accommodate regular students and high achievers as compared to the basic level.The TVET Department is responsible for running the formal Intermidate level of training provided in Technical, Commercial and Agricultural Schools. In addition, the Department is in charge of the non-formal skills training provided in Vocational Training Centers and Skill Development Centers (SDCs).

9.1.3 TVET Policies and Objectives

The TVET sub-sector uses the Government's Macro-Policy as its main guide for shaping its training policies and objectives that is in manner applicable to Eritrea's Educational System. These are:

- The emphasis of technical/vocational training to provide the skilled manpower required both for the public and private sectors
- Continuing TVET through formal and non-formal channels
- Official recognition and/or professional accreditation of skills.

9.1.4 Organizational Structure and Dynamics of TVET

The DTVET has three divisions, namely:
1. The Monitoring and Quality Assurance Division (MQAD), with two units, i.e. Assessment and Supervision,
2. The Curriculum Planning and Development Division, with two units, i.e. Technical and Vocational and;
3. The Administration Division, with three units, i.e., Budget, Project Management and Personnel.

The Monitoring and Quality Assurance Division conducts assessment and supervision activities on the basis of the conditions of students, teachers and school infrastructures in the regular schools to see how effective and relevant the curriculum is on the ground. In addition to this, the division produces guidelines for the non-formal training providers and insures the quality of training provided by these training providers.

The Curriculum Planning and Development Division have the overall responsibility of developing curricula for TVET. The formal school curriculum is assessed, renewed or updated at regular and interval periods. The Division also oversees the curricula of the non-formal training providers.

The assignment of instructors to schools and the management and budget utilization patterns and control are within the realm of the responsibility of Administration Division.

9.1.5 Dimensions and Distinguishing Characteristics of TVET

The Department of Technical and Vocational Education and Training is responsible for TVET in Eritrea. However, in addition to in-house training of their own staff, other ministries also conduct skills training through their field services. Governance of TVET is based on regulations and directives issued by the State. While primary, middle and secondary schools report to MoE offices at the regional (zoba) level, TVET institutions report directly to the Department of Technical Vocational Education and Training. However, the establishment of a National TVET Board has paramount importance.

9.1.6 TVET Delivery Systems

- School - based Formal delivery by TVET schools.
- Center- based Non-formal training Provision of short duration undertaken in MoE and in other ministries including the Ministry of Labor and Human Welfare (MLHW), Ministry of Agriculture (MoA), Ministry of Justices (MoJ), and Ministry of Tourism (MoJ); zobas and sub zobas, Private training centers, etc.
- Community - based Non- formal training programs specifically designed to meet the need for skills training in the community to facilitate self-employment employment and undertaken by local NGOs, i.e., the National Union of Eritrean Youth and Students (NUEYS) and National the Union of Eritrean Women (NUEW).
- Enterprise - based Non formal training programs like apprenticeship, learner ship, dual training courses which are carried out within the firms/industries. (For further elaboration see Table 9.1)

Table 9.1 Summary of TVET Delivery Systems

TVET System	Delivery Mode	Duration of Training	Initial and Ongoing TVET and Target Groups	Regulation/ Certification/ Quality Assurance	Ownership/ Management of Providers
Formal TVET					
(Formal) Technical Vocational Education and Training	Long-term, school-based training with a certificate for the 12+1 level of qualification.	2 years	Student population, target labor market includes both formal and informal sectors, as well as public employment	Regulated by DTVET; leading to recognized national Certificates, quality assured by the TVET Schools and the DTVET	MoE
"Non-formal"					
Skill Development Programs	Center based &Community based mostly provided in training Centers	3-9 months	Pre-employment training for School leavers youth, the unemployed and other target groups, or skills upgrading for existing workforce; targeting all employment and self-employment	Regulated by DTVET' leading to recognized national Certificates, quality assured by TVET the providers (line ministries, the NGOs and MoE zoba Branches) Providers are accredited by TVET (MoE)	Provided by MoE and other line Ministries, Local NGOs, Private institutions and Parastatal companies
Informal TVET					
Traditional Apprentice	On-the job training by master crafts persons in the informal sector		Out-of school youth including low educational achievers; preparation for work in the informal sector	No regulation	Individual, usually non-standardized relationship between business owner and apprentice
Informal Learning	On-the job training and other unstructured forms of learning (self-teaching)		Everybody, but often workers in both formal and informal sectors	No regulation of learning,	N/A
Mixed System					
Firm based Training	Training in company based training centers, long and short term	3-9 months	Company staff (in-service training) & prospective staff(pre-employment training), rarely also training for the general labor market	Registered by TVET authorities leading to formal qualifications, as well as non-formal training leading to in-house certificates	Owned and managed by firms

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9.1.7 Data Situation of TVET

Data is collected in centralized way in the department of TVET for the formal institutions. But, the data of the non-formal system is under the responsibility of the zoba/Regional office of the Ministry of Education. Gathering reliable data on informal training is at present, understandably difficult. However, non-formal and informal training data will eventually be collected as time permits.

Section 2: Performance of TVET

In the past three decades, considerable achievements have been made to promote the provision of technical and vocational education and training in Eritrea. Chief among these are: the establishment of five skill

development centers; the construction of two technical schools, two agricultural schools and a Commercial School at secondary level. as well as a technical institute at the advanced level and the secondary school level; a commercial school and a technical institute at advanced level; the construction of a technical and commercial school in Massawa; and the establishment of the Center for Vocational Training (CeVoT) in Sawa.

9.2.1 Access

Access in TVET means the opportunity citizens get to acquire technical and vocational education and training to regardless of their socio-economic status, gender and ethnicity. The Table below illustrates the enrollment of grade 10 students in TVET in comparison secondary schools in general education during the last four academic years (2013/14-2017/18).

Table 9.2 Intake of TVET compared to that of regular secondary schools.

Students population	**2013/14**		**2014/15**		**2015/16**		**2016/17**		**2017/2018**	
	F	**Total**	**F**	**Total**	**F**	**Total**	**F**	**Total**	**F**	**Total**
Grade 10 students from General Education	10024	24188	17049	37591	13528	30056	11877	24912	12,841	26,560
Grade 10 students in TVET schools	624	1404	759	1594	668	1408	664	1471	609	1402
% of intake in TVET		5.8		4.2		4.7		5.9		5.3
%of Females in TVET	44.4		47.6		47.4		46.2		43.4	

Source: MoE Statistical Office and primary data of computed by DTVET

As shown in the Table 9.2, the enrollment in TVET is more or less constant. This is due to limitations of space and capacity in TVET schools. The rate of Female enrollment also shows only a slight increment from 44.4% in 2013/14 to 46.2% in 2016/17. Though enrollment in TVET is very small (5%) in comparison to that in general education, Eritrea`s technical education is not a "second choice" alternative to an academic education as is the trend seen in other countries. For example, Intermediate Level TVET has been receiving the academically best students from grade 10, creaming off students from their feeder secondary schools. However, since 2006, entrance procedures have changed to give students of more average academic performance an opportunity to enroll in Intermediate Level TVET, under the assumption that these students will opt more directly to employment, than to continue the tertiary education, after completing their studies in technical schools. This policy of admission could also make access to technical schools more equitable.

Consequently, Intermediate Level enrollment has shown a gradual increase since 2013/14 and reached 7368 in 2017/18 (See the Table 9.3 below).

Table 9.3 TVET Intermediate Level Enrollment by Stream

Stream	Years											
	2013/14		2014/15		2015/16		2016/17		2017/18		Total	
	F	T	F	T	F	T	F	T	F	T	F	T
Technical	*300*	*849*	*267*	*849*	*300*	*833*	*261*	*835*	*323*	*853*	*1451*	*4219*
Commercial	*287*	*448*	*420*	*576*	*321*	*451*	*318*	*483*	*317*	*491*	*1663*	*2449*
Agricultural	*37*	*107*	*72*	*169*	*47*	*124*	*69*	*153*	*62*	*147*	*287*	*700*
Total	*624*	*1404*	*759*	*1594*	*668*	*1408*	*648*	*1471*	*702*	*1491*	*3401*	*7368*
Percentage	***44.4***		***47.6***		***47.4***		***44.1***		***47.1***		***46.2***	

Source: DTVET computed from primary data, (2017)

N.B. The figures shown in the Technical stream are aggregate numbers for five Technical Schools. The Commercial and Agricultural Streams both have one school each. Besides, the data for the Music School is not included, and the data for CeVoT is analyzed separately.

According to the above Table, the total enrollments in the, Technical, Commercial and Agricultural streams are 7,219, 2449 and 700 respectively. Out of these entrants, 46.2% are females and 48.9% of the females came from the Commercial Stream. The reason is that out of the total quota given to the Commercial School, 2/3 is reserved for females in order to increase access for females. Moreover, female students appear to be more inclined to Commercial fields.

As for CeVoT, the Center was established to accommodate students who complete secondary educational and achieve certificate results in the Eritrean Secondary School Leaving Certificate Exam. CeVoT has the capacity to enroll thousands of students from different zobas and ethnic groups. (See the Table 9.4 below).

Table 9.4 CeVoT Enrollment by Centre

Centres	2012-2013(6 th)			2014-2015(7 th)			2016-2017(8 th)			Grand Total		
	M	F	T	M	F	T	M	F	T	M	F	T
Business and Commerce	*194*	*669*	*863*	*141*	*1057*	*1198*	*38*	*210*	*248*	*373*	*1936*	*2309*
Building Technology 01	*322*	*101*	*423*	*658*	*115*	*773*	*190*	*205*	*395*	*1170*	*421*	*1591*
Building Technology 02	*317*	*39*	*356*	*523*	*70*	*593*	*189*	*139*	*328*	*1029*	*248*	*1277*
Agricultural	*88*	*33*	*121*							*88*	*33*	*121*
Heavy Machinery	*439*	*14*	*453*	*514*	*83*	*597*				*953*	*97*	*1050*
Total	*1561*	*1010*	*2571*	*2070*	*1350*	*3420*	*417*	*554*	*971*	*4048*	*2914*	*6962*
Percentage of Females		*39.3*			*39.5*			*57.1*			*41.9*	

Source: CeVoT statistical office, Sawa (2017)

The enrollment decreased in 2016/17-2017/18 due to the termination of two centers, namely the Agricultural Center and the Heavy Machinery Center, as well as the closing of one department (Material Management) in the Business and Commerce Center. The highest concentration of females is observed in the Business and Commerce Center and the lowest in the Heavy Machinery Center. The overall enrollment rate of females is 41.9%. (See Table 9.4).

