

**PUBLIC PRIVATE PARTNERSHIP IN TANZANIA: A FRAMEWORK FOR
IMPROVING THE QUALITY OF PRIMARY EDUCATION: A CASE OF
SELECTED PRIMARY SCHOOLS IN KILIMANJARO REGION, TANZANIA**

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**A THESIS SUBMITTED IN FULFILMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY OF SOKOINE UNIVERSITY OF
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EXTENDED ABSTRACT

The government of Tanzania adopted the use of the Public Private Partnership (PPP) model as a development strategy for service delivery improvement particularly education since the late 1970s. Despite the adoption and long use of the model for fostering socio-economic development through improving education services in Kilimanjaro Region, the quality of primary education in schools under PPP model has not yet greatly improved. The overall objective of this study was to assess the existing Public Private Partnership model and its influence on improving the quality of primary education delivery in Kilimanjaro Region. Specifically, the study examined the quality of primary education offered in schools under public private partnership model in comparison with private and public schools, determined the contributions played by private educational development partners on improving the quality of primary education, analysed the influence of the PPP model on the quality of primary education and identified constraints hindering the existing public private partnership framework in delivering quality primary education. The study was conducted in Moshi Municipality and Moshi District Council. A cross-sectional research design was adopted. A total of 300 respondents from thirty primary schools (16 PPP, 8 public and 6 private) were selected for the study. Quantitative data was collected using two structured questionnaires, one for 60 teachers and the other one for 240 pupils from thirty primary schools. Qualitative data was collected through focus group discussions, observation methods and key informant interviews. Qualitative data was analyzed using content analysis technique whereby recorded conversations were transcribed into categories of themes/concepts then discussed in line with the study objectives. Quantitative data was analyzed using IBM SPSS Statistics and Microsoft Excel computer programmes. Descriptive analysis was done to determine distributions of individual variables. Moreover inferential statistics were computed to establish

relationships between some independent variables and the dependent variable (pupils' academic performance). Chi-square, One Way-ANOVA, difference in difference (DiD) and ordinal logistic regression were run to determine the actual contributions of PPP model on improving the quality of primary education. Public schools had more insufficient school T/L infrastructure and T/L materials compared to their counterparts PPP and private schools. Various educational benefits were gained from types of support provided by private partners through the PPP model, including increased pupils' enrolment and rate of pupils' attendance to school as well as improved pupils: textbooks and pupils: desks ratios. Chi-square analysis showed that the association between types of educational support provided and school academic performance for the previous four years was statistically significant (Chi-square = 16.34, $p < 0.05$). The outputs of ordinal logistic regression model showed that renovations or construction of classrooms, teachers' offices, and modern kitchens as well as construction and connection of water systems/points as interventions of the PPP model had significant influence on chances of high schools' academic performance ($p < 0.05$). Furthermore difference in difference (DiD) results showed that PPP schools had better academic performance with a mean score of 14.6, compared to schools without PPP which scored a mean of 8.9. A number of constraints hindering effective implementation of the PPP model for improving the quality of primary education were identified including absence of effective PPP institutions and legal framework at local level, lack of awareness among government officials and community at large. On the basis of the findings that public schools had more insufficient school T/L infrastructure and T/L materials and their quality of education was lower compared to their counterparts PPP and private schools, it is concluded that insufficiency of school infrastructure and T/L materials leads to ineffective teaching and learning processes in the classrooms hence causes pupils to complete standard seven with low literacy and numeracy competencies compared to the minimum expected competencies. In

regard to the results of objective two, it is concluded that PPP model is a development tool which assists public schools to improve the quality of education by overcoming educational challenges hindering schools from providing quality primary education. In view of the findings based on the influence of PPP model on school performance it is concluded that schools with PPP interventions have a potential to improve school academic performance than schools without PPP interventions. In regard to the results on PPP weaknesses and challenges, it is concluded that, regardless of the PPP model being a very significant tool for improving the quality of education but it is operating in very challenging environments that do impede the government efforts towards provision of quality primary education to schools under PPP model in Moshi District Council and Moshi Municipality. Based on the conclusion drawn about insufficiency of school infrastructure and T/L materials leading to lower academic performance, it is recommended that the administration and authorities of Moshi District council and Moshi Municipality should prioritise and adequately budget to adhere the educational regulations that require each primary school to have sufficient school infrastructure and T/L materials. In view of the conclusion drawn for objective two; it is recommended that school administration and authorities of Moshi District Council and Moshi Municipality should create awareness to private partners, particularly locally oriented ones (individuals, groups and organisations) to closely collaborate with their government to reduce educational challenges facing primary schools in Moshi District Council and Moshi Municipality rather than depending much on external or international private development partners. With regard to the conclusion drawn about the influence of PPP model on improving schools academic performance, it is recommended that the school administration, education department and the authorities of Moshi District Council and Moshi Municipality should set strategies that will inspire more private development partners to continue supporting and investing in improving schools' /pupils academic performance. In

view of the conclusion drawn about constraints hindering Public Private Partnership model on improving the quality of primary education, it is recommended that school administrators, education department, Moshi District Council Executive Director and Moshi Municipality Director should create supportive environment for private partners to continue collaborating with more primary schools facing educational challenges in the region.

DECLARATION

I, PAULIN PAUL, do hereby declare to the Senate of Sokoine University of Agriculture that this thesis is my own original work done during the period of my study and that it has neither been submitted nor concurrently being submitted for a degree award in any other institution.

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Date

The above declaration is confirmed by:

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Prof. Kim Abel Kayunze
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Date

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DEDICATION

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TABLE OF CONTENTS

EXTENDED ABSTRACT	ii
DECLARATION	vi
COPYRIGHT	vii
ACKNOWLEDGEMENTS	viii
DEDICATION	x
TABLE OF CONTENTS	xi
LIST OF TABLES	xvii
LIST OF FIGURES	xix
LIST OF APPENDICES	xx
LIST OF ABBREVIATIONS AND ACRONYMS	xxi
CHAPTER ONE	1
1.0 INTRODUCTION	1
1.1 Background to the Problem	1
1.2 Statement of the Problem	4
1.3 Study Justification	6
1.4 Study Objectives	8
1.4.1 Overall objective	8
1.4.2 Specific objectives	8
1.5 Study Questions and Hypotheses	9
1.5.1 Study questions	9
1.5.2 Study hypotheses	9
1.6 Literature Review	10
1.6.1 Quality of education	10
1.6.2 Public private partnership (PPP) model	12

1.7 Theoretical Review	15
1.7.1 Stakeholder theory.....	16
1.7.2 Constraint theory	16
1.8 Conceptual Framework	17
1.9 Methodology of the Study.....	20
1.10 Scope and Challenges of the Study	22
1.10.1 Scope of the study	22
1.10.2 Challenges of the study	23
1.11 Organisation of the Thesis.....	23
REFERENCES	24
CHAPTER TWO.....	29
2.0 A COMPARATIVE ANALYSIS ON THE QUALITY OF PRIMARY EDUCATION IN SCHOOLS UNDER PUBLIC PRIVATE PARTNERSHIP MODEL IN KILIMANJARO REGION, TANZANIA	29
2.1 Abstract	29
2.2 Introduction	30
2.3 Methodology	33
2.3.1 How quality of education was measured.....	34
2.3.2 Data collection and analysis	35
2.5 Results and Discussion.....	35
2.5.1 Socio-demographic characteristics of the respondents	35
2.5.1.1 Age of the respondents	36
2.5.1.2 Sex.....	36
2.5.1.3 Studying class (class level) of pupils	37
2.5.1.4 Education level of teachers	37
2.5.1.5 Marital status of teachers.....	38

2.5.1.6 Total number of teachers and pupils	38
2.6 Availability of School Teaching and Learning Infrastructure.....	39
2.6.1 Classroom availability.....	41
2.6.2 Availability of desks.....	42
2.6.3 Availability of toilet holes for pupils	43
2.6.4 Houses for teachers	45
2.6.5 Availability of modern kitchen	45
2.6.6 Availability of dining halls at school	46
2.6.7 Availability of water service at school	47
2.7 Availability of Teaching and Learning Materials in Public, Private and PPP	
Primary Schools	48
2.7.1 Availability of subject text books.....	49
2.7.2 Pupils' access to exercise books.....	50
2.7.3 Pupils' having mathematical set.....	50
2.8 Conclusions and Recommendations.....	52
REFERENCES	54
CHAPTER THREE	57
3.0 IMPROVING QUALITY OF PRIMARY EDUCATION THROUGH PUBLIC	
 PRIVATE PARTNERSHIP MODEL: A CASE OF SELECTED PRIMARY	
 SCHOOLS IN KILIMANJARO REGION, TANZANIA	57
3.1 Abstract	57
3.2 Introduction	59
3.3 Hypothesis of the Study	62
3.4 Theory Underlying the Study	62
3.5 Methodology	63
3.6 Results and Discussion.....	65

3.6.1 Socio-demographic characteristics of the respondents	65
3.6.1.1 Age of the respondents	65
3.6.1.2 Studying class (class level) of pupils	66
3.6.1.3 Education level of teachers	66
3.6.1.4 Pupil teacher ratio (PTR) in the studied PPP schools	67
3.7 Types and Nature of Private Educational Partners.....	68
3.8 Types of Support Provided to PPP Schools by Private Educational Partners.....	71
3.9 Educational Benefits Gained by PPP Schools from Types of Support Provided.....	75
3.10 Conclusions and Recommendations.....	81
REFERENCES	82
CHAPTER FOUR	85
4.0 INFLUENCE OF PUBLIC PRIVATE PARTNERSHIP MODEL ON	
 IMPROVING PUPILS' ACADEMIC PERFORMANCE: A CASE OF	
 SELECTED PRIMARY SCHOOLS IN KILIMANJARO REGION,	
 TANZANIA.....	85
4.1 Abstract	85
4.2 Introduction	87
4.2.1 Study question and hypothesis	89
4.2.2 Theory underlying the study	90
4.3 Methodology	91
4.4 Results and Discussions	93
4.4.1 Education level of teachers	93
4.4.2 Total number of teachers and pupils in the schools studied.....	94
4.5 Educational Interventions Implemented by Private Partners to PPP Schools.....	96
4.5.1 Renovation and construction of school infrastructure.....	96
4.5.2 Financing other support services to quality education	97

4.5.3 Provision of teaching and learning materials	100
4.6 The Extent to which PPP model has Improved Academic Performance	102
4.6.1 PPP model and school academic performance in the national examinations....	102
4.6.2 PPP model and pupils’ academic performance	104
4.6.2.1 PPP model and pupils’ competency in Kiswahili language	104
4.6.2.2 PPP model and pupils’ competency in English language	106
4.6.2.3 PPP model and pupils’ competency in Mathematics	108
4.6.3 Actual contribution of PPP interventions/roles on academic performance.....	110
4.7 Conclusions and Recommendations.....	114
REFERENCES	115
CHAPTER FIVE.....	120
5.0 CONSTRAINTS OF PUBLIC PRIVATE PARTNERSHIP FRAMEWORK ON	
 IMPROVING THE QUALITY OF EDUCATION: A CASE OF SELECTED	
 PRIMARY SCHOOLS IN KILIMANJARO REGION, TANZANIA	120
5.1 Abstract	120
5.2 Introduction	121
5.3 Theory Underlying the Study	124
5.4 Methodology	125
5.5 Results and Discussion.....	126
5.5.1 Socio-demographic characteristics of the respondents	126
5.5.1.1 Education level of teachers	126
5.5.1.2 Pupil teacher ratio (PTR) in the studied PPP schools	127
5.6 Weaknesses of the Public Private Partnership Framework	129
5.7 Challenges which Emanated from Implementing Public Private Partnership	
Model in Education	133

5.8 Strategies Leading to Successful Implementation of the PPP Educational Projects	139
5.9 Conclusions and Recommendations.....	144
REFERENCES	145
CHAPTER SIX.....	147
6.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS.....	147
6.1 Summary of the Major Findings and Conclusions.....	147
6.1.1 Quality of primary education in schools under public private partnership model in comparison to private schools	147
6.1.2 Improving quality of primary education through PPP framework.....	148
6.1.3 Influence of PPP model on improving school academic performance	149
6.1.4 Constraints hindering the PPP model on improving the quality of primary education	149
6.2 Recommendations	150
6.2.1 Quality of primary education in schools under PPP model	150
6.2.2 Improving quality of primary education through PPP framework.....	150
6.2.3 Influence of PPP model on improving school academic performance	151
6.2.4 Constraints hindering public private partnership model on improving the quality of primary education	151
6.3 Contribution of the Study.....	152
6.3.1 Contribution on the practices of PPP model	152
6.3.2 Contribution to the body of knowledge.....	153
6.3.2 Contribution to the theory	153
6.4 Areas for Further Study.....	154
APPENDICES	156

LIST OF TABLES

Table 2.1: Age and sex of the respondents.....	37
Table 2.2: School category and education level of teachers	38
Table 2.3: One-Way ANOVA comparing pupil teacher ratio by school category	39
Table 2.4: Index summated scale on whether schools had sufficient school Infrastructures.....	40
Table 2.5: One-way ANOVA comparing pupil desk ratio (PDR) by schools categories.....	43
Table 2.6: School toilet hole user ratio for boys and girls	44
Table 2.7: One Way –ANOVA comparing toilet holes user ratio for boys and girls by school types	44
Table 2.8: Availability of modern kitchens in the studied schools	46
Table 2.9: Whether the school has dining hall	47
Table 2.10: Pupils’ multiple responses on the type of water sources at school	47
Table 2.11: Index summated score on whether the school is sufficiency with T/L Materials.....	49
Table 2.12: Whether pupils have all exercise books for taught subjects	50
Table 2.13: Cross-tabulation of whether pupil owned mathematical sets and categories of pupils’ academic performance	51
Table 2.14: Multiple responses on the availability of geometrical tools to pupils’ mathematical sets	52
Table 3.1: Education levels of teachers.....	67
Table 3.2: Pupils teacher ratio (PTR) of the studied schools	68
Table 3.3: Multiple responses of private education partners supporting schools	69