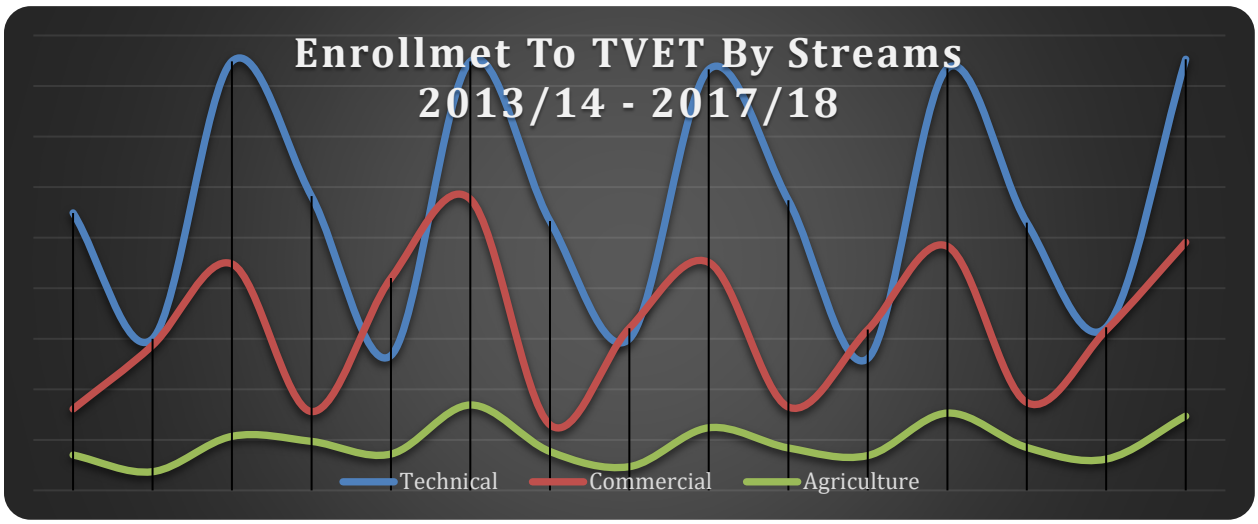
The non-formal skills training centers are doing some commendable work in this area. They have extensive regional and local networks that could be tapped. The number of trainees in private centers during the last five years (2013/14-2017/18) was 14,162. Out of this number 61.1% were females. This number did not include the trainees of the centers in the Gash Barka and DKB regions nor those in line Ministries and local NGOs.

The DTVET has a long term plan to increase enrollment at the Intermediate level from the current 5% to 23%. This could be realized by expanding the existing schools and constructing new TVET institutions. Accordingly, the Ministry of Education has planned to construct two new TVET schools and has already identified the location of one technical school to be in Zoba Debub and an agricultural school in Zoba Gash Barka. Besides, a new site is under construction for the Center for Vocational Training.

9.2.2 Equity

Equity refers to fair distribution of resources among individuals, groups or communities. Extending access is a necessary step towards the achievement of equity. Equity in TVET schools is related to gender, ethnic and regional disparities.

Figure 9.1 Gender Disparities by Stream



Source: DTVET computed from primary data, (2017)

At present the gender disparity is relatively low as compared to 2013/14. On average, females constituted 46.2% of the trainees at the Intermediate level during the last five years. Besides, 34.4% of the students in the technical stream and 8.2% in the Agricultural stream are females. (See Table 9.4).

Similarly, at the CeVoT (See Table 9.4), the gender disparity has gradually decreased during the last five years (2013/14 - 2017/18). During this period, female enrolment increased from 39.3% in 2013 to 57.1 % in 2016, with an average of 41.9 % for the whole period. Although, female enrollment was highest in

Business and Commerce, females also participated relatively well in the Center for Building Technology and the Center for Heavy Machinery. (i.e., 23.3% and 9.3% respectively).

This implies that female participation has increased in the previously male dominated trades. This could also reflect a decrease in vocational stereotypes in the country.

To ensure the enrollment and participation of females in Vocational and Technical Education as well as in CeVoT, the Ministry of Education follows the policy of positive discrimination. Accordingly, the enrollment of females has increased steadily and in the academic years 2013/14 to 2017/18, it accounted for almost half of the new entrants to TVET in the Intermediate level schools as well as CeVoT.

Regional Disparities

Ensuring sufficient training centers for enrolling relatively large numbers of students from disadvantaged target groups in the zobas is another strategy for developing an equitable TVET system. The Table below indicates the regional disparities that exist in TVET schools.

Table 9.5 TVET Intermediate Enrollment by zoba/Region

S.N	Zoba/Region	No. Secondary Schools	No. of TVET Schools	Enrollment		
				Male	Female	Total
1.	**Meakel**	*24*	*4*	*610*	*2638*	***3248***
2.	**Debub**	*29*	*1*	*509*	*929*	***1438***
3.	**Anseba**	*18*	*1*	*413*	*342*	***755***
4.	**Gash Barka**	*17*	*0*	*468*	*252*	***720***
5.	**SKB**	*12*	*2*	*282*	*148*	***430***
6.	**DKB**	*3*	*0*	*58*	*24*	***82***
Grand Total		***103***	***8***	***7368***	***3967***	***3401***

Source: DTVET, Computed from primary data 2017

As indicated in table 9.5, the number of the existing TVET schools is very little. Besides, the TVET schools are not equally unequally dispersed. Most of the training institutions are located in Zoba Maekel. This gives students in of Zoba Maekel greater access to these institutions as compared to students who come from the other zobas. In addition to this, the institutes in zoba Maekel are day schools while the others are boarding schools.

Since the cost of living in Asmara is very high, it is a big challenge for students from other zobas to have access in to the schools in Zoba Maekel schools. So, in order to ensure equity, the government is investing substantially in providing boarding facilities for students from disadvantaged social groups for boarding provision. Thus, the running cost for boarding schools is quite high. To reduce the cost while maintaining equity, there is at least one training institution must be opened in each zoba.

9.2.3. TVET Graduates

Between the years 2012/2013 and 2016/17, 11,483 students graduated in various fields of specialization from TVET schools, including the CeVoT in Sawa. Out of these 47.2% were females. Detail information on these graduates has been presented in Appendixes C and D.

The Tables 9.6 below illustrate the graduates from TVET Intermediate level schools and CeVoT schools separately.

Table 9.6 Intermediate level TVET Graduates 2012/13-2016/17 by Stream

Department	Year										Grand Total		%
	2012/13		2013/14		2014/15		2015/16		2016/17				
	F	T	F	T	F	T	F	T	F	T	F	T	F
Technical	299	858	163	638	259	690	247	805	298	772	1266	3763	33.6
Commercial	306	444	194	280	268	410	395	536	310	436	1473	2106	69.9
Agricultural	49	128	57	130	24	65	47	106	41	99	218	528	41.3
Grand Total	654	1430	414	1048	551	1165	689	1447	649	1307	2957	6397	46.2

Source: DTVET Computed from primary data, 2017

Table 9.7 CeVoT Graduates by Centre

Centers	2012-2013(6th)			2014-2015(7th)			2016-2017(8th)			Grand Total		
	M	F	T	M	F	T	M	F	T	M	F	T
Business and Commerce	167	601	768	91	853	944	33	196	229	291	1650	1941
Building Technology 01	310	99	409	299	87	386	183	189	372	792	375	1167
Building Technology 02	257	36	293	212	51	263	169	124	293	638	211	849
Agricultural	146	142	288	88	21	109	0	0	0	234	163	397
Heavy Machinery	392	13	405	277	50	327	0	0	0	669	63	732
Total	1272	891	2163	967	1062	2029	385	509	894	2624	2462	5086
Females in Percentage		41.2			52.3			56.9			48.4	

Source: CeVoT statistical office, Sawa, 2017

9.2.4 External Efficiency

Many researchers define external efficiency in different ways. For instance, according to Lockheed (1989) external efficiency is related to monetary output that is to cost benefit analysis. According to Levin (1983), external efficiency refers to a ratio between inputs and outputs. A more efficient system obtains more output for a given set of inputs, or achieves comparable levels of output for fewer inputs, all other things

being equal. In the context of this paper, external efficiency is defined in terms of the relevance of training, the value of TVET qualifications in the labor market and labor market matching of training with labor market needs.

Relevance of Training Delivery

The relevance of training is a very important issue, especially for training providers and industries in every part of the world. Every nation has its own challenges concerning its TVET training programs. Some nations have much more connection with the world of industry, while others do not**.** The mismatch of supply and demand differs from nation to nation. In some nations, employers are consulted and involved in curriculum planning and designing, whereby their inputs reduce the mismatch between training and market demand.

To evaluate the training experience in TVET in Eritrea, a study was carried out by two experts in TVET in 2005.

In 2008, a labor market study was conducted and some were held on it. Furthermore, many consultants came to support the reform and advice on how things should be made. Based on their recommendations some reforms were made in TVET. To mention some, stakeholders were involved in supporting and enriching the occupational standards. The TVET curriculum was revised and changed its approach from content-based to outcome based, in an effort to make it make be more relevant to the labor market.