Table 3.4: Types of educational support provided by private educational partners, monetary value and their association with school academic performance for the years 2011-2015.....	73
Table 3.5: Educational benefits gained to PPP schools from kinds of support provided by private partners.....	76
Table 4.1: Education level of teachers in schools With PPP and schools Without PPP Interventions.....	94
Table 4.2: Pupils teacher ratio (PTR) to schools with and schools without PPP interventions	95
Table 4.3: Mostly Implemented interventions by private educational partners to PPP schools	102
Table 4.4: Difference in Difference (DiD) for the schools' academic performance in std seven national exams between with and without PPP schools.....	103
Table 4.5: Pupils' Literacy Competency in Kiswahili	105
Table 4.6: Pupils' literacy competency in English.....	107
Table 4.7: Pupils numeracy competency in mathematics	109
Table 4.8: Summarized outputs of ordinal logistic regression model.....	111
Table 5.1: Education level of teachers	127
Table 5.2: Pupils teacher ratio (PTR) of the studied schools	128
Table 5.3: Multiple responses on the weaknesses of PPP framework in Kilimanjaro Region	129
Table 5.4: Multiple responses on the challenges which emanated from PPP model implementation in Kilimanjaro Region.....	134
Table 5.5: Multiple responses on the strategies leading to successful implementation of PPP educational projects.....	140

LIST OF FIGURES

Figure 1.1: Conceptual framework as adopted from quality education improvement
framework 19

LIST OF APPENDICES

Appendix 1: A copy of the questionnaire used for research	156
Appendix 2: Checklist for focus group discussions	165
Appendix 3: Interview guide for discussion with key informants (PPP experts only)	166
Appendix 4: A checklist for observation.....	167
Appendix 5: An index summated scale used to determine sufficient availability of school infrastructures (Quality of education).....	167
Appendix 6: An index summated scale used to determine sufficient availability of learning materials (Quality of education).....	168
Appendix 7: Ordinal logistic regression model used	169
Appendix 8: Fitness of the ordinal logistic regression model used.....	170
Appendix 9: Areas, categories of schools and sample size selected for the study.....	170
Appendix 10: Tests administered to pupils	170

LIST OF ABBREVIATIONS AND ACRONYMS

ADB	Asian Development Bank
BEST	Basic Education Statistics of Tanzania
DiD	Difference-in-difference
ESP	Education Strategic Plan
FGDs	Focus Group Discussions
IBM	International Business Machine
IMF	International Monetary Fund
KIWAKUKI	<i>Kikundi cha Wanawake cha Kupambana na UKIMWI</i> Kilimanjaro (i.e. Women’s Group for Fighting against HIV/AIDS in Kilimanjaro)
MDGs	Millennium Development Goals
MoCU	Moshi Co-operative University
MoESTVT	Ministry of Education, Science, Technology and Vocational Training
NSGRP-II	National Strategy for Growth and Reduction of Poverty Second phase
PCR	Pupil Classroom Ratio
PDR	Pupil Desk Ratio
PPP	Public Private Partnership
PSDIED	Private Sector Development Investment and Empowerment Division
PTBR	Pupil Textbook Ratio
PTR	Pupil Teacher Ratio
SDGs	Sustainable Development Goals

SEDP	Secondary Education Development Programme
SPSS	Statistical Package for Social Sciences
SUA	Sokoine University of Agriculture
SWAS	School, Water, Sanitation and Hygiene project
T/L	Teaching and Learning
TEN	Tanzania Education Network
THR	Teacher: House Ratio
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organisation
UNICEF	United Nations International Children's Emergency Fund/ United Nations Children's Fund
URT	United Republic of Tanzania

CHAPTER ONE

1.0 INTRODUCTION

This chapter gives an introduction to the study on which this thesis is based and is divided into eleven sections. Section 1.1 presents background to the study problem; section 1.2 presents statement of the problem for this study; section 1.3 presents study justification; section 1.4 shows study objectives while section 1.5 presents questions and hypotheses for the study. Section 1.6 and its subsections present literature review of the study; section 1.7 elaborates on theoretical review; section 1.8 is about conceptual framework of the study. Section 1.9 presents methodology of the study, section 1.10 describes on the scope and challenges of the study while the last section in this chapter (1.11) describes the organisation of the whole thesis.

1.1 Background to the Problem

In most of the developed countries the private sector has been involved in the delivery of public services such as health, water, housing and transport, and it has become increasingly difficult to find a region of the world in which the public private partnership (PPP) model is not used. The use of private partners to meet public needs dates back to the 18th century throughout the world (Blacke, 2004). Since the mid of the 19th century there has been an expansion and broadening of the private sector's role in the provision of public services in most developing countries (Farah and Rivzi, 2007). An increasing call and growth of the private sector has been fuelled by conscious policy design and inefficiency of the public sector to provide quality services to all people, among other things. International forces, through various contracts and voluntary demand-driven factors, have also enforced the use of private sector based on increased needs and access to quality social services (Daudet, 2001).

Most of the governments in the world have opened doors and used the PPP model as a developmental tool in various sectors. Building on lessons from other sectors; including health, transport, agriculture, sports, electricity, environment and climate; the PPP model has significantly contributed to improving the provision of quality services to many people to these sectors. The PPP model moved from being used for financing health infrastructure to managing care delivery, the opportunity that reduced overall cost of healthcare hence increased availability and accessibility of hospital services to many rural people in the Liaoning province of China.

In the early 1990s the leaders of the Australia Government were increasingly looking for private partners to solve larger problems of rural electrification to poor people. In Canada, the PPP model has become significant in opening up and improving the economy of rural farmers by constructing advanced milk collection centres and markets infrastructure (Hodge and Greve, 2007).

The main requirements that precipitate many governments to enter into PPPs are to attract private capital investment, increase efficiency and use available resources more effectively, share risks and foster implementation of public service related projects (Brenck, 2011). In the education sector the PPP model is important particularly when the public sector alone does not have enough capacity to deliver educational services and assets effectively to all parts of the country. Daudet (2001) argues that even if the public sector has the capacity in terms of resources, the partnership is required because experience has shown that there are tendencies for the public service providers to divert resources from the targeted services.

According to PPP education studies conducted in many parts of the middle economy countries, particularly in Northern Brazil and India, the use of the PPP model in the

education sector has led to significant improvement in the quality of education (URT, 2009). The PPP model has improved the quality of education by making school environment more conducive for learning through construction of school infrastructures, provision of teaching and learning materials and support of other educational services hence good academic performance among students (Mora, 2005). Also, Itika (2007) argues that most of the developed countries in the world have heavily relied on the PPP model for the provision of quality services to their people; hence such partnership is instrumental to any country's development.

In response to the global education framework of Jomtien (1992) and Dakar education conference (1995) as well as the Millennium Development Goals (MDGs) in particular goal number two and goal number four of Sustainable Development Goals, many Sub-Saharan African governments were advised to adopt and use the PPP model. This decision aimed to achieve Universal Primary Education and increase access to good quality of education as an important means of achieving other Sustainable Development Goals by 2030. Structural adjustment programmes, imposed by international monetary institutions particularly IMF, also enforced many of the developing countries to open doors to private organisations and individuals to support and invest in provision of social services in pursuit of complementing government efforts towards development (Horris, 2010). Tanzania government adapted the use of the PPP model in service delivery particularly education from the late 1970s, and in the mid of 1990s there was increased participation of the private partners in the provision of education service (URT, 2009). In such partnership it is the government entities that seek for collaboration from private partner(s), and sometimes the private partner (s) do search for opportunities to work with the government entities in a given sector (Hofmeister and Borchert, 2004). Through the PPP

model it was anticipated that the status of education quality would improve based on the set standards by the Ministry of Education, Science and Technology. The standards included sufficient availability of school infrastructures, enough teaching-learning materials to pupils and teachers hence improved academic performance among pupils. Furthermore, it was foreseen that all pupils would complete primary education level with the minimum expected competencies, knowledge and skills.

Despite the long existence of PPPs and the increased attention it has received in recent years, the scarcity of instructional materials and poor school environment still appear as the most serious impediments to achieving quality of education in Tanzania (TEN, 2011). This situation was linked with the weakness and challenges of the existing PPP framework, and thus it was hypothesized that the model is not significantly contributing to improving the quality of education in Tanzania, compared to some other African countries that have adopted it (Itika *et al.*, 2011). To achieve quality and true sustainable benefits through the PPP model, Heather and Kathleen (2007) advocated having a PPP framework that ensures conducive environments for smooth and efficient participation of all partners.

1.2 Statement of the Problem

PPPs model have mostly been used and implemented in the education sector in Tanzania from the late 1970s with the purpose of improving the quality of primary education (URT, 2009). Through these years of partnership between the government and private partners, it was anticipated that the quality of education in Tanzania would have been guaranteed to be of good quality based on the set criteria, but the situation is not very much promising. The situation is evidenced by poor teaching and learning environments indicated by low ratio of instructional materials, few school infrastructures and poor pupils' performance in

national examinations. The Tanzania Ministry of Education, Science, Technology and Vocational Training has set the guidelines that stipulate the optimum ratio of 20 boys and 25 girls for one toilet hole, 45 pupils for one classroom and one textbook for one pupil (URT, 2014). Vespoor (2008) argued that irrespective of the adoption of the PPP model for fostering development, many African countries did not lay down a clear and best framework for smooth collaboration. Regardless of government efforts to improve the quality of education and the long existence of collaboration between public entities and private sector but the quality of education in Kilimanjaro Region is not much improving compared to other places in Africa where PPP models have been adopted and used.

Studies by Mpamila (2007) and Lwaitama (2008) found a severe shortage of latrine pits in some schools indicating a ratio of 1:75 pit for boys and a ratio of 1: 60 pit for girls, over 80 pupils per one classroom and one textbook being shared by more than six pupils. Basic Education Statistics of Tanzania (BEST) 2011-2012 showed that there were 111 661 classrooms available for 8 247 172 primary school pupils, giving a national pupils' classroom ratio (PCR) of 1: 74 compared to the national set PCR of 1:40. In that report a very large regional variation in the PCR was also noticed; Kilimanjaro Region had a PCR of 1:43 compared to the national PCR 1:40. Also, in the year 2010/2011, the pupils' desk ratio (PDR) for primary schools in Tanzania was 1:4.1 compared to the national set ratio of 1:3. On this element of quality education (PDR), Kilimanjaro Region had a PDR of 1:3.2, compared to the national set PDR of 1:3 (URT, 2012). These improper ratios and poor teaching-learning environments indicate constraints of the existing PPP model in Tanzania hence poor academic performance among pupils/schools (TEN, 2011).

Few of the pupils that have completed primary education lack the minimum expected basic competencies compared to the education level they have reached. This has led to

few opportunities for further schooling among these pupils and low employability of the Tanzanian youth in the free world labour market (UWEZO) (2013). The basic education statistics in Tanzania show that the proportion of pupils passing Primary Schools Leaving Examination (PSLE) is fluctuating over time in Tanzania. For example, the national statistics show pass rates of 70.5% in 2006, 54.2% in 2007, 55.0% in 2008, 49.4% in 2009 and 53.5% in 2010. It was noticed that the biggest national decrease in the percent of pupils passing PSLE was 58.0% in 2011 and 30.7% in 2012, and the pass rate of Kilimanjaro region was 42.9% (URT, 2012).

The overarching question and gap behind this study was why do poor quality education services exist in Tanzania regardless of government efforts to improve it and the long-time existing collaboration between public and private sectors through the PPP model? The probable causes of this situation were constraints facing the existing PPP. And it should be noted that any of the educational problems need to be addressed in order to improve the quality of primary education in Tanzania (URT, 2009). The aim of this research was to determine linkages between PPP model and its influence on the quality of education particularly sufficient provision of school infrastructures, learning materials and improvement of schools'/pupils' academic performance.

1.3 Study Justification

Few studies that have been done on the PPP model have not focused much on the roles, benefits and contributions on improving the quality of education (Heather and Kathleen, 2007). Literature shows that, in Tanzania, there are limited studies that have been done on the contributions of PPP model and its associated constraints towards quality education provision. This study was timely important as quality of education is among basic human

rights. Also, quality primary education is a distant dream for African countries as a transformation force towards poverty, equality and peace. Sustainable Development Goals number four and seventeen reinforce provision of quality education to all people through global partnership. In the year 2015, leaders from 193 countries of the world met and agreed on the provision of quality primary education to all children as a factor to unlock progress towards achievement of all other Sustainable Development Goals by the year 2030 (UN, 2018). The above factors precipitated the need of this study to analyse the existing PPP framework and its influence on improving the quality of primary education in Kilimanjaro Region.

The findings from this study assist to reveal the implementation environment of the PPP model in Moshi District Council and Moshi Municipality and its implication for improving the quality of primary education, something which could not have been documented if the study had not been done. Heather and Kathleen (2007) argued on the need to itemise and document actual contributions of each partner (s) for effective implementation and sustainable collaboration between public entities and private partners.

The new knowledge generated through this study on which this thesis is based has informed the delivery of quality primary education through the PPP model, and hence enhances the development process in Tanzania through smooth and efficient implementation of educational development projects under the public private partnership model. Therefore, the information from this study contributes to fill the gap based on the contributions and influence of private development partners towards improving the quality of primary education in Tanzania through the PPP model as well as the constraints that face the PPP model. Furthermore, the study findings describe and give information on how the PPP model should be operated for more effective delivery of quality education in

Moshi District Council and Moshi Municipality. This information influences political, social and economic actions at local and national levels to use and manage the PPP model towards improving the processes of providing quality primary education. The study findings will also be used for academic purposes by academicians and researchers. Development partners, policy makers and educational leaders in Moshi District Council and Moshi Municipality will also consume these findings for planning and decision making.

The results of this will also contribute to the attainment of the Tanzania Public Private Partnerships policy, national Education policy of 2014, National Strategy for Growth and Reduction of Poverty phase Two (NSGRP II – 2010 to 2015) as well as Sustainable Development Goals numbers four and seventeen that all these efforts call to “ensure inclusive and equitable quality primary education and promote lifelong learning opportunities for all children through public private partnership model” as described in the first paragraph of this sub-topic.

1.4 Study Objectives

The general and specific objectives of this study are described in sub-sections 1.4.1 and 1.4.2 respectively below.

1.4.1 Overall objective

The overall objective of the study was to assess the existing Public Private Partnership model and its influence on the quality of primary education in Moshi District Council and Moshi Municipality in Kilimanjaro Region, Tanzania.

1.4.2 Specific objectives

The specific objectives of the study were to:

- (i) Examine the quality of primary education offered in schools under public private partnership model in comparison with private and public schools,
- (ii) Determine the contributions played by private educational development partners on improving the quality of primary education,
- (iii) Analyse the influence of the PPP model on the quality of primary education, and
- (iv) Identify constraints hindering the existing public private partnership framework in delivering quality primary education.