A tracer survey conducted on TVET graduates and Employer Enterprises (WEKITA, 2015: pp. 76). This was a good indication for evaluating the degree of relevance of TVET training to the labor market. The results of the survey confirmed that the skills acquired at TVET schools both in content and their placement were relevant to the jobs of the graduates who were employed both in public and private enterprises. The report also indicates that almost all (94.7%) of the graduates are employed predominately by the public sector. 55% of the graduate respondents reported that the skills they had acquired were adequate.

However, the instructors and the management in most TVET training institutions have different views. They commented that even though the national syllabus requires that 60% -70% of the training sessions focus on practical skills development and periods are allotted accordingly in most TVET centers, that due to the limited availability of raw materials in workshop, the practical sessions and their results were as weak, as also reported by 45% of the graduates.

On the other hand, as the report documented, most of the employers believed that the courses offered at TVET schools are at best ‘fair’ and that there was wide room for improvement. Although, periodic assessments are made to understand the needs of the labor market, according to the employers, the market survey results may not have been properly analyzed or may have been obtained too late to affect the design of the curriculum.

A case study was made by Daniel J. (2017: pp.48) on the external efficiency of the graduates in Zoba Maekel to identify the relationship of the training the school offers and the occupations where the

graduates were placed in. According to the report, 74% of the respondents agreed that the training delivered in their school was relevant to the occupation they were posted to. In addition to this, 78% of employers said that they have short-term plans to recruit TVET graduates and that they would even be glad if they were to get new TVET graduates.

Based on the above two studies, it can be concluded that TVET graduates are regarded well and needed by employers. There might be a natural preference for non-TVET graduates among private employers. This is to be expected, as private employers have less opportunity to assess the performance of TVET graduates. However, it also indicates that the TVET system needs to embrace elements that are given more attention by private enterprises. As the country marches towards a market economy, the expectation of TVET graduates to join the private sector might face unexpected challenges. Thus, market demand has to be explored further, in collaboration with the concerned ministries and governmental and non-governmental organizations.

Value of TVET qualification in the labor market

TVET has the potential to raise the productivity and incomes of people, not only in the formal economy, but also in the informal sector. Consequently, access to skills training is vitally important, especially for vulnerable groups.

Although most of the training provided in TVET seems oriented to wage, labor in urban areas, it also provides skills for income generation in the informal sector. The salaries offered to employees with vocational skills could determine its attractiveness in the labor market. Almost all TVET graduates are employed; but, they are predominantly employed by public/government institutions. The minimum income or the monthly salary of a graduate is 2000 ERN (133.3 USD). There is no discrepancy in income or salary between female and male employees with the same qualifications.

Labor market matching services

Although graduates are normally assigned on the basis of the skills they had acquired at technical schools, it might not be necessarily so once they arrive at the public institutions. Indeed, some institutions might not have congruent posts for technical school graduates.

Many a time, graduates encounter a different experience or challenge from what they were trained to expect in the training centers. Consequently, they often acquire new skills which are entirely different from these they had acquired at TVET centers. While this is not too problematic, it does signal that the TVET centers and the employers need to look much closer at the skills that are needed in the labor market. Moreover, one way of looking at the relevance of the training provided against the situation in the labor market is assessing whether or not graduates have continued to build their careers in what they have been trained for at the training institutes.

According to the survey conducted by WEKITA (2015: pp. 77), most of the graduates confirmed that the skills that they had acquire matched with their jobs. Still, skill mismatches which had forced them to

change into other areas of skill were reported by some (34.5%) of the graduates. In addition to this one third of the employed graduates felt that it would be difficult to find jobs, if there was no assignment to jobs by government. This may warrant improvement in designing relevant and more effective TVET training programs.

The report stated that the majority of the employers rated TVET graduates as competent in their jobs. They believed that TVET graduates were 'better qualified' as compared to graduates of other training centers. The research didn't find any difference in the perceptions of the private and government employers with regard to the reasons for preferring TVET graduates to others. Moreover, according to the researcher, the relevance of the skills that are delivered in the TVET schools is another factor that makes TVET graduates preferred.

In addition to this, the majority of the employers perceived that the skills acquired at TVET centers were helpful in getting the first jobs as laborers or as semi-skilled employees and were prerequisites for further skills development. As such, they had laid a foundation for the further career development of SDC graduates.

Although a comprehensive labor market survey hasn't been undertaken, the above analysis could be a good indication that the TVET institutes are producing competent technicians with skills that are needed in the labor market. Nevertheless, periodic assessment of labor market demand is necessary, because the labor market is dynamic and changes frequently.

Section 3: Costs and Financing

9.3.1 Introduction

This section discusses the trend and current status of public expenditure for TVET institutions. TVET is directly funded by the government, and all learning, administrative, operating and other costs are covered by the government. On top of this, the sub-sector gets funds from the government's development partners. The public expenditure on the TVET sub-sector is very tight. Moreover, with the increasing demand for technical education the government would be obliged to increase the number of schools and the level of funding.

As table 9.8 shows, public expenditure on TVET increased from 2013 to 2014, but decreased in 2015 and 2016. The ratio of government expenditure in education to GDP between 2013 and 2016 was 2.43, 2.10, 2.42 and 1.49% respectively. TVET obtained 6.92% and 10.72% of the total public education expenditure in 2013 and 2014 respectively. However, this decreased to 7.56% and 7.75% in 2015 and 2016 respectively.

Table 9.8 Government spending on TVET as a percentage of total government spending on education

Year	2013	2014	2015	2016
TVET	6.92%	10.72%	7.56%	7.75%

Source: Ministry of Finance (2017)

9.3.2 Analysis of Public TVET Expenditure

Shortage of appropriate human capital hinders Eritrea's effort to reduce poverty, transform society, and create a modern, vibrant and competitive economy. The country is facing shortages of intermediate level workforce, especially technicians. One of the main problems of the education system is that it directs students towards the academic stream. Consequently, enrolment in TVET is only 3.14% of the enrolment in secondary institutions. As part of the efforts to increase TVET access, GoSE and development partners is financing a mentorship program and encourage students to enroll in TVET instead of the academic streams. In addition, TVET training in Eritrea is free and the employment rate for TVET graduates is good. Yet, government plans to increase the employment of TVET is constrained by the fact that the system is unable to absorb up the students due to shortage of financing and facilities. Due to this financial constraint, reforms aimed at increasing access to intermediate skills training through the expansion, rehabilitation and equipping of existing technical schools have not yet materialized. For this reason, some interventions are made by current efforts of the government and development partners.

Table 9.9 Spending on Education in Eritrea as Percentage of GDP and Total Government Spending (Million), 2013 – 2016

Year	Total Govt. Spending	Total Education Spending	Education Spending (% of Total Government Spending)
	(% of GDP)	(% of GDP)	Total Education
2013	*13.79%*	*1.45%*	*10.49%*
2014	*11.30%*	*1.39%*	*12.33%*
2015	*10.85%*	*1.14%*	*10.50%*
2016	*9.31%*	*0.94%*	*10.06%*

Source: (Ministry of Finance) Computed from different sources

On other hand, the demand of students to TVET is very high and this perspective of students helps in reducing poverty contributes to economic growth and filled the need for skilled human capital. To this end, policy makers face challenges on providing fund, reduce the financing gaps and expanded the TVET schools. Thus, they required to implement cost-effective policies in the TVET sub-sector of education to better respond to economic and social demand with reasonable quality standards.

9.3.3 Analysis of Other Funding Sources

TVET consistently received support from 2013 until 2021 from the African Development Fund for extending, rehabilitation and equipping the existing technical schools. Between 2013 and 2016, TVET received USD 21,360,000.00, out of which the ADB contributed 90% and the government 10%. Moreover, in 2015, TVET and Adult Education together obtained funds amounting to USD 22,200,000.00 (mostly for TVET) out of which ADB and GoE contribute 90% and 10% respectively. This external support contributes to easing the financing gap in the strategic plan of the sub-sector and enhances the capacity of the MoE to attain its objective for improving the quality and access to TVET.

9.3.4 Unit Expenditure and Unit Costs

Public recurrent costs compute according to the basis of the information on TVET public recurrent expenditures and enrollments. As the disaggregated data on public expenditure not possible the unit costs obtained are only indicative. MoE data is required to enable the detailed analysis of costs and expenditures on these programs. The estimates made per program are only based on the EMIS data and as such do not provide a meaningful figure. Given the data available on each of the programs and the lack of disaggregated financial data by sub-sectors it is not possible to provide realistic estimates on the unit costs per student. For TVET further analysis is required on the goods and services expenditure category to examine in detail the amount incurred for student living costs including meals, and operational costs (materials, operations and maintenance).

Generally, private expenditure on education sector plays an important role in financing education. However, in Eritrea the students in TVET institutions are enrolled by the government and all their living costs are covered by the government.

In Eritrea, education is free for all sub-sectors including higher education, while students are expected to cover their nominal expenses. Thus, the household expenditure on education includes PTA fees, textbooks, uniforms, school materials, stationery and transportations. In order to avoid any underestimation of the household expenditure to education both substantial community contributions to school in the form of kind or labor as well as the direct investment by parents should be considered. Thus, the volume of household contributions to education sector varies depending on whether the students attend a public or private school.

The shares of salary for TVET is smaller than other education sub-sectors and this is mainly due to the number of teaching and non-teaching are very small in number and some of the staff are not directly financed by the government sources. Recently, in July 2016 the salary of civil servants has increased and relatively the teachers enjoyed with the salary increment. The reasonable salary is often considered to be a necessary, but not sufficient, particularly for attracting high-quality teachers as the rate of salary increment do not considered those highly experienced and highly professionals.

9.3.5 TVET Infrastructure

The government in cooperation with its external partners, has been making big investments to expand the infrastructure for TVET in the country. The most notable manifestation of this is the on-going endeavor

to strengthen CeVoT by constructing a large number of workshops and other facilities in order to increase its capacity extensively. Recently, the government has entered into an agreement with the African Development Bank to rehabilitation three technical schools and to construct one new technical school and one new agricultural school. The total allocation for these works is USD 16,712,013.00.