1.5 Study Questions and Hypotheses

The study used both research questions and research hypotheses as described in sub-sections 1.5.1 and 1.5.2. Research questions were used for objectives 1 and 4 which were descriptive; hypotheses were used for objectives number 2 and 3 which were inferential.

1.5.1 Study questions

The study was guided by the following research questions:

- i. How do schools under public private partnership model differ in their status of the quality of primary education?
- ii. What are the weaknesses and challenges that emanate from implementing the existing public private partnership framework in the education sector?

1.5.2 Study hypotheses

Two hypotheses described in this sub-section were used for analysing specific objectives number two and three respectively.

- i. There is no significant association between types of support provided by private education partners and pupils'/schools' academic performance.

- ii. There is no significant difference in pupils' academic performance in schools with and those without PPP in Moshi District Council and Moshi Municipality.

1.6 Literature Review

This section provides detailed information and understanding based on different concepts related to this study. The subsequent sections describe and discuss the theories related to this study and lastly discuss empirical review, literature gap and conceptual framework of the study.

1.6.1 Quality of education

The International Working Groups on Quality Education at Florence, Italy, defined quality education as a unique aspect that should involve learners' characters, content, processes, environments and outcomes. This definition encompasses a broader description that gives an understanding of each element as follows: Learners who are healthy, well-nourished, ready to learn and be supported in learning by their families and communities. Environments that are safe, protective, gender-sensitive and provide adequate resources and facilities for learning. Content that is reflected in relevant curricula and proportional materials for the acquisition of basic skills, especially in the areas of literacy, numeracy and skills for life. Processes through which trained teachers use child centred teaching approaches in well-managed classrooms; and outcomes that encompass knowledge, skills and attitudes linked to national goals for positive participation in society (UNICEF, 2000).

The Dakar World Education Forum in 2000 asserted that the conventional meaning of quality education remains to include good academic performance in reading, numeracy and active life skills as well as good values and behaviour. All of these are directly linked and influenced by conducive learning environment, good policies, qualified staff, well

designed curriculum (learner centred) and availability of appropriate content materials (UNESCO, 2005). Pigozzi (2008) asserts that strategies to increase access to quality education should include rehabilitating and expanding school infrastructures (classrooms, laboratories, dining hall, houses for staff, offices, toilets, kitchens and water supplies) as well as provision of teaching and learning materials in the required ratios. Quality education also means ensuring the availability of the recommended textbook: pupil ratio, classroom: pupil ratio, desk: pupil ratio, pit latrine: pupil ratio and access to support services that include water services. The availability of nutrition programmes and play grounds at school is also regarded as means towards improved quality of education (URT, 2006).

In this study, quality of education was determined by two dimensions: school environment and educational outcomes. School environment was operationalized as the availability of enough ratios of school infrastructures and instructional materials at the required ratio as well as support services (water and nutrition programmes). The study also considered school/pupils' academic performance (end result) being among the elements of educational outcomes used to measure quality of education. School infrastructures, teaching-learning materials and educational support services were anticipated to influence school/pupils' academic performance as the end result of this study.

Learning can occur anywhere, but the positive learning outcomes generally are sought by educational systems to happen in a quality learning environment. It is also important to keep in mind that education is systemic in nature. However, these two studied dimensions are interdependent, influencing each other in ways that are sometimes unforeseeable and confusing (Motala, 2000).

1.6.2 Public private partnership (PPP) model

The World Bank, the Asian Development Bank (ADB) and the Inter-American Development Bank (2014) together define PPP as long-term contract arrangements between a private party and a government entity, for providing a public asset or service, in which the private party bears significant risk and management responsibility, and remuneration is linked to accomplishment and performance. The development commission in the United Kingdom defines PPP as a risk-sharing relationship based upon an agreed aspiration between public and private sectors to bring about a desired public policy outcome (Savas, 2000). In this thesis PPP model was referred to as developmental approach whereby public entities collaborate with private development partners towards achieving a certain desired policy outcome, quality education in regard to this study.

The PPP framework was referred to as collaboration structure and arrangements between a governmental entity and private development partners on how these two partners will work together towards achieving a desired policy outcome, quality education in regard to this study. Private development partner was referred to as organisations (for-profit and not-for-profit), philanthropic groups and individuals that are collaborating and supporting (a primary school) in the process of improving the quality of education. The adapted meaning of PPP model in education as a service provision sub sector should not be misinterpreted by the reader (s) with the familiar meaning of PPP model term particularly when it is used in hard partnerships with economics and business aspects.

In this study the PPP consortium assumes that the responsibility for providing and funding social services (quality education in this study) largely remains in the hands of central government, but it gets support from private development partners (Akintoye, 2007). A

PPP school in this study was termed as “a public primary school that gets educational support from private development partners under the agreed arrangements with the aim of improving the quality of education”. The availability of a Memorandum of Understanding (MoU) as a collaboration arrangement for partnership between school administration and the respective private development partner was used as a key indicator to determine a PPP school. Sufficient availability of school infrastructure and T/L materials has been emphasized in caption 3.2.11 to 3.2.14 in the Tanzania Education Policy of 2014 as key objectives towards provision of quality education to all children and a factor to accelerate Tanzania to a middle income country. Also, the policy in caption 3.5.5, 3.6 and 3.6.1 emphasizes collaboration between public entities and private development partners (PPP model) towards provision of quality education (URT, 2014a). Results in chapters two, three and four intensely describe the linkages between Tanzania education policy and PPP model in Moshi District Council and Moshi Municipality.

Proponents of the PPP model as a development tool argue that PPP is not only a short route for increasing quality of services, but is also commonly perceived to assist the government entities on providing quality social services to its people. Literature shows that the PPP model has strongly and mostly been used as a development strategy in the productive sectors and in areas with business aspects so as to assist the government to increase its accountability and efficiency in the delivery of quality services (Hofmeister and Borchert (2004). Studies show that from the 1980s there was an increasing popularity on the use of the PPP model in service provision sectors such as health and education. Regardless of high usage of PPP model in public services but there is little scientific information on this area. Also, a study by Maskin and Tirole (2008) on the role of PPP model in the socio-economic development of African countries noted that there were few

studies on the field of PPP model and public services provision. The findings showed that researchers and scholars from developed countries (United Kingdom, United States, Singapore, China, Germany and India) were found to be active in conducting PPP model researches while few studies on this have been done in most of developing world, particularly in the countries of Sub-Saharan Africa. And most of the conducted PPP model studies in these countries focused much on productive sectors mainly transport, agriculture and climate while few studies focused on public services in particular the educational sub-sector. Few studies done on PPP model in the education sector have been confined to the roles and how the PPP model as a development tool can contribute towards improving the quality of education.

A PPP model study done in Bangladesh found a privately operated primary school programme that started in 2001 with 22 pupils in one-room school; by 2007 it was serving more than 1,500 rural children in more than 200 primary schools, the efforts that enabled many rural children to access quality education and reduce illiteracy rate among rural youth in Bangladesh (Farah and Rivzi, 2007). India governments have long experiences in using private partners in the education sector; a study by Andrabi and Khawaja (2006) revealed that the PPP model has managed to improve school learning environment through construction of classrooms, modern kitchens, toilets and offices to some few primary schools in rural areas.

Existing evidence from developing countries shows that the PPP model can support and deliver high-quality primary education at a low cost. A study by Brans (2011) revealed a significant ratio of pupils against classroom, desks and subject textbooks in the primary schools of the Northern Rural District of Uganda after local governments collaborated with private partners in the provision of classroom facilities and learning materials.

Further literature in Ghana shows that construction of new classrooms as a strategic use of the PPP model in primary education has led to improved academic performance among primary school pupils. Positive correlation between enrolment and new classrooms has assisted many of school aged children to attend and complete basic education schooling level with appropriate knowledge and skills (Verspoor, 2008).

The reviewed existing literature shows that many PPP studies have been done much on hard partnerships involving productive sectors with commercial or business aspects such as construction, transport, mining and agriculture. Few PPP studies, if any, have been done on soft partnerships that involve the field of social services provided in partnership without any business aspect , in particular education sector. Few of the existing literature on the PPP model in the education sector in the developed countries has been found to focus much on the overall contributions of PPP model towards improving the quality of education; although little has been done on such studies in Tanzania. However, none has been done to analyse the actual contribution and influence of the PPP model to improving pupils'/schools' academic performance in Kilimanjaro Region in particular Moshi District Council and Moshi Municipality. Furthermore, there was an information gap regarding the existing PPP framework and challenges that hinder the framework on improving the quality of education in Kilimanjaro Region. This study attempted to fill these literature gaps by analysing the PPP model; roles played, benefits gained, its influence and the constraints hindering the model on improving the quality of primary education in Kilimanjaro Region, Tanzania.

1.7 Theoretical Review

This section reviews the two theories underlying the study. This study was guided by the stakeholder and constraints theories, which are described in the following subsections.

1.7.1 Stakeholder theory

The study adopted the stakeholder theory that was advocated by Stephen Ross and Barry Mitnick in 1967. The key strength of this theory is based on the assumption that collaboration and relationship synergy exist between different partners (the government as the principle and private partners as the agents). The established and existing relationships are basically aimed to improve the provision of quality socio-economic services to its people by joining resources and working together among two different partners that play various educational roles. The relationships occur based on the assumption that the public and private development partners invite each other to work in a collaborative manner by sharing the resources; capital, expertise, skills, technology and experience; based on the outlined appropriate collaboration framework. Furthermore, the collaborative partners do work together by sharing risks impeding the government towards achieving the desired policy outcome (Akintoye and Hardcastle, 2003). In this study it was anticipated that incorporating different stakeholders is more likely expected to respond to broader socio-economic challenges hindering provision of quality public services to many people. Hence the significant opportunity of the PPP model is more anticipated to improve the provision of quality services to many people than to narrow this responsibility to the sole provider that is the principal/government. Heather and Kathleen (2007) argue that “absence of a well-designed PPP framework may lead to one sided benefits hence exploitation to one of the collaborating partner” (p. 68). And this was noticed being among the weaknesses of the stakeholder theory. What resources do private partners assist the government towards improving the quality of primary education was assessed as a key variable. Furthermore, roles played by private partners and kinds of educational support they provide towards improving the quality of primary education were identified as study variables.

1.7.2 Constraint theory

The constraint theory that was developed by Goldratt in the early 1980s was also used to guide this study, particularly Manuscript Number four which focused on PPP constraints

that hinder the process of improving the quality of education through the PPP model. The theoretical concept of this theory is described as follows: every system that is striving to achieve a desired policy outcome is faced and must have at least one or more constraints, and the existence of such constraints represents opportunities for improvement. Goldratt in 1990 define a constraint as “anything that limits a system from achieving higher performance versus its goal” (p. 2). Challenges and or hindering factors towards achieving a desired policy outcome are the main and key attributes of this theory. Thus, constraints can involve people, information, regulations, policies, laws, procedures, and a situation (Andrabi, 2006). The constraint theory has advantages of revealing challenges facing a certain system or policy hence create the environment to propose strategies on improving the situation. This study adopted this theory and focused on identifying and exploiting the weaknesses and challenges that emanate and that impede efficiency and successful implementation of the PPP model in the education sector. Strategies to improve efficiency implementation of the PPP model were also identified in this study. Most of the proposed strategies were focused on the identified PPP constraints in Kilimanjaro Region. Blacke (2004) revealed one of the weaknesses of the constraints theory and it argues that “ if scientific research methodologies are not well designed and used during data collection the identified constraints may be opposing and contradicting with the assessed situation” (p. 23). The theory fits well in this study as findings on it will assist PPP practitioners to further enhance effective implementation of the PPP framework in the education sector by recognizing and minimizing PPP constraints hence inform strategies to improve the quality of primary education in Moshi District Council and Moshi Municipality in Kilimanjaro Region, Tanzania.

1.8 Conceptual Framework

A conceptual framework is a narrative outline and a presentation of the study variables and the hypothetical relationships between and among those variables. A conceptual

framework assists and guides the researcher to collect data, analyse the data and establish links between the existing literature and findings of the study at hand as explained by Jeffels (2014).

The conceptual framework for this study is based on the theoretical and literature review including review of Public Private Partnership (PPP) as a model for fostering socio-economic development of the country. Also, the conceptual framework includes collaboration arrangements between public entities and one or more private development partners towards achieving a certain desired policy outcome, quality education in regard to this study. Vespoor (2008) argues that, for the PPP model to deliver greater roles and contributions towards social services provision, an appropriate framework needs to be designed and observed. The study was based on a PPP framework (Fig. 1.1) which was adapted from World Bank and UNESCO to suit the study topic.

This framework establishes and shows linkages between roles played by private educational partners through identifying types of educational support provided and or interventions implemented by private partners (considered as independent variables) and improved quality of education as an outcome (dependent variable) which is operationalized as improved schools'/pupils' academic performance, sufficient school T/L infrastructure and materials. In this study it was hypothesized that private educational partners support the government by implementing different roles/projects that do assist to improve the teaching and learning environment for pupils and teachers (independent variables), hence improve quality of education. In the process of playing its roles through this partnership, the study hypothesized that several constraints arise which may hinder efficient implementation and performance of the PPP model, a situation which may lead to poor quality of education. The researcher also hypothesised that the existence of the constraints for PPP framework is among the causes for the claim by the public on the

existence of poor quality of education in Tanzania (TEN, 2011). Furthermore, this conceptual framework highlights forms and modalities of partnership as necessary variables that enable public entities to collaborate effectively and efficiently with private partners towards fostering socio-economic development of the country, although these variables were not part of this study.