Section 4: Internal Efficiency and Quality

Introduction

This chapter deals with the internal efficiency of the intermediate level TVET schools, including the Center for Vocational Training in Sawa. The private training centers in the six zones, the company-based training centers and training centers in other ministries which conduct short skills training programs of 3 to 12 months duration are not included here, as sufficient data have not been collected on them.

In the regular schools, technical vocational education and training is offered to students who have finished grade 10 in general education. Students are provided with two years of academic and vocational studies in many fields or trades. Moreover, a one year TVET program is offered for students who are unable to join higher education institutions after they have completed secondary education.

For those who are interested in some vocational skills other short term private vocational training courses, which help them get envisioned jobs, could be entertained based on individual interest.

Training provision and quality

The provision of training programs should be guided by adequate and timely labor market information, both in terms of quantity and quality as set by industries, especially in critical occupations and in areas where there is high demand. This is not possible, as the Labor Market Information system has not yet been established in the country. Furthermore, no Minimum Qualification Standards (MQS) that serve as bench marks against which the quality of training programs is measured have been set up by the government through an appropriate statutory supervisory agency.

Although a lot of work has been done to make the curriculum demand driven, the current system is still characterized as supply-driven, and still lacks nationally recognized standards generated by employers and based on occupations and trades.

In 2009, the Department of TVET introduced a two-year intermediate program with an outcome-based curriculum. The Department had involved employers and other stakeholders in developing this curriculum through the DACUM process.

Although the school assessment system tries to reflect the competency of the trainees, the latter is not assured by an independent body. The assessment is mainly carried out to measure the learning outcomes of the modular lessons given on a semester basis in two semesters for each year.

Trainees who score above 60% in courses in their major fields are entitled to pass and attend the next year’s courses. The minimum requirement for graduation and certification is a score of 60% or a ‘C’

grade in their specialized fields of study, without or with not more than two ‘Fs’ in academic subjects. To encourage students, they are given re-sit exam opportunities to clear their ‘F’s.

The quality of training varies from one school to another. As a result, the competencies of graduates differ widely from one institution to the other, because assessment is left up to the discretion of each school. Although some of the institutions provide very good training, still the quality standards need to be raised.

The TVET schools are generally doing a good job in imparting practical skills to the graduates. However, a uniform standard is lacking, because there is no regular and systematic external assessment of the graduates that takes place on an annual basis.

Quality Assurance Mechanism

There is no separate designated quality assurance body for TVET in Eritrea. Responsibility for quality assurance currently rests within the Department of Technical Vocational Education and Training. The Division of Monitoring and Quality Assurance is responsible for monitoring and ensuring the quality of the programs provided in the formal TVET schools. Internal efficiency and quality are dynamic issues in TVET. The courses are designed by the Curriculum Division and are prepared in collaboration with technical and vocational instructors and stakeholders.

The assessment criteria are set by the Department of TVET and are revised periodically as needed. The schools assess and evaluate trainees through formative and summative assessment. Assessment is done in both the theoretical and practical component of the training, which comprise; 30-40% and 60-70% respectively.

The examination and certification system relatively evaluates the practical skills acquired in the world of work. Norms and standards are set by the DTVET and are applied in all the formal training institutions. As there is no Trade Testing body organized outside the MoE to evaluate the standards, the schools are mandated to assess and test the trainees and thereby certify them by assuring the quality of their education and training.

Accreditation of private training providers has proved difficult. As far as the quality of TVET output, as most TVET systems do, it fails to monitor or evaluate the quality outcomes of training in terms of competencies achieved.

9.4.1. Analysis of Internal Efficiency

Examining student flows within a cycle and assessing an education system’s internal efficiency requires comparing the number of students who got access to the first year of the cycle with those who reach the final year of that same cycle in the time frame stated.

Internal efficiency is highly affected by repetition and dropouts. In the case of repetition, completing a one year course in two or more years incurs large sums of money to achieve the same learning outcome. Furthermore, students’ repetition is often a hindrance to the planned placement of students to specific courses. Students mainly drop out when they fail to achieve the set learning outcomes.

Repetition and dropout, therefore, suck up public resources and show a loss of opportunity to improve human capital. This section will first review repetition levels, and then measure the internal efficiency of Technical and Vocational Education.

Repetition rate

Repetition is associated with higher costs as pupils have to repeat one grade one or more times, but high dropout tendency is apt to provide a negative signal to both parents and instructors about the potential difficulties and abilities of the trainee. Repetition also leads to higher student–instructor ratios, resulting in worsening the learning conditions in the classroom. Analyzing repetition levels is therefore critical.

The analysis of repetition rates can be used to compute the internal efficiency coefficient, which measures the ratio between the number of student-years needed in theory (without drop outs and repetition) to complete a learning cycle and the number of student years that the group has actually spent.

But, repetition is not accommodated in TVET schools, because the TVET policy doesn't allow it. 1st year students (11th grade) who could not cope up with the curriculum are sent back to their respective academic schools to continue their education and failures in 2nd year courses(12th grade) do not graduate but are obliged to leave the school. Therefore, the repetition rate is zero.

Pass and Failure Rates

Students' knowledge and skills are tested in written and practical examinations. The pass and failure rate is set at the cut point of 60% for courses related to the students' specialization. The teaching and learning process is supplemented with the exposure of students to modern technology in different industries, which also gives the students some experience of the world of work. Assessment and evaluation requires students to write a report of their industrial visits and a demonstration of their competence by preparing graduation projects.

Dropout Rate

A commonly used indicator of efficiency is the drop-out rate. Dropout rates establish the percentage of students that have dropped out at the end of a specific school year, out of the students enrolled in TVET in the given grade.

Students drop out in the middle of their studies for many different reasons –health problems, financial problems, pregnancy in case of some females, etc.

The drop outs rate in TVET schools for 3 TVET cycles over a period of two years is shown in the Table below.

Table 9.10 Dropout rates in TVET schools in 2013-2017 by Stream

A	Stream	Total intake in year 1	Candidates for final exam	Dropouts In years 1 and 2	Dropout rate in years 1 and 2
	Technical	849	690	159	18.7 %
	Agricultural	107	65	42	39.3 %
	Business/Commerce.	448	410	38	8.4%
	Total	1404	1165	239	17.0%
	Dropout rate in the academic years 2014-15 to 2015-2016				
B	Stream	Total intake year 1	Candidates for final exam	Dropouts in years 1 and 2	Dropout rate in year 2
	Technical	849	805	44	5.2%
	Agricultural	169	106	63	37.3%
	Business/Commerce.	572	536	36	6.3%
	Total	1590	1447	143	9.0%
	Dropout rate in the academic years 2015-16 to 2016-2017				
C	Stream	Total intake year 1	Candidates for final exam	Dropouts in years 1 and 2	Dropout rate in years 1 and 2
	Technical	833	772	61	7.3%
	Agricultural	124	99	25	20.2%
	Business commerce.	451	436	15	3.3%
	Total	1408	1307	101	7.2%

Source: DTVET (2017) Computed from primary data

TVET schools' dropout rate averages show positive progress trends from cycle to cycle. The dropout rate diminished from 17.0% in 2013/15 to 9.0 % in 2014-16 and 7.2% in the years 2015/17. Hence, there was improvement in cutting out the number of drop out, as shown in Table 9.11.

Table 9.11 Dropout Rates in the Center for Vocational Training (CeVoT) by Stream

Dropout rate in the academic years 2012/13				
Stream	Intake in	Candidates for final exam	Drop outs in academic year	Dropout rate in the academic year
Technical	1262	A1107	125	9.9 %
Agricultural	476	288	188	39.5%
Business commerce.	863	768	95	11.0%
Total	2601	2029	408	15.7%
Dropout rate in the academic years 2014/15				
Technical	1963	976	987	50.3%
Agricultural	259	109	150	57.9%
Business commerce.	1198	944	254	21.2%
Total	3420	2029	1391	40.7 %
Dropout rate in the academic years 2016-2017				
Technical	723	665	58	8.0%
Agricultural	-	-	-	-

Business commerce.	248	229	19	7.7%
Total	971	894	77	7.9%

Source: Computed from primary data

N. B. The Agricultural School was not functional in the academic year 2016-2017.

As Table 9.11 indicates, in CeVoT the drop out averages fluctuated in the cycles. The dropout rate rose from15.7% in 2012-13 to 40.7% in 2014-2015 and then went down to7.9% in the academic year 2016-17.

Examination Success Rate in Final Exams

Examinations are conducted in all schools twice a year, i.e. four times during one TVET cycle. They are conducted at the middle and at the end of each academic year. Students pass or fail on the basis of the cumulative GPA that they obtain during their two years' stay.

A National Qualification Framework (NQF) with ten levels was drafted in 2008, but it is not yet functional. Since no Trade Testing Organization has been established to evaluate the standards of the formal and non-formal TVET system, comparison of efficiency across programs could only be made on the basis data for exam success that are available in the schools or the DTVET. All data presented here have been compiled from TVET and CeVoT.

Graduation Rate

The exam results presented below show the good achievements of the schools, because students seem to have coped well with the training courses. They also show that Students in TVET schools enjoyed their technical and vocational courses and thus performed well in their exams.

Table: 9.12 Success rates in final exams in 2013-2017 by Stream

Years	**Streams**	**Enrolled**	**Graduates**	**Success rate**
2013/14-2014/15	Technical	849	690	81.3%
	Agricultural	107	65	60.8%
	Commercial	448	410	91.5 %
	Total	1404	1165	83%
2014/15 -2015/16	Technical	849	805	94.8%
	Agricultural	169	106	62.7%
	Commercial	572	536	92.7%
	Total	1590	1447	91.0%
2015/16 -2016/17	Technical	833	772	92.7%
	Agricultural	124	99	79.8%
	Commercial	451	436	96.7%
	Total	1408	1307	92.8%

Source: DTVET (2017) Computed from primary data

As Table 9.12 indicates, the examination success rates improved from year to year. The trend seen here is encouraging for technical schools in accomplishing their mission.

Table: 9.13 Success rate in final exams at CeVoT 2012-2017 (3 TVET cycle)

Years	**Stream**	**Enrolled**	**Graduates**	**Success rate**
2012-2013	Technical	3350	3287	98.1%
	Agricultural	476	288	60.5 %
	Bus.& Commerce	863	768	89 %
	Total	4689	4343	92.6%
2014-2015	Technical	1963	976	98.1 %
	Agricultural	259	109	42.1 %
	Bus.& Commerce	1198	944	78.8 %
	Total	3417	2029	59.4%
2016-2017	Technical	723	605	83.7 %
	Agricultural	-	-	-
	Bus.& Commerce	248	229	92.3 %
	Total	971	834	85.9%

Source: CeVoT Statistical Office Sawa (2017)

As can be observed from the Table above, on average the success rate in CeVoT was good (above 85%) in the Technical and Commercial Streams in all the years (2012 to 2017). But, in the case of the Agricultural stream, it suddenly dropped from 60.5% to 42.1% in 2014/2015. This signals that the Center has to do more work to improve its training program. Besides, further study is needed to address the main problems in the agricultural stream.

Internal Efficiency Coefficient Ratio

The analysis of repetition rates can also be used to compute the internal efficiency coefficient, which measures the ratio between the number of student-years required (without drop outs and repetition) to complete a learning cycle and the number of student-years that the group has actually spent.

Based on this, the internal efficiency coefficient for promotion is P= 0.91while the internal efficiency coefficient for dropouts is d=0.09

Table 9.14 internal efficiency coefficient

Year	1st year	2nd year	Graduates
2014/15 enrolment	1590	1165	1165
2015/16 enrolment	1408	1447	
Repeaters	0	0	

1. $\text{Pr}\,omoted = \frac{(1447-0)100}{1590} = 91\%$
2. $Dropout = \frac{(1590-1447)100}{1590} = 9\%$

Then the corresponding flow rates are p = 0.91, d = 0.09, r= 0

Analysis of Quality of Training Delivery

Researchers of education confirm that public TVET depends heavily on government financing, particularly in boarding schools. According to them, public and private investment in TVET stands low, in contrast to strong investment in the rapidly growing economies of other countries. Therefore, the scarce public financing for TVET leaves room for greater efficiencies when compared to the actual program that graduates had attended Labor market matching services, self-employment promotions and other business development services.

Education quality is attained if school performance goes consistently in line with the mission and vision of national education initiatives. The mission statement of TVET is "To produce and ensure competent and internationally competitive, skilled workforce which promotes the Eritrean economy". To support schools achieve their missions, the TVET Department monitors and assures the quality of training delivery through the division of Monitoring and Quality Assurance (MQA) by visiting the schools twice a year.

QA in education is the process of monitoring, assessing and evaluating educational programs in line with defined requirements. In Eritrea, it is not undertaken by an external agency, but through a TVET internal Quality Management System (QMS). The QA system in formal TVET allows the schools to work independently in quality assuring their programs. The different departments in schools work as quality circles effecting towards the improvement of instructional process. The department heads, along with the school managers, supervise the whole process of teaching and learning in the schools. This helps the schools to gain confidence in improving the quality of teaching and learning internally and to gain public trust.

The systems and mechanisms for assessing the quality of education that are in place are working in accordance with designed **indicators**. Thus, quality in regular TVET schools and vocational training centers is identified mainly through presence of these important features, namely the quality of school management and instructors, the quality of the curriculum, the length of training time, access to teaching aid materials, the quality of equipment and tools, the quality of the delivery process and the availability of good infra-structure and support facilities - such as labs and libraries.

Improving quality

TVET quality can be viewed in terms of inputs, processes, and outputs. Lack of essential inputs compromises the quality of training in many countries. The first input for quality is definition of training standards, based on occupational requirements. Two innovations are helping to put standards in place: the introduction of competency-based training, and vocational qualification frameworks.

Trainees and teaching staff are critical inputs. The poor educational attainment of incoming trainees limits skill achievements. The level of skills and knowledge of teachers and work-based instructors is a key determinant of the quality of any country's system of education and training.

Inadequate numbers and qualifications of instructors are principal factors responsible for low-quality instruction. This applies especially to the lack of industrial experience of the trainers. Infrastructure, equipment, and materials are inputs that also tend to be inadequate and need upgrading to support better instruction.

To improve the quality of the delivery services or the internal efficiency of the system, the Ministry of Education has been allocating a substantial amount of funds for the TVET sub-sector. The sustainability of a relevant, flexible, effective and efficient training system requires sufficient financial resources. The Eritrean Government cannot be expected to provide the bulk of the capital and recurrent funds required to build an effective TVET system. Hence, it is necessary to allocate significant amounts of public, private and other financial resources to TVET. Thus, financing TVET will include all possible means of raising the needed funds in order to meet the goals and objectives of TVET.

In light of this, the MoE is working in partnership with the African Development Bank. For instance, with the funding from ADF and the Government of the State of Eritrea, seven technical schools and the Centre for Vocational Training at Sawa and some of the workshops in TVET schools have been partially equipped with equipment worth 14 million US dollars.

The ADF 12 support to TVET (SSDEE), which the MoE launched in 2013, has brought considerable improvement in the teaching and learning process by introducing quality enhancing programs.

Here are some of the programs introduced in the schools to achieve quality:

- **Capacity building -** Developing the human resource in the TVET Department
- **Curriculum -** Developing supplementary training materials
- **Strengthening and consolidating the school support system -**Equipping workshops with modern technology
- **Rehabilitating of old school buildings**

Capacity building:-Developing of the human resources in TVET

As students have to study technical, vocational and academic subjects, the instructors are categorized as Technical/Vocational and academic instructors. The maximum ratio of instructors to students is: technical instructors 1:25, Vocational instructors (in Commercial and Agricultural schools) 1:40, and academic instructors 1:50.

The Level of skills and knowledge of teachers and work-based instructors is a key determinant of the quality of any country's system of education and training. Inadequate numbers and qualifications of instructors are principal factors responsible for low-quality instruction. This applies especially to the lack of industrial experience of trainers.

The table below illustrates the qualifications of TVET instructors within the five years' from 2013 to 2017.

Table 9.15 Qualification of Instructors

	2013/14			2014/15			2015/16			2016/17			2017/18		
Qualification	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
Masters' Degree	*9*	*0*	*9*	*8*	*0*	*8*	*6*	*0*	*6*	*2*	*0*	*2*	*3*	*0*	*3*
First Degree	*74*	*26*	*100*	*118*	*34*	*152*	*104*	*37*	*141*	*104*	*25*	*129*	*96*	*22*	*118*
Diploma	*76*	*16*	*92*	*89*	*19*	*108*	*84*	*18*	*102*	*83*	*14*	*97*	*90*	*11*	*101*
Certificate	*47*	*17*	*64*	*70*	*21*	*91*	*48*	*19*	*67*	*59*	*34*	*93*	*48*	*28*	*76*
Total	*206*	*59*	*265*	*285*	*74*	*359*	*242*	*74*	*316*	*248*	*73*	*321*	*237*	*61*	*298*

Source: Computed from primary data

At present, there are 298 instructors and 20.5% of them are females. According to Table 9.15 above, the degree graduates (BA/BSc and above) make up 40.6% of the total instructors. The majority of them are instructors of Academic courses and Vocational fields, and a few of them are engineers from the Eritrean Institute of Technology (EIT).

Getting academic as well as vocational courses instructors is not as hard as getting technical courses instructors. Thus, most of the technical field instructors are certificate graduates from TVET schools. This is mainly due to the absence of a Technical Instructors Training Institution in higher education from which to pool diploma or degree graduates for the Technical Fields. Hence, the TVET Department has been obliged to recruit graduates from its own schools to solve the shortage of instructors in the schools.

These instructors, however, are only one year ahead of the students in experience and are impaired in their methodology and English proficiency, which adversely affects the instruction. Lack of deep knowledge about the subject matter and teaching methodology are also other constraints. Even the instructors with higher qualifications (Diploma and BSc/BA) lack competencies that are very important for improving student learning. As a result, a large number of instructors in technical schools are reported to have difficulties in interpreting and implementing the curriculum. This could affect the quality of training negatively, though it is difficult to quantify it. Improving the qualities of technical instructors needs a lot of effort.

To alleviate these problems, the MoE launched professional development plans for instructors and administrators' by using workshops and other upgrading methods. As part of the overall capacity building strategy of the TVET sub sector, the following specific activities have been carried out to enhance the skills of instructors and managers, planners and supervisors.

Since 2013, 64 out of 91 instructors (70%) upgraded their qualifications from the certificate to the diploma level; 3 out of 14 of school administrators (21.4 %) from BA/B.Sc. to post graduate degrees (MA/MSc);

and 3 out of 21 (14.3%) TVET staff members in the head office have improved their qualifications from BA/BSc to MA/MSc. In addition to this, 13 instructors have been trained in pedagogy.

Curriculum: Developing Supplementary Training Materials

The MoE has taken an initiative to improve the TVET curriculum by creating a forum for making it responsive to the demands of the labor market and to the demands of employers. The courses are designed by the curriculum division and developed in collaboration with instructors in schools and others stakeholders.

The Curriculum Division has designed and developed 72 titles to be used in the schools and is in the process of printing them. The purchase of reference books and audio-visual materials is also in process.

Strengthening and Consolidating the School Support System

Equipping workshops: 36 workshops have been equipped with modern technology. Two of them are newly introduced shops, namely foundry and refrigeration and air conditioning. Out of the different support facilities, 12 IT labs have been equipped with IT materials.

Rehabilitation of schools

The Ministry is expending large amount of money to rehabilitate old school buildings. Rehabilitating and equipping existing technical schools has been one of the top priority tasks in the Department. It has already finished rehabilitating three buildings in the Center for Vocational Training at Sawa.