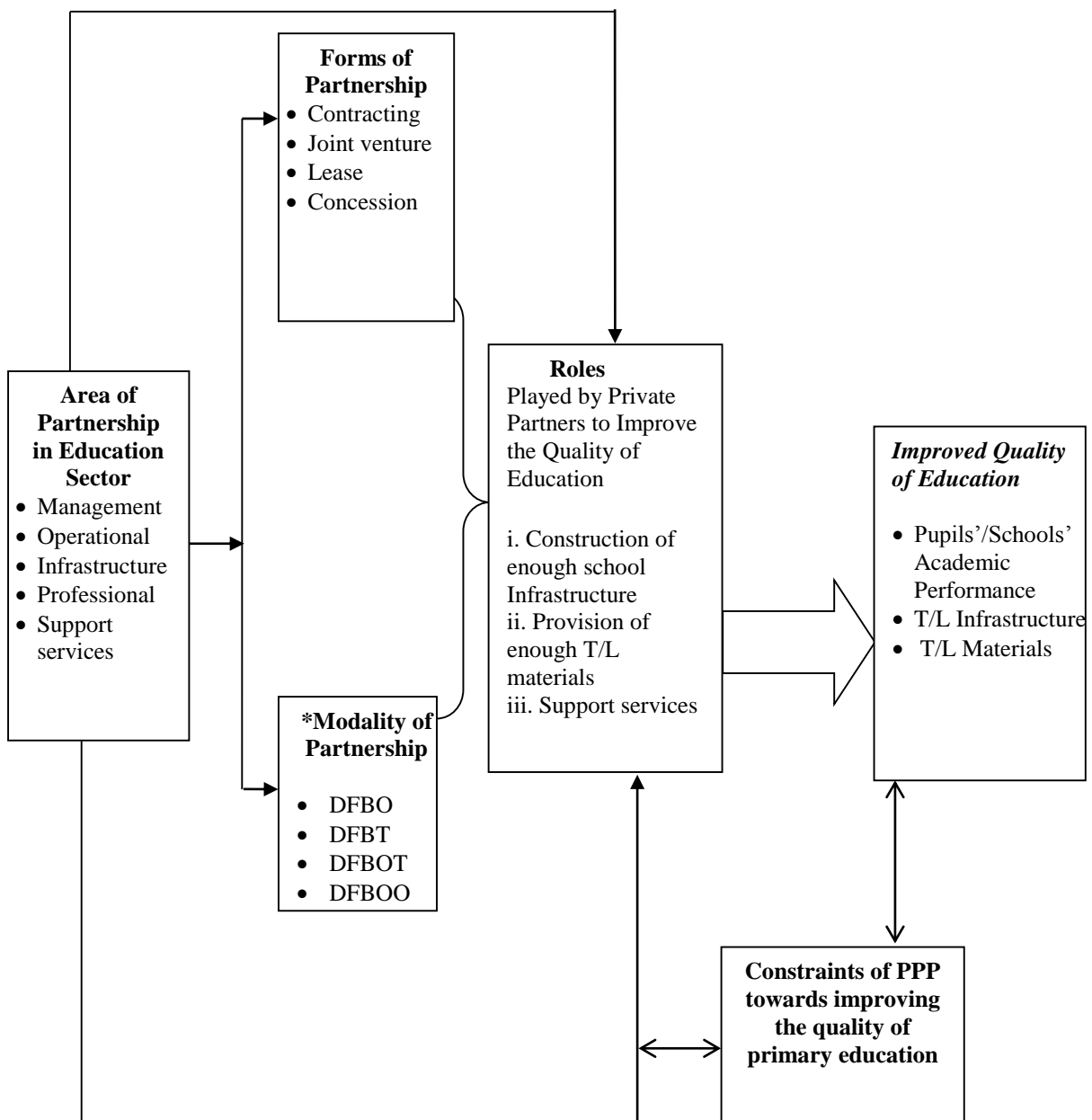


Figure 1.1: Conceptual framework as adopted from quality education improvement framework (UNESCO, 2005; World Bank *et al.*, 2014)

- *DFBO: Design, Finance, Build and Own
- *DFBT: Design, Finance, Build and Transfer
- *DFBOT: Design, Finance, Build, Own and Transfer
- *DFBOO: Design, Finance, Build, Own and Operate

1.9 Methodology of the Study

This study was conducted in Moshi District Council and Moshi Municipality in Tanzania from November 2015 to June 2016. The districts were selected purposively due to the fact that they have many private educational partners which they had been collaborating with since the 1960s. Kilimanjaro Region is among the regions that have primary schools with conducive teaching-learning environment. Furthermore, Kilimanjaro is among the regions that have been doing better in standard seven national examinations for a number of years particularly 2010, 2011 and 2013 (URT, 2014). So, the study was intended to assess the Public Private Partnership model and its influence on the quality of primary education in Moshi District Council and Moshi Municipality in Kilimanjaro Region, Tanzania.

The study used a cross-sectional research design whereby data was collected at a single point in time. The design was chosen because it entails collection of data on a number of cases at a single point in time in order to collect a body of quantitative and/or qualitative data about two or more variables (usually many more than two), which are then examined to detect patterns of association (Bryman, 2004). The design has been recommended to be used in social sciences by several scholars including Gorard (2013). Also, this methodological approach was principally used based on its effectiveness of conducting social science studies under the optimal resources, particularly time and money (Elo and Kyngas, 2008).

In this study pupils and teachers were the units of observation while a school was a unit of analysis. Public primary schools which had not got any educational support from private partners (without PPP schools) and public primary schools which had been supported by private partners (with PPP schools) were selected for the study. Private primary schools

that were owned and operated by individual people or private institutions were also used for comparison purpose. These three categories of schools were randomly chosen from the two local government authorities on the criteria that they were or not collaborating with private partners in provision of quality education. A total of 300 respondents from 30 primary schools (16 PPP, 8 public and 6 private) were selected and surveyed for the study (Table 1.1). From each selected school, two (2) teachers and eight pupils were randomly selected, making a total of 60 teachers and 240 pupils from the 30 schools (Appendix 9). The availability of a Memorandum of Understanding (MoU) as a collaboration arrangement for partnership between school administration and the respective private development partner was used as a key indicator (form of partnership) to determine a PPP school.

Primary quantitative data was collected through structured interviews using a questionnaire while focus group discussions and key informant interviews using interview guides were used to collect qualitative data. Observation method was also employed to verify physical availability of school infrastructure, their facilities as well as teaching-learning materials and the user ratios. An index summated scale was also used to measure the sufficiency/insufficiency of availability of school infrastructures and teaching-learning materials at schools. A number of statements were constructed based on school infrastructures and learning materials whereby minimum (0) and maximum (1) scores for each statement were assigned. Two categories denoting the quality of education were also constructed based on actual scores, one denoting insufficient (0-6.4) and another denoting sufficient (6.5 -13) availability of school infrastructures. Secondary data about school academic performance for the years 2010 and 2014 were collected and accessed at the studied schools and from the office of district education officers.

Details on sampling procedures, sample size and how data was collected and analyzed for each study objectives are presented in the respective manuscripts described in chapter two, three, four and five of this thesis.

Table 1.1: Name of schools surveyed their type and sample size used for the study

Public Primary Schools	PPP Primary Schools	Private Primary Schools	Grand total
1. Kiborloni	1. Mandela	1. Imani Pre and primary school	
2. Mnazi	2. Azimio	2. Maria Margareth English Medium Pr.School	
3. Rongoma	3. Kaloleni	3. Bethel Nursery and Primary English Medium	
4. Msandaka	4. Jitegemee	4. Mt.Kilimanjaro primary	
5. Pasua	5. Muungano	5. Samaria Pre and primary school	
6. Kisaseni			
7. Kidia	6. J.K.Nyerere	6. Kilimanjaro Education Academy	
8. Himo-Pofo	7. Kilimanjaro		
	8. Shirimatunda		
	9. Katanini		
	10. Kiyungi Mpya		
	11. Ronga		
	12. Kiyungi		
	13. James Ole Mallya		
	14. Dr.Omary Juma		
	15. Benjamin Mkapa		
	16. Arusha chini		
Total	8	16	6 = 30

1.10 Scope and Challenges of the Study

The sub-sections 1.12.1 and 1.12.2 describe the scope of the study (delimitations) and factors that constrained the study and how they were overcome, particularly during data collection.

1.10.1 Scope of the study

The study focused on assessing the interventions/roles played by private educational partners, their nature, types of educational support provided and their influence on

improving the quality of primary education (schools'/pupils' academic performance). Furthermore, constraints that arose and that hindered efficiency in implementation of the PPP model from providing quality primary education were also identified. Forms and modalities of partnership as necessary variables that enable public entities to collaborate efficiently with private partners were beyond the scope of this study.

1.10.2 Challenges of the study

When conducting this research some limitations were encountered; these include:

- i. Little co-operation from some of head teachers, academic officers and owners of private schools in fear of disclosing their schools' information. This was mitigated by including private schools that were not sampled at the beginning of data collection, but the schools were among the study population and ready to participate in the study.
- ii. Difficulties in accessing data were also among the limitations faced due to poor record keeping and documentation of the school data and information. It was difficult to access standard seven national examination results at schools for the previous five years. This limitation was mitigated by retrieving the results from Moshi Municipal and Moshi District Education Officers' Offices. Also, some of the information based on school collaboration with private educational partners was collected with the help of school committee members.
- iii. Intervening variables for quality of education are so many; hence it was difficult to control them.

1.11 Organisation of the Thesis

This thesis is organized in publishable manuscript format with six chapters. These include an introduction part of the study topic as chapter one and four publishable manuscripts presented in four chapters, starting from chapter two to five. Manuscript number one is

presented in chapter two that focuses on the quality of education to PPP schools in comparison with private schools in Moshi District Council and Moshi Municipality. This is followed by chapter three, which presents manuscript number two that reports about types of private educational partners, kinds of support provided and educational benefits gained from kinds of support provided on improving the quality of primary education. The third manuscript is presented in chapter four and concentrates on the influence and the actual contribution of the PPP model to improve pupils'/schools' academic performance in Moshi District Council and Moshi Municipality. Chapter five presents manuscript number four, which deals with constraints of PPP framework that arise and that hinder efficient implementation of the PPP model from providing quality primary education. Lastly, chapter six of the thesis presents conclusions and recommendations drawn from findings of this study.

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CHAPTER TWO

2.0 A COMPARATIVE ANALYSIS ON THE QUALITY OF PRIMARY EDUCATION IN SCHOOLS UNDER PUBLIC PRIVATE PARTNERSHIP MODEL IN KILIMANJARO REGION, TANZANIA

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2.1 Abstract

The government of Tanzania adopted the use of Public Private Partnership (PPP) model for education since the late 1970s. Despite the adoption and long use of the PPP model for improving education services in Tanzania, the quality of primary education in PPP schools has not improved substantially. This was a comparative analysis study that aimed to examine the quality of primary education in public and PPP schools in comparison with selected private schools in Moshi District Council and Moshi Municipality. The study adopted a cross-sectional design. Data was collected by using a questionnaire which included an index summated scale, an FGD guide and a key informant interview guide. Observation method was also employed in collecting data. A total of 240 pupils and 60 teachers were selected. The results showed that public schools had more insufficiency of school T/L infrastructure and T/L materials compared to their counterparts PPP and private schools. Since school infrastructures and T/L materials was an indicator of quality education, it is concluded that the quality of education in PPP schools was intermediate while the quality was the best and poorest in private and public schools respectively. It is

concluded that inadequate school infrastructure and T/L materials is associated with ineffective teaching and learning process for teachers and pupils in classroom hence poor quality of education. Also, schools with PPP interventions have a better chance of improving the quality of education compared to schools without PPP. It is recommended that the educational departments in Moshi District Council and Moshi Municipality should administer and put in practice an education policy that requires every pupil and each school to be sufficiently provided with required number of school T/L infrastructure and T/L materials. This will be possible if local authorities of Moshi District Council and Moshi Municipality will team up and collaborate closely with private educational partners.

Key words: Quality education, Primary schools, PPP model, Kilimanjaro, Tanzania

2.2 Introduction

The private sector has been involved in the delivery of public services such as health, water, housing and transport in most of the developed countries. Currently, it is difficult to find a county of the world in which the public private partnership (PPPs) model is not used (Blacke, 2004). From the mid of the 19th century, there has been an expansion on the usage of the private sector's role in the provision of public services in many of the developing countries (Farah and Rivzi, 2007). The main driving forces that make many governments in the world to collaborate with the private sector through the PPP model are; to share risks, attract private capital investment, increase efficient usage of the available resources and improve the provision of quality public services to many people (Brenck, 2011).

An increasing call on the practice of PPP model in Africa has been fuelled, on the one hand, by conscious policy design and inefficiency of the public sector to provide quality

services to all people. Voluntary demand-driven factors of private partners based on increased need and access for the quality social services have also imposed its usage (Heather and Kathleen, 2007). In the education sector, the PPP model is more important particularly when the public sector alone does not have enough capacity to deliver public services effectively and efficiently to all people.

Education studies on the PPP model which were conducted in many parts of the middle economy countries, particularly in Northern Brazil and India found that the use of the PPPs model in the education sector has led to significant improvement in the quality of education at all levels (URT, 2009). The PPP model has improved and made school environment more conducive for learning through construction of school infrastructure, provision of teaching and learning materials and support of other educational services hence good academic performance among pupil (Bellei, 2005). Also, Itika (2007) argues that most of the developed countries in the world have relied heavily on the PPP model for provision of quality services to their people; hence such partnership is instrumental to any country's development.

The Dakar educational conference as well as the second and eighth Millennium Development Goals (MDGs), many Sub-Saharan African governments were advised to adopt the PPP model in order to achieve Universal Primary Education and increase access to good quality of education. Tanzania government adopted the use of PPP model for service delivery particularly education from the late 1970s, and in the mid of 1990s there was an increased participation of the private partners in the provision of education service at all levels. Through the use of the PPP model it was anticipated that the quality of education would be improved in Tanzania by fulfilling the set standards for good quality of education.

In Tanzania, the private sector collaborates with and supports the government in education by construction and renovation of school infrastructure as well as provision of teaching and learning materials (URT, 2006). Furthermore, the private sector supports other educational services such as nutritional programmes, water, play grounds and school fencing through joint ventures (TEN, 2011). Regardless of the adoption and long use of PPP model for fostering socio-economic development through improving of education services in Tanzania but the quality of education in PPP schools is not substantially improving. Studies by Mpamila (2007) and Lwaitama (2008) revealed that the scarcity of instructional materials as well as shortage and poor school environments still appeared as the most serious impediment to quality of education in most of primary schools in Tanzania. The situation was evidenced by poor teaching and learning environments, low ratio of instructional materials, few school infrastructure and poor academic performance in national exams. A basic education statistics report of 2012 shows imbalance of school infrastructures particularly classrooms and toilet holes against the available number of pupils. Kilimanjaro has a desks shortage of only 17.2 % compared to 85.1 % in Mtwara. Also statistics in this report indicate insufficient number of teaching materials (textbooks) in most of primary schools in Tanzania (URT, 2014a). A study by TEN (2011) found that more than 85 pupils were studying in one classroom while sitting about four to five pupils on one desk and sharing one textbook of mathematics. With regard to such disproportional desks and textbooks, it was noticed that there was a slow decrease in academic performance in the standard seven national examinations in the country from 54% in 2007 to 31% in 2012 and it was thought to be associated with this situation. Also, the knowledge and skills among primary school leavers was found to be low compared to the education level they had reached (URT, 2014a). The overarching question for this study was that, “do poor qualities of education (disproportional school infrastructures and

learning materials) also exist in primary schools that get educational supports from private development partners?”