As there is no National Qualification Framework and an organ that works as an External TVET Quality Assessment Agency organized in the country, the standardization and quality assurance of the different trades is done internally by the TVET institutions. They use **quality auditing** as a process of internal monitoring to ensure the presence of quality control mechanisms.

In addition to these the administrators of the TVET institutions are developing positive environments which are conducive to quality work for their staff. They are encouraged by department to develop their own sustainable approaches to quality monitoring that suits their needs.

Most of the TVET schools are staffed with qualified directors, pedagogic heads and administrators. The directors, pedagogic heads and department heads form quality circles known by academic committees in their schools and they usually work hard to improve quality, applying E. Deming's general principles of quality - **P**lan, **D**o, **C**heck and **A**ct.

Management of Training Time

Time is crucial in the delivery of training; this is seriously implemented and followed in the schools. The Academic year stretches from mid-September to the end of June, with 8 periods of 50 minutes a day. Each semester students have to attend 688 hours of instruction to finish the defined course.

The MQA division in the TVET Department also visits schools twice a year to support them in monitoring and assessing the quality of training delivery. It supports schools by giving short trainings - induction and refresher workshops to improve instructors' skills in teaching.

Issues and Concerns of TVET

Access: Access to TVET schools is limited as there are only a few schools. Only 5% of 10^{th} grade students can be accommodated.

Equity: To ensure equity, the government allocates a sizable portion of the education budget for boarding schools. Technical training is costly by nature; however, there is no mechanism for cost - recovery in the system.

Relevance: The economy has started to recover, due to the considerable agricultural and mining activities that have been initiated in the country. There are a host of industries like textiles, food processing, leather and leather products in Eritrea. However, no specific training is offered in these respective fields since training has largely been limited to traditional trades. Entrepreneurship is nominally offered in most of the technical schools, but the trainers do not have actual experience in the field. Thus, cannot be as effective as expected. Moreover, there is a need for improvement with regard to the relevance and quality of the courses offered in TVET as per the views of employers and enterprises.

Lack of statistical data and information as well as lack of studies related to the labor market affect the relevance of TVET programs. Besides, there is no clear mechanism by which TVET graduates could upgrade their qualifications in order to cope with the dynamism of the labor market.

Quality of Training: Insufficient data exist about the performance of the training institutions and their graduates in the labor market.

Quality of Instructors: TVET schools are suffering from serious shortages of qualified technical instructors, due to: (a) the lack of a domestic institute that trains TVET teachers and (b) lack of opportunities for continuous in-service up grading of staff.

Quality of school administration staff: The majority of school directors as well as other management staff do have diploma or higher qualifications. They also have more than 10 years of experience as instructors and managers. Yet, they lack adequate management qualifications and need training related to their posts.

Quality of Equipment and infrastructure and availability of teaching aid materials: The TVET schools are running under poor conditions with depreciated equipment and dilapidated infrastructure. Textbooks, teaching materials and consumables are generally scarce or in short supply.

Quality assurance: Comprehensive and nation-wide quality standards are lacking. External assessment of graduates does not take place. Assessment is up to each school and varies in quality. As a result, the competencies of graduates differ widely by institution. In general, there is no standard qualification system either the formal or informal TVET.

Curriculum: Though the curriculum tends to be organized for maximum effectiveness, there is still a gap between the instruction in TVET schools and the needs of employers. This calls for upgrading the curriculum. The involvement of employers and trade associations in the process of curriculum design and development, in the accreditation of qualifications and in the provision of training should be strengthened.

Management effectiveness: There is no clear and well fleshed out policy on TVET, thus creating a gap between macro-development objectively and actual practice. Moreover, one important function is lacking a mechanism for stakeholders to share their experience and coordinate their programs.

The TVET Department is unable to carry out all its functions with the limited staff on hand. There is a big shortage of qualified personnel, who could serve as curriculum developers, supervisors, database managers and programers, and project management experts.

TVET Qualification Framework: There is no qualification framework for TVET which makes it difficult to make standardization accreditation and leveling qualifications.

Financing: The sustainability of a relevant, flexible, effective and efficient training system requires sufficient financial resources. The Eritrean Government alone cannot be expected to provide the bulk of the capital and recurrent funds required for building an effective TVET system.

Assessment, Certification, and Accreditation: At present, there is no centralized system of assessment; certification and accreditation. The lack of national assessment deprives the country of valuable information about the relative performance of training institutions in terms of skills acquisition, and within training institutions about the various trades.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This sector analysis recognizes that in the last fifteen years of educational reform since 2002, extensive efforts have been made and commendable achievements recorded in revitalizing the overall education system and expanding equitable access to education across all sectors of Eritrean society. These include, among others, the development of policies and guidelines, school construction and rehabilitation, curriculum development, textbook printing and distribution, expansion and consolidation of the school support system, extensive human resource development, integration of ICT into the education system, developing key institutional capacity in the planning, implementation, monitoring and evaluation of education.

However, the analysis also recognizes that a lot more remains to be done in every aspect of the above mentioned and other areas of the education sector, in order to ensure the provision of *inclusive and equitable quality education and lifelong learning opportunities to all citizens and to* meet the global commitment of achieving SDG-4 of the Education 2030 Agenda.

In the context of developing countries, investment in education is constrained by the prevalence of scarcity of resources (human, financial, material, etc.). As a result, achievements in expanding access are often realized at the cost of quality. This reality also exists in Eritrea, as a developing country, where, at times, the issues of access and equity in education are given more emphasis as principal pillars of social justice. Thus, although educational quality has always been part and parcel of planning and implementation, its realization has been constrained by competing priorities in the allocation of scarce resources. Hence, it is high time that the upcoming education sector plan gave more emphasis to the quality of educational in order to ensure the competency and productivity of the products of the education system.

The present and future policy orientations of the ICT in education program build on the above efforts and envision the provision of ICT enhanced quality education by utilizing ICT as a tool for teaching and learning as well as for educational management. Leveraging the utilization of mobile network infrastructure for teaching and learning as well as educational management is among the primary areas of intervention as mobile networks have wider coverage across the country. Moreover, they aim at bridging the digital divide by introducing innovative solutions in areas of infrastructure such as electricity and communications network.

An essential component of ensuring quality in the contemporary Eritrean education system is the need for a major intervention to consolidate the foundation of education at the basic level, which encompasses the pre-primary, primary and lower secondary stages, collectively labeled as basic education. If learners are equipped with a strong base for 21st century skills, such as information processing, problem solving and critical thinking, they will develop self-confidence, collaboration and team work, which are critical success factors in their subsequent levels of learning and in their future careers.

Media education is important in Eritrea to reach the unreached communities and helps to ensure the delivery of quality programs throughout the nation. The program could provide general enrichment lessons in a variety of ways could help to transfer positive values, attitudes and culture. However, the

media, as a support system, has been underutilized. For these reason, it has to be explored deeply for its support in addressing current educational challenges.

There is a significant number of post-literacy graduates and out-of-school children who are entitled to lifelong learning. They deserve to have educational opportunities that meet their needs and aspirations. Strategies have to be designed to meet their educational needs. Taking in to consideration the wide geographical distribution and scattered life styles of many communities, the role of the media in ensuring the provision of learning opportunities is indispensable. The Adult Education radio would also engage in community sensitization on gender equality, and fighting harmful practices, etc.

As the result of the long standing commitment of the government and concerned stakeholders/partners, dedication of all concerned at the community level and the interest of beneficiaries, encouraging achievements had been scored towards Literacy for All. Although, there is a need to conduct another National Literacy Survey to determine the current literacy status in the country, currently literacy rate is estimated to have increased greatly, especially for the age group 15-45 years old. This age group has been the main target. It has been reported by the zobas that in many villages there are no illiterate adults. A National Literacy Survey was conducted by the MoE in 2008, when the national literacy rate was found to be 65%. However, since many schools have been opened since then throughout the country for children and the literacy program has been provided outside the formal system for out-of-school children and adults and it can be concluded that much work has been done towards literacy for all and it is reasonable to estimate that the illiteracy rate is now around 20%. However, this should be verified by conducting a fresh National Literacy Survey, which is planned for 2018.

Currently the major providers of basic education including literacy are: - the MoE, the MoD and the Prison and Rehabilitation Services. These major providers have been supported by various local partners/stakeholders, such as the NUEW, the NCEW, and the PFDJ, the MoI, the MoH, the MoLG, the MoF and many other public and private organizations. The education and training provided by these agencies range from advocacy and awareness raising orientation to long term academic courses for which beneficiaries obtain certificate or diplomas. Some give on the job training to their staff while others give education services to their customers.

It is fair to say that commendable achievements have been recorded in Eritrea as the result of the collaborative and relentless work done in the past 25 years and especially since 2000. This has also been reinforced by internationally organized conferences and workshops as well as the commitments of international organizations such as UNLD, LIFE initiative, CONFINTEA VI and others.

In Eritrea, one of the leading mottos since 2000 has been "**Literacy is a national priority that cannot be postponed**". Interestingly after the relentless and continued work done towards literacy for all and the results achieved, the motto preferred at this time is "No village should remain illiterate" or "let's work jointly to get rid of having an illiterate village in our area". This means that "No Village should be left illiterate" when it was "let's work for illiteracy free villages". This has been introduced and practiced since 2013, announced and discussed on the occasion of celebrating September 8, the International Literacy Day, which has been instrumental as a forum of advocacy and communication since 2002. This indicates

moving or marching from the general to the specific or the more focused, indicating the progress of literacy in Eritrea.

Sustaining and enhancing the provision of literacy programs for children out-of-school, youth and adults by focusing on the most disadvantaged areas will be the main task in the coming 5 years. This will be combined with the provision of continuing education and promoting lifelong learning in its varied forms.