Vespoor (2008) argues that few studies which have been done on assessing the quality of education in the sub-Saharan Africa have not been done in consideration of the holistic model of PPP. Also, a study by TEN (2011) recommended specifying the quality of education in schools that were collaborating with private educational partners in the country. This precipitated the need for this study to examine the quality of education in selected schools under PPP model in comparison with private schools in Moshi District Council and Moshi Municipality as its main objective. Specifically, the objectives of this manuscript were to: (i) assess the availability of teaching and learning infrastructure in public, private and PPP primary schools and (ii) examine the availability of teaching and learning materials in public, private and PPP primary schools.

2.3 Methodology

The study was conducted in Moshi District Council and Moshi Municipality. From each authority (Moshi District Council and Moshi Municipality) fifteen primary schools were selected randomly making a total of thirty primary schools (16 PPP, 8 public and 6 private) and a total of 300 respondents were selected and surveyed for the study. From each selected school, two (2) teachers were randomly selected, making a total of 60 teachers from all schools. Also, eight (8) pupils were randomly selected from two classes of the surveyed schools (4 Standard IV and 4 Standard VII), giving a total of 240 pupils. Seven (7) parents with pupil(s) studying in that particular school and four (4) school committee members from each of the schools were selected and involved in focus group discussions. Ward Education Coordinators, District and Municipal Education Officers were used as key informants.

2.3.1 How quality of education was measured

In this manuscript quality of education was measured based on two dimensions, sufficient availability of school infrastructure and sufficient availability of teaching-learning materials based on the set ratios by the Ministry of Education, Science, Technology and Vocational Training. In measuring learning environments, the study assessed the availability of school infrastructure by focusing on sufficient availability of classrooms, toilets, teachers' houses, modern kitchens, dining hall and availability of water service. In this study modern kitchen was termed as the cooking set that use small energy like few firewood/charcoal and is less time consuming when preparing and cooking food. Availability of enough teaching and learning materials in each subject studied was assessed based on textbooks in every subject, mathematical set, exercise books, pen and pencil. These elements were selected on the bases that are fundamental factors for any learning institution to provide quality education. According to Underson (2000), the selected elements are among the foundation for quality education for all, and they should be sufficiently accessed to all learners. The two selected elements (school infrastructure and T/L materials) were measured by using two tools: a questionnaire for structured interviews, and an index summated scale as indicated in Appendix 1, 5 and 6. Nine statements based on school infrastructures were constructed (Appendix 5) on which the respondents would score a minimum of 0 and a maximum of 11 points. On the scale, scores ranging from 0 to 5.4 denoted insufficient T/L infrastructure while actual scores ranging from 5.5 to 11 denoted sufficient T/L infrastructure. Also thirteen statements based on teaching-learning materials were constructed (Appendix 6) on which the respondents would score a minimum of 0 and a maximum of 13 points. On the scale, scores ranging from 0 to 6.4 denoted insufficient of T/L materials while actual scores ranging from 6.5 to 13 denoted sufficient teaching-learning materials (Miller and Salkind, 2002). In this thesis sufficient availability of school infrastructure and T/L materials were considered as independent variables that influence and determine education outcome, pupils'/schools' academic performance (dependent variable) in this study.

2.3.2 Data collection and analysis

Primary quantitative data was collected through structured interviews using a questionnaire while a focus group discussion guide and an interview guide were used to collect qualitative data. Observation method was also employed to verify physical availability of school infrastructure, their facilities as well as teaching and learning materials and their user ratios. In this manuscript pupils and teachers were the units of observation while a school and pupils were units of analysis. Data was analyzed using the IBM SPSS Statistics software and Excel. The descriptive statistics that were computed were frequencies, percentages, statistical means, and standard deviations of individual variables. Moreover, inferential analysis was done by using One-Way ANOVA to compare the quality of education on the assessed school infrastructure and T/L materials to public, private and PPP school categories. Five per cent (5%) was the significant level cut-point which was adopted for comparing points scored on quality of education. Content analysis was used to analyse qualitative information from FGDs and key informants interviews by summarizing their views, feelings and arguments. The transcribed themes and concepts were compared and discussed in comparison with empirical information.

2.5 Results and Discussion

This section and its subsections present and discuss the findings of the manuscript number one based on two studied specific objectives. The discussion of the finding focuses on the quality of education in PPP schools in comparison with private schools in Moshi District Council and Moshi Municipality.

2.5.1 Socio-demographic characteristics of the respondents

An analysis of the characteristics of the studied sample is of great importance since it helps in data interpretation as determining factors that affect the quality of education. The

socio-demographic factors that were analysed in this manuscript included age, sex, education and class level, marital status and total number of pupils and teachers in a school.

2.5.1.1 Age of the respondents

The findings in Table 2.1 show that the minimum and maximum ages for the pupils were 8 and 18 years respectively while for teachers the minimum age was 22 years and the maximum age was 67 years. 51.7% of pupils were in the age group of 8-12 years with a standard deviation of 1.9 years, indicating that there were slight differences in age among pupils across classes. Also 45.0% of teachers were in the age group of 38-53 with a standard deviation of 10.5 years. This indicates that there was a big difference in age among teachers in the studied schools. The findings revealed that school categories (public, private and PPP) were the main reason for this situation as some of private schools were found to employ retired teachers from public and PPP schools. Pupils' age in PPP schools was younger compared to pupils' age in private and public schools. Conducive environment in PPP and private schools was the main factor that led to this situation.

2.5.1.2 Sex

The results in Table 2.1 show that out of the 240 interviewed pupils, 48.8% were male and 51.2% were female, while 43.3% were male and 56.7% were female out of 60 teachers. This indicates that there was a slight difference in gender parity among pupils while high gender parity existed among teachers. Furthermore, the study found that female teachers were in the positions of head teachers and academic officers to most of the studied primary schools.

Table 2.1: Age and sex of the respondents

Sex	Pupils	Per cent	Teachers	Per cent	Std. Deviation
Male	117	48.8	26	43.3	-
Female	123	51.3	34	56.7	-
Total	240	100.0	60	100.0	-
Age	n	Minimum	Maximum	Mean	
Pupils	240	8	18	12.05	1.934
Teachers	60	22	67	47.40	10.454

2.5.1.3 Studying class (class level) of pupils

The results show that 50.8% of pupils were studying in standard four and 49.2% were studying in standard seven. Differences in the number of respondents were observed during data collection as most of standard seven pupils were not easily accessed as they were busy doing weekly and monthly tests as a way of preparing themselves for national examinations which were forthcoming.

2.5.1.4 Education level of teachers

The study findings indicated that most of the studied schools were staffed with teachers who had certificates in education; 56.7% of the interviewed teachers had attained certificate of education and 15.0% had attained first degree in education. Parker (2004) revealed that high education level among teachers is an important factor for a good mix of subject matter knowledge and pedagogical content knowledge for the provision of quality education and effective delivery of the lessons. Also, the results showed a slight difference in teachers' education level among the schools categories surveyed (Table 2.2). Using a Chi-Square test a significant association was found between school categories and teachers' education levels (Chi-Square = 21.469, $p = 0.018$). Private schools were found to have teachers with higher levels of education compared to their counterparts; this was caused by better salaries and other fringe benefits provided in private schools.

Table 2.2: School category and education level of teachers (n = 60)

School category	Education level of teachers						Total (%)
	Primary education only (%)	Form four only (%)	Form six (%)	Certificate in education (%)	Diploma in education (%)	Degree in education (%)	
Public	14.3	14.3	0.0	50.0	7.1	14.3	100.0
Private	0.0	0.0	0.0	42.9	35.7	21.4	100.0
PPP	0.0	0.0	9.4	65.6	12.5	12.5	100.0
Total	3.3	3.3	5.0	56.7	16.7	15.0	100.0

Pearson Chi-Square = 21.469, p = 0.018

2.5.1.5 Marital status of teachers

The findings indicated that 88.3% of all studied teachers were married; 6.7% had never got married; 1.7% were widowers; 1.7% were widows; and 1.7% were too young to marry. Many teachers in public and PPP schools were married, and this was found to be caused by living security provided to government employees. The Pearson Chi-Square test found no significant (Chi-Square = 14.150, p > 0.05) association between marital status of teachers and school categories.

2.5.1.6 Total number of teachers and pupils

The study findings showed that there was a difference in the number of teachers and pupils among the school categories studied. There was a minimum number of 57, a maximum of 1069 and a mean of 523.6 pupils, while the minimum number of teachers was 4; the maximum was 27 and the mean was 16 in all the studied schools. PPP schools were found to have the fewest teachers compared to their counterpart public and private schools. Table 2.3 shows variation of pupil teacher ratio (PTR) from 19.9:1 in private schools to 31.4:1 in public schools and to 38.4:1 in PPP schools. Since the value F ratio was greater than one hence it implies that the means of PTR and its variation among these

schools categories was statistically significant ($F = 12.732$, $p = 0.000$). Furthermore, PPP schools were found to have the fewest teachers compared to their counterparts' public and private schools. This situation was caused by high enrolment rate due to good teaching and learning environments in this category of schools. The key informant at Benjamin Mkapa Primary School said that:

Some of the parents from various areas around this village are lobbying strategically for their children to be transferred to this school due to having more conducive environment for teaching and learning (February, 2016).

Table 2.3: One-Way ANOVA comparing pupil teacher ratio by school category

Groups compared	N	Mean of PTR	Between and within groups	Sum of Squares	df	Mean Square	F	P-value
Public School	14	31.4275	Between Groups	3357.052	2	1678.526	12.732	0.000
Private school	14	19.9282	Within Groups	7514.589	57	131.835	-	-
PPP school	32	38.4379	-	-	-	-	-	-
Total	60	32.4832	-	10871.641	59	-	-	-

The one-way ANOVA results in Table 2.3 show that PPP schools had the biggest PTR (38.4379) while private schools had the lowest PTR (19.9282). It also shows that the PTRs in the three categories of school were statistically significant different ($F = 12.732$, $p = 0.000$). This existing situation is not good since it affects the processes of teaching and learning in classroom hence poor academic performance among pupils.

2.6 Availability of School Teaching and Learning Infrastructure

Sufficient availability of classrooms, desks, houses for teachers, pupils' toilet holes, modern kitchen, modern dining halls as well as availability and type of water sources determine the quality of education in a given society. Sufficient availability of teaching and learning infrastructure was determined by using an index summated scale (Appendix

5). The results in Table 2.4 show that 55.0% of teachers held the opinion that their schools had insufficient infrastructure while 45.0% said that their schools had sufficient T/L infrastructure. Regardless of this scarcity but there was a variation for the availability of T/L infrastructure among schools. Private schools were found to have more school infrastructure assessed compared to their counterpart PPP schools. Public schools were found to have high scarcity of all school infrastructures. This indicates inadequacy of the financial resources within the government hence a need to collaborate with private partners to overcome this educational challenge. The detected variation was statistically significant (Chi-Square = 3.568, $p = 0.000$). Shortage of financial resource has made the government unable to provide sufficient needed school infrastructure to public schools. Good situation in PPP schools was influenced by private educational partners. These results strengthen and support the usage of stakeholder theory in this study. Gibson and Davies (2008) in their study on factors influencing quality education in Lobatse Town Botswana revealed that sufficient availability of school infrastructure is among crucial factors that influence quality of education. Also, in a study conducted in India on a sample of 59 schools, it was found that availability of enough quality learning environment was strongly correlated with pupils' academic achievement in Hindi and Mathematics subjects (Carron and Chau, 1996). The status of each type of school infrastructure that was assessed in this manuscript is described in the following subtopics.

Table 2.4: Index summated scale on whether schools had sufficient school Infrastructures (n = 60)

School category	Status of school infrastructure		Total
	Insufficiency of school Infrastructures (n, %)	Sufficiency of school Infrastructures (n, %)	
Public School	14 (100.0)	0 (0.0)	14 (100.0)
Private school	2 (14.3)	12 (85.7)	14 (100.0)
PPP school	17 (53.1)	15 (46.9)	32 (100.0)
Total	33 (55.0)	27 (45.0)	60 (100.0)

Pearson Chi-Square = 20.877, $p = 0.000$

2.6.1 Classroom availability

The study findings showed that in order to be sufficient all of the surveyed primary schools were supposed to have 1511 classrooms, but there were only 1016 classrooms with a deficit of 495 classrooms. Furthermore, the study findings showed that, in all the surveyed schools, the minimum pupils' classroom ratio (PCR) was 7, while the maximum was 93, and the mean was 46.17 PCR. Sufficient number of classrooms in a school was accepted as part of the fundamental elements that influence effective teaching and learning environment hence good quality of education. This factor determines the directed standard class size and hence leads to effective teaching and learning at classroom level (Gibson and Davies, 2008).

The results show that, on average, private schools had a PCR of 27.24, followed by public schools (44.31) while PPP schools had a PCR of 55.26. This indicates that most of private and public schools in Kilimanjaro Region adhere to the set standard by the Ministry of Education, Science, Technology and Vocational Training (MoESTVT) policy that advocates a ratio of 45 pupils per one classroom at the primary school level except PPP schools (URT, 2006). Most of PPP schools were found with high concentration of pupils, hence the study revealed that high PCR in PPP schools were caused by conducive environment that attracted many pupils to be enrolled. So, the better the school teaching and learning environment was, the higher was the PCR. Moreover, the study findings showed that the status of classrooms in public schools were in too bad conditions (not well cemented, leaking roofs and too old classrooms that needed urgent renovations) compared to that of PPP and private schools categories. This finding concurs with arguments by Newmann and Sconzert (2009) who asserted that quality of school infrastructure influences learners' attendance to school hence quality education.

2.6.2 Availability of desks

The study showed that most of the surveyed schools (28) used two sitters type of desks and two private schools were using only one sitter desk (table-chair). During the survey it was observed that some few schools used both types of desks and tables-chairs. Ministry of Education, Science, Technology and Vocational Training (MoESTVT) policy advocates three categories of pupil: desk ratio that determines types and size of desk to be used by pupils; that is three sitters, two sitters and one sitter.