Recommendations

- To enhance cooperation between the MoE and Eritrean Teachers' Association so as to help further strengthening teachers' capacity.
- Teachers should be encouraged to continuously up-grade themselves.
- Within the framework of governing teacher recruitment and placement, there is a need to establish promotion ladders and progression routes for teachers.
- A comprehensive and realistic teachers' policy must be prepared, in order to manage teachers' affairs properly, all the way from recruitment to retirement.
- Guidelines for transfer of teachers and other related issues must be put in place as soon as possible.
- Transparency and accountability should be taken into consideration when assigning people to positions of authority.
- Schools should regularly conduct teacher performance evaluation to identify the training needs of teachers, to help teachers improve their professional work, innovation excellence and to recognize effective performance.
- Due attention must be given to the improvement of teachers' living conditions, by increasing their salaries and fringe benefits.
- Improve the living and working conditions of teachers and education leaders at large, but particularly for those who work in remote and harsh areas;
- Raise the awareness of the values and roles of teachers and education leaders in the community; by organizing various community sensitization programs such as seminars, panel discussions, magazines, journals, newsletters etc.
- Decrease the number of teachers who are teaching out of their field of specialization;
- Introduce courses of pedagogy in all colleges other than ACCE and CoE; (Provide a one year pedagogy course in all relevant colleges)
- Introduce summer in-service upgrading program at CoE (EIT);
- Establish Departments of ECD, Fine Arts and Special Needs Education at ACCE;
- Introduce incentive schemes for teachers and educational leaders to improve quality of education.
- Establish a committee of teacher education and development which involves all stakeholders to deal with the overall development of teachers and education managers; (CoE, ACCE and MoE)
- Encourage and enable teachers to be researchers and lifelong learners;
- Empower the selection of student teachers from grade ten completers;
- Develop code of conduct for student teachers and teacher educators;

- Strengthen cluster and school based CPD programs by training PRC coordinators and resource people;
- Conduct continuous evaluation of training programs; and situational analysis of teachers and education leaders
- Review of pre-service and in-service teacher training programs;
- Upgrade the qualification of teacher educators; and MoE staff
- Train and recruit capable Mother Tongue educators for all the nine Eritrean languages;
- All ITEs should work collaboratively and collaboratively address the MoE's demands
- ITEs should introduce flexible entry criteria for upgrading serving MoE members which take into consideration experiential learning.
- As of now, one teacher training college is not enough to cater for all the training of pre-primary and primary teachers. Hence, the number and capacity of pre-primary and primary teacher education colleges must be increased and improved.
- Similarly, the number of teacher training colleges that produce middle and secondary school teachers should be increased.
- Ways and means should be devised to attract the best or very good students to the teaching profession.
- The Government should further produce, print and distribute textbooks and other teaching learning materials to fulfill the continuous demand of schools.
- It should spent extra amount of money in constructing more classrooms and school support structures in equipping middle and secondary schools with libraries having latest reference books, laboratory chemicals and equipment, power supply, computers, ICT rooms and PRCs, etc.
- Leveraging the potential of ICTs for qualitative transformation of educational provision as well as human and institutional capacity development so as to facilitate the provision of ***inclusive and equitable quality education and promote life-long learning opportunities for all***, thereby achieving SDG-4.
- Dedicated and sustained financing to ensure equitable provision of ICT resources and services and enhance the effectiveness and efficiency of the delivery and management of education.
- Ensure sustainable production of qualified ICT teachers and technicians for effective utilization of ICTs in schools and management structures of the education sector
- Harness the potential of alternative energy solutions, primarily solar power, to ensure equitable access to and effective utilization of ICT services especially in remote rural areas of the country.
- Establish more ICT labs in schools;
- Replenish and rehabilitate the existing ICT labs;
- Expand the provision of ICT training to more teachers and school management personnel;
- Install more solar power systems in remote rural schools.

- Establish network infrastructure among schools, sub-zoba and zoba education offices and central MoE offices;
- Secure dedicated and sustained development and recurrent budget for sustainability of the program.
- Providing adequate furniture to schools and redesigning desks to make them more suitable for the implementation of the learner centered and interactive pedagogy.
- The teaching-learning process provided under the shade of trees and in make-shift classrooms should be replaced by a standard classrooms.
- Water Sanitation and Hygiene (WASH) facilities should be provided at all levels of educations system and ensure their functionality.
- Strengthening the data capturing system.
- Revamp and integrate SNE operations, and operationalize the special/resource classrooms established under ESDP-II for all groups of children with 'special needs'.
- Strengthen nomadic schooling in its organization, curriculum accessibility to accommodate nomadic or semi-nomadic population groups in DKB, SKB, Gash-Barka, Anseba and pocket neighborhoods in the other two regions.

- Strengthen boarding schools in a manner that would enable them to adequately benefit children from remote rural, nomadic or other disadvantaged community groups.
- Strengthen sanitation and counseling arrangements within schools so as to ensure girls' continuity and learning achievement.
- Promote teacher expertise for basic education and secondary education.
- Align the educational programs of teacher education institutions with national demands. The operations of the Asmara Community College of Education (ACCE) in principle, in organization, and in human and material resources, need to reflect the 'real demands' rather than mere traditional disciplines.
- Library and laboratory technicians must be trained in collaboration with concerned colleges.
- Establish continuous, integrated and accredited in-service training to enhance the competency and ensure the promotion of serving teachers.
- Enhance support systems in schools such as school libraries, laboratories, school PRCs, ICT, etc. at all levels including pre-primary.
- Redistribute human and material resources among regions to 'level' and compensate for persistent gaps in the zobas and sub-zobas.
- Establish integrated communication of education achievements, challenges, and vision, in the light of the SDGs, to all stakeholders in a systematic and tailored fashion, in order to continuously tune-up national consciousness and actions on a number of education dimensions. These include, expanding access to various groups, enhancing learning achievement and progression, etc.
- Enhance partnership with civil societies (NUEW, NUEYS), for people with disabilities, etc. and communities to enhance the quality of education and to increase resources in schools.
- Strengthen research and development work in a number of educational dimensions like enriching the education data system, systematic documenting and filing of educational developments and

challenges, in every aspect of the education system and conduct impact evaluation studies of numerous educational interventions e.g. (nomadic, boarding, RCCs, etc.)

- Enhance the participation and awareness of the community to increase a multi-sectorial approach that includes all stakeholders and development partners.
- Strengthen feeder school schemes, particularly to facilitate the enrolment of very young learners who travel long distances to the nearest learning center in harsh climates and along rough roads.
- To ascertain the dissemination and implementation of the National ECCE Policy, the ministry should coordinate and advocate for the provision of ECCE programs.
- Pre-primary education centers should be strengthened through supply of classroom facilities and learning materials
- Pre-primary education is a crucial preparatory stage for primary schooling and is critical in reducing dropout rates. Therefore, there is an urgent need to strengthen the training of caregivers, teachers and supervisors by institutionalizing ECCE training programs.
- Strengthening pre-primary opportunities, including the current scheme of annexing ECCE services to primary schools and promote various options such as the Parenting Enrichment Intervention.
- ECCE centers should be equipped and resourced with basic play and learning materials, in order to make the teaching and learning process more effective.
- ECD requires collaboration with all concerned line ministries and other stakeholders for its holistic implementation.
- Regular community mobilization must be conducted to enhance communities' awareness and understanding of the benefits of pre-primary education.
- Pre-primary education is a crucial preparatory stage for primary schooling and is critical for creating school readiness and for reducing dropout rates. Therefore, the opportunity of pre-primary education has to be extended to all children before they get enrolled in grade 1 of primary schools. The opportunity can be created through diversified means, such as by way of establishing Kg, CCG or by annexing pre-primary classes within primary schools.
- ECD (Early childhood Development) is a foundation for holistic development of the child starting from 0 age. Therefore, parenting education, which is now being implemented in pilot form, should be expanded nationwide to raise awareness on ECD among parents and communities.
- Regional ECD Resource Centers should be equipped and revitalized to enhance their capacity for delivering training of pre-primary teachers. The six regional ECD resource centers must be revitalized and equipped.
- Currently, the development and expansion of early childhood education is one of the top priorities of the Government and the MoE. Therefore, with the expectation for the fast growing expansion of the service. It is highly important to establish a separate Pre-primary teacher training college in order to meet the demand.
- The current situation of ECCE services must be thoroughly assessed. Regular and frequent monitoring and supervision must be conducted.

- The MoE should make a comprehensive nation-wide assessment to determine the literacy status and the impact of using the mother tongue on literacy and adult education.
- The MoE should identify the unreached areas and the best means of instruction.
- The adult education curricula should also be mainstreamed with the formal education curriculum.
- The MoE should also set mechanisms to assist the zobas as well as to enhance and expand continuing education. This would in turn help rural and urban areas to sustain and enhance the achievements of the literacy program.
- A comprehensive labor market survey and up-to-date tracer study is an immediate requirement in order to respond appropriately to the demands of the national development programs.
- The vocational skills training system should have a strong regulatory and quality assurance system.
- The analysis underlines the urgency of diversifying the provision of TVET by giving more emphasis to short and tailor-made courses for school leavers to enhance the absorption capacity of the system while maintaining the productivity and quality of products and service delivery.
- Increase the total enrollment of students by constructing new schools in all regions of the country. In addition to this, evening classes should be opened to provide access for those who are interested.
- Increase the enrollment of females and disadvantages groups.
- Cooperate with the Eritrean Institution of Technology towards the establishment of a system to develop skilled instructors at the college level, up to the level of BSc in technology education, to cater to the needs of the technical and vocational schools. In addition to this, cooperation with the College of Arts and Social Sciences is needed to upgrade the qualification of school managers/administrators.
- Work closely with the Ministry of Labor and Human Welfare on the establishment and implementation of a Labor Market Information System to gauge and respond to market needs.
- Strengthen and build the planning, regulatory, inspection, curriculum development and research capacity of the TVET system.
- Standardize the examination and certification system for all types and modes of skills training.
- Consolidate the existing TVET schools with modern teaching equipment and materials.
- Establishing a National Board of Standards to assure the quality of skills attained in the nation.
- The partnerships with the private sector to support the resource needs of the institutions require standardizing and detailing in negotiation with employers and trade bodies.
- Provide continuous upgrading and refreshing Pedagogic and Technical training to the instructors.

Appendix -A
Subject offered in intermediate level schools

At present, on top of the academic subjects (English mathematics, science, ICT, entrepreneurship, geography and history), the following technical and vocational courses are offered in the formal intermediate level schools:

S.N	TECHNICAL SCHOOLS	COMMERCIAL SCHOOL	AGRICULTURAL SCHOOLS
1	Electronics	Accounting	Animal Science
2	Electricity	Secretarial Science	Plant Science
3	Computer Maintenance and Networking	Library& Information Science	Soil and Water Conservation and Irrigation Systems
4	Metal-work	Material Management	
5	Building Construction		
6	Machine Shop		
7	Plumbing		
8	Surveying		
9	Drafting		
10	Wood-work		
11	Auto-mechanics		

Appendix –B

Training in various Areas of skill provided outside MoE

Some of Area of Skills (Basic Level of training in non-formal way of delivery) Provided by:

a) Ministry of Agriculture (MoA), Ministry of Health (MoH), Ministry of Fisheries, Ministry of Tourism (MoT), and Ministry of Local Government (MoLG).

Areas of Skill		
Administration and leadership and Commerce	Forestry and wild animals conservation	Animal health and husbandry
Technical mechanization	Construction	Tailoring
Inter-personal communication	Wood and metal-work	Typing
Soil Conservation, seeds and water	Hotel and tourism	Computer Application
Mechanics and tractor operation	Electricity	General Mechanics
General agriculture and extension	Plumbing	Fishing
Reception and Catering	Hotel Management	

b) Parasatal companies, private institutions and local NGOs (the National Union of Eritrean Youth and Students (NUEYS) and National Union of Eritrean Women (NUEW). Most of the courses are usually 3 – 9 months long.

Areas of Skill		
Computer and Computer related Courses: - Application - Maintenance, - Web developing & Networking - Video/Film Shooting, Editing - Graphics	Management and Commerce related courses: - Basic Accounting -Office practice - Management - Administration	Technical fields - Auto-mechanics - Electricity - Electronics - Plumbing - Metal & Wood work - Fishing Technology
Art and Music - Basic Art science - Drama	House hold science - Hand crafts - Design, Sewing & Knitting Textile - Cooking - Hair Dressing	

Appendix –C

Learners who enrolled and completed in non-formal training in (Private Training Centers in the zobas) In 2013-2017

ZOBAS	REGISTERED			COMPLETED		
	M	F	Total	M	F	Total
Maekel	4184	5567	9757	3817	4619	8436
Debub	1346	52	6366	169	3699	4768
Anseba	8	215	295	61	16	227
Gash Barka	N/A	N/A	N/A	N/A	N/A	N/A
SKB	439	332	771	415	316	731
DKB	N/A	N/A	N/A	N/A	N/A	N/A
Total	5977	6166	17189	4462	8650	14,162

Source: Ministry of Education (2017) compiled from the Report of zoba Education Offices.

Appendix D

Intermediate level TVET Graduates for 2013-2017 by field of study

	2013		2014		2015		2016		2017		Grand Total	
	F	T	F	T	F	T	F	T	F	T	F	T
Accounting	*114*	*173*	*87*	*115*	*116*	*171*	*191*	*225*	*115*	*152*	*623*	*836*
Library and Information Science	*0*	*0*	*0*	*0*	*12*	*37*	*24*	*51*	*56*	*88*	*92*	*176*
Material Management	*73*	*134*	*44*	*85*	*74*	*126*	*98*	*161*	*60*	*100*	*349*	*606*
Secretarial Science	*119*	*137*	*63*	*80*	*66*	*76*	*82*	*99*	*79*	*92*	*409*	*484*
Agro Mechanics	*0*	*25*	*0*	*25*	*0*	*22*	*0*	*18*	*0*	*26*	*0*	*116*
Animal Science	*23*	*49*	*12*	*25*	*6*	*14*	*14*	*28*	*15*	*24*	*70*	*140*
Plant Science	*18*	*25*	*35*	*57*	*13*	*21*	*21*	*41*	*18*	*30*	*105*	*174*
SWC and Irrigation	*8*	*29*	*10*	*23*	*5*	*8*	*12*	*19*	*8*	*19*	*43*	*98*
Auto-Mechanics	*7*	*101*	*4*	*75*	*14*	*88*	*10*	*98*	*11*	*97*	*46*	*459*
Building Construction	*45*	*104*	*20*	*76*	*36*	*71*	*18*	*82*	*35*	*77*	*154*	*410*
Drafting	*45*	*72*	*40*	*59*	*41*	*63*	*49*	*73*	*43*	*65*	*218*	*332*
Electricity	*40*	*98*	*22*	*74*	*36*	*87*	*27*	*98*	*38*	*96*	*163*	*453*
Electronics	*35*	*71*	*25*	*55*	*32*	*67*	*47*	*73*	*42*	*79*	*181*	*345*
General Metal	*16*	*85*	*0*	*55*	*10*	*59*	*2*	*69*	*3*	*67*	*31*	*335*
Plumbing	*5*	*16*	*0*	*13*	*3*	*11*	*2*	*19*	*4*	*17*	*14*	*76*
Surveying	*55*	*105*	*34*	*78*	*45*	*85*	*51*	*89*	*59*	*81*	*244*	*438*
Wood-work	*22*	*90*	*9*	*65*	*22*	*73*	*16*	*89*	*35*	*80*	*104*	*397*
Computer Maintenance and Networking	*0*	*0*	*0*	*0*	*0*	*0*	*18*	*29*	*12*	*23*	*30*	*52*
Machine Shop	*29*	*104*	*7*	*75*	*15*	*72*	*4*	*71*	*7*	*70*	*62*	*392*
Carpentry	*0*	*12*	*2*	*13*	*5*	*14*	*3*	*15*	*9*	*20*	*19*	*74*
Total	*654*	*1430*	*414*	*1048*	*551*	*1165*	*689*	*1447*	*649*	*1307*	*2957*	*6397*
Female Percentage	*45.7*		*39.5*		*47.3*		*47.6*		*49.7*		*46.2*	

Source: DTVET, (2017) computed from primary data

Appendix E

CeVoT Graduates by for (2012 - 2017) fields of study													
School	**Field of study**	**2012-2013(6 th)**			**2014-2015(7 th)**			**2016-2017(8 th)**			**Grand Total**		
		M	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**	**M**	**F**	**T**
Business and Commerce	Accounting	*89*	*207*	*296*	*46*	*235*	*281*	*33*	*98*	*131*	*168*	*475*	*708*
	Secretarial Science	*0*	*256*	*256*	*0*	*408*	*408*	*0*	*98*	*98*	*0*	*664*	*762*
	Material Management	*78*	*138*	*216*	*45*	*210*	*255*				*123*	*348*	*471*
	Total	*167*	*601*	*768*	*91*	*853*	*944*	*33*	*196*	*229*	*291*	*1487*	*1941*
Building Technology 01	Building Construction	*59*	*18*	*77*	*44*	*0*	*44*	*57*	*0*	*57*	*160*	*75*	*178*
	Drafting	*89*	*23*	*112*	*72*	*37*	*109*	*35*	*67*	*102*	*196*	*95*	*323*
	Electricity	*102*	*15*	*117*	*118*	*23*	*141*	*53*	*63*	*116*	*273*	*91*	*374*
	Survey	*60*	*43*	*103*	*65*	*27*	*92*	*38*	*59*	*97*	*163*	*108*	*292*
	Total	*310*	*99*	*409*	*299*	*87*	*386*	*183*	*189*	*372*	*792*	*369*	*1167*
Building Technology 02	General Metal	*70*	*4*	*74*	*54*	*0*	*54*	*78*	*36*	*114*	*202*	*82*	*242*
	General Wood-work	*69*	*22*	*91*	*52*	*51*	*103*	*51*	*78*	*129*	*172*	*124*	*323*
	Carpentry	*51*	*0*	*51*	*54*	*0*	*54*	*22*	*4*	*26*	*127*	*22*	*131*
	Plumbing	*67*	*10*	*77*	*52*	*0*	*52*	*18*	*6*	*24*	*137*	*28*	*153*
	Total	*257*	*36*	*293*	*212*	*51*	*263*	*169*	*124*	*293*	*638*	*256*	*849*
Agriculture	Animal Science	*41*	*28*	*69*	*34*	*6*	*40*				*75*	*34*	*109*
	Plant Science	*29*	*47*	*76*	*22*	*9*	*31*				*51*	*56*	*107*
	NRM	*45*	*27*	*72*							*45*	*27*	*72*
	Soil & Water Conservation	*31*	*40*	*71*	*32*	*6*	*38*				*63*	*46*	*109*
	Total	*146*	*142*	*288*	*88*	*21*	*109*				*234*	*163*	*397*
Farm and Heavy Duty Machinery	Farm machinery	*106*	*7*	*113*	*79*	*12*	*91*				*185*	*19*	*204*
	Dozer And Loader	*96*	*2*	*98*	*77*	*7*	*84*				*173*	*9*	*182*
	Backhoe Loader	*100*	*1*	*101*	*72*	*15*	*87*				*172*	*16*	*188*
	Motor Grader	*90*	*3*	*93*	*49*	*16*	*65*				*139*	*19*	*158*
	Total	*392*	*13*	*405*	*277*	*50*	*327*				*669*	*63*	*732*
	Grand Total	*1272*	*891*	*2163*	*967*	*1062*	*2029*	*385*	*509*	*894*	*2624*	*2462*	*5086*
			41.2			*52.3*			*56.9*			*48.4*	

Source: CeVoT statistical office, Sawa (2017)