The study results show that for the surveyed primary schools to be desk sufficient, they were supposed to have 27 130 desks of two sitters, but there were only 12 016 desks with a deficit of 15 114 desks. Furthermore, the findings indicated that there was a very high pupil: desk ratio of 1:7.1 and an average of 1:2.6 (PDR) in all the surveyed schools. The study revealed that this unbearable situation was adopted to cope with insufficiency of desks. Sufficient numbers of desks in a school is also accepted as an essential element that influences effective teaching and learning environment in the classroom hence good quality of education. This factor also determines the set pupil desk ratio, which leads to effective teaching and learning at classroom level (Gibson and Davies, 2008). The results in Table 2.5 show that private schools were found to be the best on having sufficient desks, with an average of 1.8 PDR, followed by PPP schools (2.7 PDR). Since the value of F ratio is greater than one the One-way ANOVA found this variation to be significantly different statistically ($F = 4.857$, $p = 0.01$) among the three categories of primary schools. This finding indicated the significant roles played by private educational partners on improving the quality of primary schools in Moshi District Council and Moshi Municipality as private and PPP schools were found to operate under the set PDR.

Table 2.5: One-way ANOVA comparing pupil desk ratio (PDR) by schools categories

Groups compared	n	Mean of school PDR	Between and within groups	Sum of Squares	Df	Mean Square	F	P-value
Public School	14	2.8	Between Groups	11.330	2	5.665	4.857	0.011
Private school	14	1.8	Within Groups	66.488	57	1.166	-	-
PPP school	32	2.7	-	-	-	-	-	-
Total	60	2.537	Total	77.818	59	-	-	-

The results also showed that 71.4% of the observed desks were found in good conditions and 24.1% were in poor condition. Public schools were leading by having desks that were in poor conditions (not strong enough, broken and not in use) compared to desks in private and PPP schools category. This situation signifies the considerable roles played by private partners in education sector.

2.6.3 Availability of toilet holes for pupils

The study findings showed that 196 pupils (82.7%) out of 240 said that their schools did not have enough toilet holes for boys and girls while 44 pupils (18.3%) reported that their school had enough toilet holes to use. The minimum toilet holes user ratio for boys was 6.7 and the maximum was 144 while the minimum toilet holes user ratio for girls was 7.5, and the maximum was 125 (Table 2.6). This result indicates a serious shortage of toilet holes for boys and girls and indicated poor environment that does not favour provision of quality education in the studied schools. Sufficient availability of toilet holes for girls and boys is one of the key input indicators used as a measure of quality education within the Education Strategic Plan (ESP). In regard to this, the Ministry of Education, Science, Technology and Vocational Training in Tanzania stipulated the optimum user ratio of 20 boys and 25 girls for one toilet hole (URT, 2006).

Table 2.6: School toilet hole user ratio for boys and girls (n = 58)

Toilet holes user ratio	Minimum	Maximum	Mean	Std. Deviation
User ratio for boy	6.75	144.00	44.8121	34.43884
User ratio for girls	7.50	125.00	36.6627	25.32449

Table 2.7 shows that public and PPP schools categories had serious shortages of toilet holes for boys with a user ratio of 49.9 (public) and 50.2 (PPP) compared to their counterparts' private schools (28.2). Also, the result in Table 2.7 shows that PPP and public schools categories had serious shortage of toilet holes for girls, with a user ratio of 37.9 (PPP) and 47.6 (public) compared to their counterparts' private schools (24.6). Schools with conducive environment for pupils play a strong base for pupils to participate in teaching and learning process. Availability of enough toilet holes for boys and girls at school make pupils feel free in attending school hence improve their participation in the learning process at the classroom level (Hansen, 2000).

In assessing the type and status of toilet used, 53.3% of the pupils said that they used modern (water flushing) toilet while 46.7% reported to use traditional/pit latrines. Out of the thirty primary schools surveyed, only one primary school (Himo-Pofo, in Moshi Rural District) was found to have no toilet for pupils. The head teacher reported that pupils in his school used toilets from the neighbouring primary school located at a distance of about 150 metres.

Table 2.7: One Way –ANOVA comparing toilet holes user ratio for boys and girls (n =58) by school types

Groups compared	n	Mean user ratio for boys	Mean user ratio for girls	Sum of Squares	df	Mean Square	F	p-value
Public School	12	49.9	47.6	5 099.857	2	2 549.929	2.244	.116
Private school	14	28.2	24.6	62 504.076	55	1 136.438		
PPP school	32	50.2	37.9					
Total	58	44.8	36.7	67 603.933	57	3 505.916	2.917	.062
				36 555.806	57	33 049.891		

2.6.4 Houses for teachers

The results showed that most of the studied schools had insufficiency of houses for teachers. The studied primary schools were supposed to have 918 houses for teachers, but there were only 86 houses, with a deficit of 832 houses while the maximum teachers' houses ratio was 24. Private schools were found to be in the worst situation of not having enough houses for teachers with a mean of 13.1 teachers' houses ratio compared to PPP schools (12.2, THR) and 9.8 THR for public schools. These findings imply that most of the teachers were living outside and far from their working schools, hence getting late for classes and sometimes not attending to school at all. This result was in line with findings of a study by Yvonne (2013) who reported that when an employee lives far from the work place, the situation can lead to poor job performance hence poor or low attainment of the desired goal. Also, a study in rural Ethiopia found that many teachers face housing and transportation obstacles, a situation which hinders them from getting to school on time and staying until school hours are over (Anderson, 2000). This implies that availability of sufficient number of staff houses is among the pre-requisites for quality education, and this influences effective teaching and learning among pupils and teachers respectively.

Also, the results show that 75.0% of the surveyed schools' houses were in good conditions; 15% were in poor condition and 10% were still in construction (incomplete). The quality of houses in public schools was in too bad conditions (not well cemented, leaking roofs and too old houses that needed urgent renovations) while houses in private and PPP school categories were generally in good condition. These findings indicate that collaboration between public and private partners has much assisted to renovate and construct houses for teachers hence improve the quality of primary education.

2.6.5 Availability of modern kitchen

The majority (85.8%) of the studied primary schools provided food to their pupils but 14.2% did not offer food to their pupils. The results in Table 2.8 show that 67.1% of the

surveyed schools had modern kitchens and 32.9% had no modern kitchen. Modern kitchens are the ones that use small energy and less time consuming when cooking. PPP schools were found to have and use more of the modern kitchens, followed by private schools while public schools were found to use more of the traditional kitchens that needed and uses a lot of energy and are more time consuming. These findings are not surprising since they are in line with a study by Jyoti *et al.* (2005) who found that modern kitchens that utilize and use small energy do influence and contribute to the process of improving quality of education at all school levels. These results indicate that the quality of education in the public schools was in doubt due to lack of food service to most of those schools. Also, few of public schools that offered food to pupils used traditional kitchens a situation which led to ineffective teaching and learning processes to both teachers and pupils.

Table 2.8: Availability of modern kitchens in the studied schools (n = 240)

School category	Whether the school has modern kitchen				Total	
	Yes (n)	%	No (n)	%	n	%
Public	8	14.3	48	85.7	56	100
Private	41	73.2	15	26.8	56	100
PPP	112	87.5	16	12.5	128	100
Total	161	67.1	79	32.9	240	100

Pearson Chi-Square = 95.881, p = 0.000

2.6.6 Availability of dining halls at school

Findings on the availability of school dining hall showed that 26.7% of the surveyed schools had special places for pupils to get food, while 73.3% of the schools did not have (Table 2.9). These findings are comparable to those of a study by Patrinos and Sosale (2007) who found that safe and health places for getting food should be observed in any learning institution so as to maintain hygiene to learners, hence effective teaching and learning. The problem of not having dining halls was more seen in public and PPP

schools. These results revealed that most of the primary schools which were offering food to pupils did not have dining halls; instead pupils used any place for getting food, a situation which indirectly threatened their learning.

Table 2.9: Whether the school has dining hall (n = 240)

School category	Whether the school has a dining hall		Total (Count, %)
	Yes (Count, %)	No (Count, %)	
Public	(1,1.8)	(55, 98.2)	(56, 100)
Private	(41,72.3)	(15,26.8)	(56, 100)
PPP	(22, 17.2)	(106, 82.8)	(128, 100)
Total	(64, 26.7)	(176, 73.3)	(240, 100)

Pearson Chi-Square = 85.655, p = 0.000

2.6.7 Availability of water service at school

The results on the availability of water services showed that 93.8% of the surveyed schools had water service around their school compounds and only 6.2% had no water service around. Public schools were the most schools found not having water sources around school compounds. More than three-quarters (54.3%) of pupils mentioned tap water as the major source of water at their schools, while 2.6% indicated open canal as their source of water (Table 2.10). This result indicates that pupils in public schools wasted a lot of time for fetching water from far distances of about 750 metres. The study revealed that availability of water service at school compound influenced effective teaching and learning between teachers and pupils thus improved quality of education.

Table 2.10: Pupils' multiple responses on the type of water sources at school (n = 240)

Type of water source at school	Responses	Per cent
Tap water	186	54.3
Tank water	106	31
Open canal	9	2.6
Well water	41	12.1
Total	342	100

240 pupils' gave 342 responses

2.7 Availability of Teaching and Learning Materials in Public, Private and PPP

Primary Schools

An index summated scale (Appendix 6) was used to determine sufficient availability of teaching-learning materials, and the result on this showed that 54.6% of the interviewed pupils were found to have insufficient teaching-learning materials, while 45.4% had sufficient teaching-learning materials (Table 2.11). A survey of primary schools in eleven developing countries shows that, on average, 15% to 20% of grade 4 pupils do not have a textbook and they have to share one. In some countries, the percentage is much higher: only 31% of pupils in Paraguay and 51% of pupils in the Philippines had sole access and use of mathematics textbook (Patrinos and Sosale, 2007). Also in Latin America, a study that included 50 000 students in grades three and four found that children whose schools lacked enough classroom T/L materials were significantly more likely to show lower test scores and higher grade repetition than those whose schools were well equipped with T/L materials (Willms, 2000). Access to appropriate learning materials is listed as a key strategy for achieving the first means of implementation under Sustainable Development Goals number four related to providing inclusive and effective learning environments for all. Access to a textbook to every pupil in a classroom increases the rate of acquiring the minimum expected competencies in the core textbook subject by 25–35% (Farah and Rivzi, 2007). The problem of pupils and or schools having insufficient teaching-learning materials existed more in public and PPP schools compared to their counterparts private schools. This variation was statistically significant (Chi-Square = 50.114, $p = 0.000$). These results are contrary to findings of a study by Gibson and Davies (2008) who claimed that sufficient availability of teaching-learning materials was among the crucial factors that influence quality of education. Schools status on the availability of teaching-learning materials that were assessed in this manuscript is described in the subsequent subsections.

Table 2.11: Index summated score on whether the school is sufficiency with T/L**Materials (n=240)**

School category	Whether the school has sufficient T/L materials		Total (Count, %)
	Sufficiency (Count, %)	Insufficiency (Count, %)	
Public	(11, 19.6)	(45, 80.4)	(56, 100)
Private	(47, 83.9)	(9, 16.1)	(56, 100)
PPP	(51, 39.8)	(77, 60.2)	(128, 100)
Total	(109, 45.4)	(131, 54.6)	(240, 100)

Pearson Chi-Square = 50.114, p = 0.000

2.7.1 Availability of subject text books

The study findings showed that, out of the thirty primary schools surveyed, only two private schools (Mt. Kilimanjaro and Imani pre and primary schools) managed to provide a copy of a textbook to every pupil in each subject studied (1:1 PTBR). This result shows that there was serious shortage of textbooks particularly in public and PPP schools. Pupil Text Book Ratio (PTBR) for Mathematics and English subjects was below five while for other subjects there were low PTBR of above ten. Vocational skills and personality development & sports subjects had a serious shortage of textbooks as it was observed that one copy of a book for those subjects was found to be used by more than a hundred pupils. These results indicate that collaboration between public and private sectors has not very much assisted to improve the quality of education as most of the PPP schools had shortage of subject text books. Patrinos and Sosale (2007) asserted and acknowledged that sufficient availability of subject textbooks (one text book to one pupil) is significantly associated with good pupils' academic performance. This is because the Ministry of Education, Science, and Vocational Training (MoESTVT) advocates a policy of one pupil to have and use one text book for each taught subject at school (URT, 2014b).

2.7.2 Pupils' access to exercise books

The results in Table 2.12 show that 80.4% of the pupils indicated that they had enough exercise books while 19.6% said that they did not have enough exercise books in regard to all taught subjects. Pupils from public schools were leading in reporting to not have enough exercise books compared to PPP and private schools. Responding on this challenge the key informant at Kidia primary school reported that:

“Some of the pupils are coming to school without adequate number of the needed teaching-learning materials. And sometimes my teachers do use their own money to buy exercise books or and pencils for pupils, something which is not fair provided that we teachers are lowly paid by the government” (June, 2016).

The study findings revealed that private educational partners provided exercise books to some pupils, a situation which assisted the process of teaching and learning to be more effective among pupils and teachers hence improved the quality of education.

Table 2.12: Whether pupils have all exercise books for taught subjects (n =240)

School category	Whether pupils own exercise book for all taught subjects		Total (Count, %)
	Yes	No	
	(Count, %)	(Count, %)	
Public	(36, 64.3)	(20, 35.7)	(56, 100)
Private	(55, 98.2)	(1, 1.8)	56, 100)
PPP	(102, 79.7)	(26, 20.3)	128, 100)
Total	193, 80.4)	(47, 19.6)	240, 100)

2.7.3 Pupils' having mathematical set

The study findings on this element showed that 26.7% of the teachers reported that their pupils accessed and owned geometrical tools while 73.3% of the total pupils did not have

geometrical tools. Furthermore, the results showed that many pupils in public and PPP schools did not have mathematical sets, compared to their counterparts in private schools. This situation hindered effective process of teaching and learning among pupils and teachers. These results indicate that inaccessibility of geometrical sets was among the factors that led to poor performance in Mathematics subject to most among the surveyed pupils. The Pearson chi-square showed significant association (Chi-Square = 5.358, $p = 0.014$) between pupils owning a mathematical set and good academic performance in the overall scores for the administered examinations (Table 2.13).

Table 2.13: Cross-tabulation of whether pupil owned mathematical sets and categories of pupils' academic performance (n = 240)

Whether a pupil own a mathematical set	Pupils academic performance		Total (Count, %)
	Good performance	Poor performance	
	(80, 52.3)	(32, 36.8)	(112, 46.7)
	73, 47.7)	(55, 63.2)	128, 53.3)
Total	(153, 63.8)	(87, 36.3)	240, 100)

Pearson Chi-Square = 5.358, $p = 0.014$

Also, the study assessed the availability of nine geometrical tools which were supposed to be in the mathematical sets (ruler, compass, protractor, divider, pencil, pencil sharper, triangle, T-square and eraser). The results showed that few tools were found in the mathematical sets, and some of the pupils were found to have the mathematical sets without having any of the tools except a pencil. Pupils' opinion showed that a ruler (92.1%), an eraser (93%) and a pencil (90.4%) were the tools that were mostly found while the most important tools (compass, protractor and divider) were not found in their mathematical sets (Table 2.14). These findings are contrary to those of a study by Rose (2006) who concluded that provision and accessibility of mathematical sets to learners enable them to be effective and conversant in their learning process hence influence their

performance in many subjects, particularly Mathematics and Geography. Also, a key informant at Muungano primary school reported that:

Accessibility of mathematical sets facilitates the process of teaching and learning hence good academic performance among pupils (March, 2016).

Table 2.14: Multiple responses on the availability of geometrical tools to pupils' mathematical sets (n = 112)

Geometrical tools	Responses	Per cent of responses (%)	Per cent of Cases (%)
Ruler	105	12.3	92.1
Compass	102	11.9	89.5
Protractor	97	11.3	85.1
Triangle	80	9.4	70.2
T-square	82	9.6	71.9
Divider	79	9.2	69.3
Eraser	106	12.4	93.0
Pencil	103	12.0	90.4
Pencil Sharper	101	11.8	88.6
Total	855	100.0	750.0

2.8 Conclusions and Recommendations

The study revealed that most of the surveyed schools were found to have insufficient of school infrastructure. Private schools had more sufficient school infrastructure compared with their counterparts PPP schools. Public schools had high scarcity of the school infrastructure. Since school infrastructure was an indicator of quality education, it is concluded that the quality of education in PPP schools was intermediate while the quality was the best and poorest in private and public schools respectively. Insufficiency of school infrastructure leads to ineffective teaching and learning process between teachers and pupils in classroom hence poor quality of education. Also, schools with PPP interventions have a better chance of improving the quality of education compared to

schools without PPP. Based on this conclusion, it is recommended that school management and the educational departments of Moshi District Council and Moshi Municipality in Kilimanjaro Region should establish proper strategies for efficient collaboration with private partners to get rid of deficiency of school infrastructure as it is insisted in the Sustainable Development Goal numbers four and seventeen. Also, the administration and authorities of the Moshi District council and Moshi Municipality should prioritise and adequately budget for sufficient availability of all needed school infrastructures in all schools.

Based on availability of teaching and learning materials, the study revealed that most of the interviewed pupils had insufficient T/L materials, and this problem existed more in public and PPP schools compared to their counterparts' private schools. Since school T/L materials was an indicator of quality education, it is concluded that the quality of education in PPP schools was intermediate while the quality was the best and poorest in private and public schools respectively. Serious scarcity of teaching and learning materials, particularly text books, is among the problems that impede the whole process of improving the quality of education at school. Also scarcity of T/L materials is a cause of low literacy and numeracy competencies among pupils in the surveyed schools. In regard to this conclusion, it is recommended that school management and pupils' parents/guardians should form a platform for discussion and come up with solutions to ensure that each pupil gets enough T/L materials as required, instead of depending much on the government and private partners to provide T/learning materials. Furthermore, the education departments of Moshi District Council and Moshi Municipality should manage and administer education regulations that require each school to have enough infrastructures.

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CHAPTER THREE

3.0 IMPROVING QUALITY OF PRIMARY EDUCATION THROUGH PUBLIC PRIVATE PARTNERSHIP MODEL: A CASE OF SELECTED PRIMARY SCHOOLS IN KILIMANJARO REGION, TANZANIA

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3.1 Abstract

The Public Private Partnership (PPP) model for services delivery including education services has been in use in Tanzania since the 1970s. In spite of the use of the model for so long a time for improving the quality of primary education in Tanzania, its contribution to quality education was not empirically known. It was thus essential to analyse educational benefits gained and strengths of the PPP model for improving the quality of primary education in Moshi District Council and Moshi Municipality. The specific objectives of this manuscript were to: (i) identify types of private educational partners and kinds of support they provide and (ii) determine educational benefits gained from kinds of support provided. It was a cross-sectional study whereby data was collected through a questionnaire, focus group discussions, key informant interviews and observation using a checklist of items for observation. A total of thirty two (32) teachers and 128 pupils were randomly chosen for the study from sixteen (16) public primary schools that were supported by private development partners (PPP schools). The findings indicate that

international private educational partners are supporting the process of improving the quality of primary education more than local organisations in Kilimanjaro Region. It is concluded that the local private partners (individual, groups and organisations) do support little towards improving the quality of primary education in Moshi District Council and Moshi Municipality compared to what international private partners do. On the basis of this conclusion it is recommended that the local authorities of Moshi Municipal and Moshi District Council should convince individual citizens and local private organisations in their areas to contribute and support the process of improving the quality of primary education instead of depending much on external or international private development partners. Private educational partners provided various types of educational support which have led to numerous educational benefits being gained, hence a step ahead towards improving the quality of education to public schools in Moshi District Council and Moshi Municipality. Also, results of Chi-square analysis showed a significant association between most types of educational support provided and school academic performance for the previous four years (Chi-square = 16.34, $p < 0.05$). In regard to this result, it is concluded that most of interventions done by private educational partners do aim to support the process of improving the quality of primary education in Moshi District Council and Moshi Municipality. In connection to this conclusion, it is recommended that the administration of the studied schools should establish strategies to ensure that the gained educational benefits and types of support provided are well maintained for future generation usage as stipulated on page 32, caption 3.211 of Tanzania education policy of 2014.

Key words: Public Private Partnership model, Improving, Quality of education, Primary schools, Kilimanjaro, Tanzania

3.2 Introduction

Since the mid-19th century, there has been an expansion of the private sector's role in the provision of public services, particularly health and education in the world (Blacke, 2004). Budgetary constraints of public institutions and an acknowledgement of the private sector efficiencies and technical know-how are among the reasons on why governments are taking economic and political decisions to collaborate with the private sector. This has made many countries in the world to open doors to private individuals and organisations to support and invest in provision of social services in pursuit of complementing government efforts towards development. The main driving forces that made many governments to strongly collaborate with the private sector, that is PPP, are based on conscious policy design and inefficiency of the public sector to provide quality services to many people. On the other hand voluntary demand-driven factors and the increased need to access quality social services have also enforced the use of the PPP model (Heather and Kathleen, 2007). The Public Private Partnership (PPP) model has assisted the government to deliver quality social services to many people, a service which could have previously been offered by the public sector alone.

Developed countries including China, Japan and Italy have used the PPP model particularly in the health, housing, electricity and infrastructure sectors, and the model has proved to contribute significantly in the provision of quality services to these sectors (Gunnigan and Rajput, 2010). PPPs studies conducted in the education sector, particularly in Northern Brazil, India, Pakistan and Ghana have shown that strong PPP model, have led to significant educational benefits in the sector. A study by Patrons (2006) on the roles of PPP in Colombia revealed that the model contributed significantly to improving the quality of education. Private partners made school environment more conducive for

learning through construction of school infrastructure, provision of various numbers of teaching and learning materials and support to other educational services, hence good academic performance among pupils.

Practitioners of the PPP model in education argue that, for the PPP model to bring a significant contribution towards improving the quality of education, it depends on the nature and type of private partner (Mpamila, 2007). Also, to clasp considerable educational benefits from the PPP model depends on the kinds of support provided and the number of educational interventions implemented by such a partner in a certain school. International development partners are of great advantage as they always have enough capital, expertise and experiences on the same business, although their support is not sustainable. Also, local partners do contribute little and sometimes are reluctant to donate although they do support development within the country for a long period and sustainably. It is argued that the nature of educational partners being local or international does not guarantee significant contributions; it is rather the roles they do play and kinds of support they provide that do contribute to improvement of the quality of education (Patrons, 2010).

In response to the globalised framework of Jomtien and the African regional education symposium of 1986 in Accra Ghana, many sub-Saharan African governments were advised to adopt the PPP model. This decision was made in order to increase access to good quality education as an important means to achieve the millennium development goals by the end of 2015. The Government of Tanzania adopted the use of the PPP model for services delivery, particularly education from the late 1970s, and in the mid-1990s there was an increase in participation of the private partners in the provision of education

services. In Tanzania, various numbers of private educational partners do collaborate and support the government in numerous ways of improving the quality of primary education. These include construction and renovation of school infrastructure and provision of teaching and learning materials as well as provision of various educational support services (URT, 2006). Regardless of having many private partners in Kilimanjaro Region but the types and the nature of these partners are not intensely understood (TEN, 2011). Also a study by Mpamila (2007) remarked that irrespective of many private educational partners participating in quality education improvement programmes in Kilimanjaro Region but their significant educational benefits derived from their support are not empirically known to the public.

Based on the empirical literature reviewed above, the study affirms that the PPP model is an important developmental approach. The type of partners and educational benefits gained should be well understood to the partnering bodies and beneficiaries. Since there was little supportive evidences to confirm that the PPP model has strongly resulted in substantial educational benefits in Kilimanjaro Region, it precipitated the need to conduct this study to fill the gap. Making a scientific conclusion on a wide scale of the PPP model in education sector also enforced this PhD research on which this manuscript is based. Specifically, the objectives of this manuscript were to: (i) identify types of private educational partners, kinds of support they provided to PPP schools and (ii) determine educational benefits gained by PPP schools from kinds of support provided by private partners.

In this manuscript the PPP model was referred to as a developmental approach whereby public entities collaborate with private development partners towards achieving a certain

desired policy outcome, quality education in regard to this study. Also, the manuscript defined PPP framework as the collaboration arrangements between governmental entity and private development partner. This arrangement shows how the two partners will work together towards achieving a desired policy outcome, quality education in regard to this study. Private development partner was referred to as organisations (for-profit and not-for-profit), philanthropic groups and individuals that are collaborating and supporting a primary school in the process of improving the quality of education. Furthermore, the manuscript defines quality education as sufficient availability of school teaching and learning infrastructure, T/L materials and availability of food/nutritional programme and water services within the school.

3.3 Hypothesis of the Study

There is no statistical significant association between types of support provided by private education partners and pupils' / schools' academic performance.

3.4 Theory Underlying the Study

This study was guided by the stakeholder theory as advocated by Stephen Ross and Barry Mitnick (Farah and Rivzi, 2007). Stakeholder theory is based on the assumption that the collaboration and relationship synergy that exist between different partners (the government and private partners) are basically aimed to improve the provision of quality socio-economic services to its people. The relationships occur when these partners invite each other to work in a collaborative manner by sharing their resources; expertise, capital, technology and experiences based on the outlined appropriate collaboration framework with the aim of improving the desired policy outcome (Akintoye and Hardcastle, 2003), quality of education in this study. Resources and expertise provided by private partners to PPP schools were the key variables studied for this manuscript. Also this manuscript

affirms that integrating different stakeholders in the process of improving the quality of education is more likely to respond to broader and more educational challenges than to narrow this responsibility to a single partner. Numerous private development partners do support the government of Tanzania by playing various roles and interventions that lead to improve the quality of education in Tanzania (TEN, 2011). This theory fits well and has assisted this study to identify different private educational partners collaborating with the government towards improving the quality of primary education in Kilimanjaro Region. Varieties of educational supports provided by these private partners were also itemized as well as educational benefits gained from kinds of support provided with regard to the desired outcome of collaboration.

3.5 Methodology

This manuscript is based on a research which was conducted in Moshi District Council and Moshi Municipality in Kilimanjaro Region from November 2015 to June 2016. Sixteen out of fifty seven public primary schools that are supported by private educational partners (PPP schools) were purposively chosen from two local government authorities and from each authority eight primary schools were randomly selected. The schools were selected based on the criteria that they were collaborating with private development partners in provision of quality education for previous five years. PPP schools were selected based on the availability of Memorandum of Understanding (MoU) as a collaboration arrangement for partnership between school administration and the respective private development partner (s). From each selected school, two teachers were randomly selected, making a total of thirty two (32) teachers from all the schools. Also, eight pupils were randomly selected from two classes; standard IV and standard VII, giving a total of 128 pupils in all sixteen schools studied. Seven parents and three school

committee members from each of the schools were selected and involved in focus group discussions (FGDs). Ward Education Co-ordinators, District and Municipal Education Officers, and Managing Directors of the surveyed private educational partners were also involved. These were used as key informants to get more clarification and information on the studied objectives. Other key informants interviewed were one official from the Prime Minister's Office (PPP Unit) and one official from Tanzania Investment Centre (Northern zone).

Data and information based on types of educational partners and kinds of support provided were collected through structured interviews using a questionnaire and observation through the use of a checklist of items. Information on education benefits gained and strengths of PPP framework were collected through focus group discussions using an FGD guide, and key informant interviews using an interview guide. Secondary information related to the study topics was collected through documentary review whereby school reports on kinds of support provided and who provided them were accessed.

The data that was collected was analysed by using the IBM Statistical Package for Social Sciences (SPSS) software and Excel. Descriptive statistics were analysed to determine frequencies, percentages, minimum, maximum and averages of support provided. Moreover, inferential analysis was done by using cross-tabulations whereby chi-square was run to determine associations between kinds of support provided by educational partners and school academic performance. Objective two was analysed through content analysis whereby qualitative information (views and arguments) from FGDs and key informant interviews were summarized. Their themes were compared and discussed in comparison with empirical information given by respondents from structured interviews.

The interpretation of data was done, and the results were presented in terms of tables then discussed with respect to specific objectives and information available in literature.

3.6 Results and Discussion

This section and its subsections present and discuss the findings of the manuscript number two based on its two studied specific objectives. Discussion of the finding concentrates on the nature of private partners, types of educational support they provided and educational benefits gained by PPP schools in Moshi District Council and Moshi Municipality.

3.6.1 Socio-demographic characteristics of the respondents

Gorard (2013) argues on the importance of analysing and interpreting socio-demographic characteristics of the surveyed respondents in line with the studied variables. The socio-demographic factors that were studied and analysed included age, education and class level of pupils and teachers.

3.6.1.1 Age of the respondents

The study findings showed that the minimum and maximum ages for pupils in PPP schools were 8 and 18 years respectively, while for teachers' minimum age was 31 years and the maximum age was 60 years, with a mean age of 47.7 years. A half of the pupils (50%) were in the age group of 8 to 12 years and few (1.6%) were in the age group of 18 to 22 years, with a standard deviation of 2.010 years, indicating that there was a slight difference in age among pupils across classes, which is shown by the standard deviation for age that was small. 56.3% of teachers were in the age group of 38 to 53 years and few (15.6%) were in the age group of 22 to 37 years, with a standard deviation of 8.205 years. This indicates that there was a big difference in age among teachers in the studied schools, which is indicated by the standard deviation that was high (10.454). Commenting on this difference the key informant at Benjamin primary school said that:

Young teachers do hate to work in schools with un-conducive environment hence most of them do lobby to be posted to schools with attractive working environment (February, 2015).

3.6.1.2 Studying class (class level) of pupils

The results showed that 50.8% of the interviewed pupils were studying in standard seven and 49.2% were studying in standard four. The difference in the number of respondents was observed during data collection as some of standard four pupils were not easily accessed as they were busy doing weekly and monthly tests as a way of preparing themselves for national examinations which were to be done in the subsequent month. PPP schools were found to have many pupils of standard four and seven compared to non-PPP schools. Explaining on this situation during an FGD one of the committee members at Julius Kambarage Nyerere primary school said that:

Sufficient availability of school infrastructure and teaching-learning materials was attributed to the reported differences in the number of pupils at PPP schools (March, 2016).

3.6.1.3 Education level of teachers

The findings presented in Table 3.1 show that 62.5% of the interviewed teachers had attained certificate of education and only two teachers (6.2%) had attained form four education (Table 3.1). The study findings indicated that most of the studied PPP schools were staffed with teachers with certificate in education (Grade A), the level that is set and recognized for teaching in primary schools in Tanzania. These findings indicate that the government has ensured that basic factors for quality education provision are also observed in PPP schools. URT (2014) reports that a well-qualified teacher is an important

factor for effective delivery of lessons due to mastering of subject matters and pedagogic content knowledge, a condition which leads to the provision of quality education.

Table 3.1: Education levels of teachers

Levels of education	Frequency (n = 32)		Per cent
	Male	Female	
Form only	1	1	6.2
Certificate in education (Grade A)	6	14	62.5
Certificate in education plus form six	2	1	9.4
Diploma in education	2	1	9.4
Degree in education	1	3	12.5
Sub-total	12	20	-
Total	32		100.0

3.6.1.4 Pupil teacher ratio (PTR) in the studied PPP schools

The findings in Table 3.2 show that schools in Moshi Municipality had more pupils (6380) compared to their counterpart schools in Moshi District Council (4003). Also, Table 3.2 shows that schools in Moshi Municipality had more teachers (168) compared to 108 teachers in Moshi District Council. Furthermore, Table 3.2 shows that, regardless of the differences in the number of pupils and teachers, the pupil teacher ratios (PTR) in the studied schools were almost the same; the PTR in Moshi Municipality was 1:37.9 while in Moshi District Council it was 1:37.0. Also, Table 3.2 shows that, within a district, there was a variation of PTR; some schools had high PTR while others had low PTR. This indicates that there was a problem of allocating teachers to the schools. This imbalance situation does affect the quality of education to most of primary schools whereby some educational partners are interested to work in schools with few pupils and teachers. Commenting on this during an FGD one of the committee members at Shirimatunda primary school said that:

Teachers do collide with district educational administrators requesting to be shifted in urban schools that have conducive environment and schools with few pupils (February, 2016).

Sometimes high PTR is caused by high enrolment rate in the schools due to school environment being good or not as it was noted in a study by Tessera (2005). This argument was confirmed by the key informant one at Benjamin Mkapa Primary School who reported that:

Some of the parents were lobbying strategically for their children to be replaced in her school due to the school having conducive environment for teaching and learning for both teachers and pupils (February, 2016).

Table 3.2: Pupils teacher ratio (PTR) of the studied schools

Primary Schools in Moshi Municipality				Primary Schools in Moshi District Council			
Name of school	Pupils	Teachers	PTR	Name of school	Pupils	Teachers	PTR
Mandela	1062	23	1:46	Katanini	763	20	1:38
Azimio	1017	24	1:42	Kiyungi Mpya	543	14	1:39
Kaloleni	1069	20	1:56	Ronga	261	4	1:65
Jitegemee	996	20	1:50	Kiyungi	413	18	1:23
Muongano	382	16	1:24	James Ole Mallya	422	11	1:38
J.K.Nyerere	426	19	1:23	Dr.Omary Juma	195	12	1:16
Kilimanjaro	709	19	1:37	Benjamin Mkapa	1025	16	1:64
Shirimatunda	718	27	1:27	Arusha chini	381	13	1:29
Total	6 380	168	1:38		4 003	108	1:37

3.7 Types and Nature of Private Educational Partners

The study area was found to have three types of private educational partners (registered organisation, group of people and individual persons) collaborating with the respective local governments in improving the quality of primary education. The identified organisations were categorized into two forms: international organisations and local

oriented organisations. The findings show that there were more international organisations that were supporting the education sector in the studied areas than the local oriented organisations which were anticipated to do the same.

Table 3.3: Multiple responses of private education partners supporting schools (n=32)

Private educational partners	Types and nature of private educational partners	Teachers' Responses		Pupils' Responses	
			Per cent		Per cent
Childreach International	Registered International organisation	18	21.4	64	24.8
FT Kilimanjaro Compassion	Registered International organisation	12	14.3	33	12.8
TPC Limited	Registered International organisation	8	9.5	25	9.7
Team visitor (friends from Australia)	Registered International organisation	8	9.5	18	7.0
Camara Education of Tanzania	International Group	0	0.0	24	9.3
Aghakani University (Maisha ni Ufunguo)	Registered International organisation	6	7.1	24	9.3
ViAFRICA	Registered International institution	6	7.1	0	0.0
HakiElimu Tanzania	Registered International organisation	2	2.4	16	6.2
KIWAKUKI	Registered local organisation	6	7.1	0	0.0
Rotary club of Moshi	Registered local organisation	6	7.1	8	3.1
International School of Moshi	Registered International organisation	4	4.8	8	3.1
Umoja group from Belgium	Registered International institution	4	4.8	0	0.0
TBL	International Group	0	0.0	8	3.1
Munich International school from German	Registered local organisation	0	0.0	8	3.1
Bonite Company	Registered institution	0	0.0	8	3.1
MKUKI	Registered International organisation	2	2.4	8	3.1
Jean (individual person from German)	Registered local organisation	2	2.4	0	0.0
	International Individual	0	0.0	6	2.3
Total		84	100.0	258	100.0

*32 teachers gave 84 responses. Therefore, the per cents was over 84

*120 pupils gave 258 responses. Therefore, the per cents was over 258

The results in Table 3.3 show that there were eighteen private partners collaborating with Moshi District Council and Moshi Municipality in providing and improving the quality of primary education. Among these partners, 4 (22.3%) were local and 14 (77.7%) were international oriented by nature. The results also showed variation of responses between teachers and pupils. Table 3.3 shows that some of educational partners supporting schools were known and were mentioned by teachers only, and some of them were known by pupils only; hence they were not mentioned by teachers. Also, Table 3.3 shows that there were some individual persons (for example Jean Shoperzee from German) and groups of people or teams of visitors (friends from Australia) supporting the government efforts of improving the quality of education in Kilimanjaro Region.

Based on teachers' responses, Childreach International (21.4%) and FT Kilimanjaro (14.3%) were the leading international organisations found to support many primary schools in Moshi District Council and Moshi Municipality. Childreach International is a United Kingdom organisation working in more than five countries in the world with the vision that all children have the opportunity to fulfil their potential in life by ensuring they have access to quality education, protection and healthcare while at school. FT Kilimanjaro is a Dutch FEMI Foundation with the vision of flourishing communities in Lower Moshi to avoid poverty and despair families and be in a self-sustaining and environmentally sustainable manner. It also aims to ensure that all children have access to basic education, health care and get opportunities to be productive hence earn a livelihood for themselves and their families. HakiElimu (7.1%) and KIWAKUKI (7.1%) were among the local based education private partners supporting primary schools in Moshi District Council and Moshi Municipality.

Commenting on this result the key informant number two from Moshi District Council, education department office reported that:

International development partners do highly support quality education improvement more than local partners although their support is not long and sustainable compared to local education development partners (November, 2015).

These findings have revealed that “effective participation and support for the development activities such as quality education improvement interventions is solely determined by the financial stability of the organisation or individual partner” as it was quoted in a study by Sharma (2007, p. 211). During FGDs at Katanini primary school most of parents commented that:

Being strong financially does not guarantee an individual or an organisation to become effective development partner rather than a giving heart of an individual/leader and the overall goal of the certain organisation (November, 2015).

Based on the findings on types and nature of educational partners, an informant at HakiElimu Tanzania office advised that:

District leaders should emphasize to all individuals and local organisations to collaborate with the district governments to ensure that they effectively participate in the process of improving the quality of primary education in their areas...and this will ensure sustainable development (February, 2016).

3.8 Types of Support Provided to PPP Schools by Private Educational Partners

The private educational partners mentioned and discussed in Section 3.2.1 provided different types of education related support with intention of improving the quality of primary education in Moshi District Council and Moshi Municipality. Table 3.4 shows various types of educational related support that were mostly provided to public primary schools in Moshi District Council and Moshi Municipality. Furthermore, Table 3.4 shows

the values of Pearson Chi-square that was used to determine the association between types of educational support provided and school academic performance for the previous four years. Also, the table shows monetary value of all types of educational support provided by Private Partners to public primary schools. Out of 1 012 981 750 Tanzania shillings (total value for all kinds of educational support) contributed and provided by private educational partners to PPP schools, local private partners have contributed 145 345 600 Tanzanian shillings (14.3%) while international educational private partners contributed a sum of 867 636 150 Tanzania shillings (80.7%) and another 5% was contributed by group and individual people. These contributions aimed to support the process of improving the quality of education in Moshi District Council and Moshi Municipality for the previous four years (2010 to 2014). The provided types of support focused on making school environment more conducive for teaching and learning and thus improved pupils' academic performance as described in the following paragraphs.

The top ranked type of support that was provided to many primary schools was the installation of water points as well as water harvesting system and storage tanks within school compounds (12.5%) with a total amount of 76 515 420 Tanzania shillings. The Pearson Chi-square showed a statistical significant association between water availability within school compounds and school good academic performance (Chi-square = 32.00, $p = 0.006$ for the previous four years. time for learning hence improved their academic performance. Provision of school uniforms, shoes and bags (9.5%) was the second educational support that was mostly provided to pupils at PPP schools with a total amount of 6 420 000 Tanzanian shillings.

Table 3.4: Types of educational support provided by private educational partners, monetary value and their association with school academic performance for the years 2011-2015 (n = 32)

Types of educational supports provided to schools/pupils	Teachers' Responses		Monetary value of the educational supports provided by Private Partners Amount (Tshs)	Categories of educational Academic performance		Association between kinds of support provided and school academic performance for the last five years (2011 – 2015)	
	Responses	%		Good performance (≥ 65% Average score)	Poor performance (≤ 64% Average score)	Chi-square value	p-value
Installation of water system (tap points, pump machine and storage tanks)	42	12.5	76 515 420	28	4	32.00	0.006
Provision of school uniforms, shoes & bag	32	9.5	6 420 000	28	4	32.00	0.006
Provision of food /cooking materials (maize, beans & 50kgs of sugar monthly) to pupils	28	8.3	53 803 495	28	4	27.34	0.026
Renovation and construction of modern toilets for pupils	23	6.8	124 430 900	28	4	32.00	0.006
Construction of modern kitchen and cooking stoves	19	5.6	154 321240	28	4	32.00	0.006
Provision of subject text books	17	5.0	13 500 000	28	4	29.9	0.012
Computers & installation of internet/network system	16	4.7	99 400 000	28	4	32.00	0.006
Provision of exercise books, pens and pencils	14	4.1	6 970 000	28	4	29.9	0.012
School, Water, Sanitation and Hygiene project (SWAS)	14	4.1	19 440 000	28	4	29.92	0.012
Renovation and construction of classrooms	13	3.8	84 842 405	28	4	29.92	0.012
Renovation and construction of teachers' houses and offices	12	3.5	126 201 195	28	4	27.73	0.023
Free transport to teachers, go and from school	12	3.5	36 780 800	28	4	32.00	0.006
Payment of school fees to pupils	10	2.9	10 700 000	28	4	32.00	0.006
Construction of play grounds and provision of playing tools	10	2.9	37 270 020	28	4	32.00	0.006
Free electricity and water around school	9	2.6	1 564 300	28	4	29.52	0.014
Construction of school fence and library	8	2.3	34 110 500	28	4	32.00	0.006
Provision of children's rights education	8	2.3	34 976 000	28	4	32.00	0.006
Construction of dining hall	6	1.7	36 200 580	28	4	32.00	0.006
Provision of pupils desk/tables	6	1.7	8 077 000	28	4	25.43	0.044
Irrigation canes	6	1.7	1 100 000	28	4	32.00	0.006
Mosquito nets	4	1.1	1 170 000	28	4	32.00	0.006
Vegetable seeds	6	1.7	750 000	28	4	32.00	0.006
Soft rent to teachers staying in the organisation houses	4	1.1	4 300 400	28	4	32.00	0.006
Payment of salaries to three teachers' doing remedial classes at Ronga primary school	2	0.5	12 361 430	28	4	32.00	0.006
Construction of resting hall for pupils at Ronga Primary School	2	0.5	5 830 200	28	4	32.00	0.006
Financing seminars to members of the school board and teachers teaching lower classes (class I and II)	2	0.5	5 560 000	28	4	64.00	0.000
Renovation and construction roofed corridors for classrooms and teachers' offices	2	0.5	16 290 000	28	4	15.48	0.417 ^{ns}
Total	334	100.0	1 012 981 750				

^{ns} No significant association

The study findings reveal that availability of water service around school assisted teachers to follow and implement the planned school curriculum well as well as giving pupils more

The Pearson's Chi-Square test showed a statistical significant association (Chi-square = 32.00, $p = 0.006$) between pupils' school uniforms provided and pupils' academic performance in the national examinations. In regard to this result parents at James Ole Mallya primary school agreed that:

International private partners have assisted to improve the quality of education in various ways for example provision of school uniforms, shoes and bags enabled many pupils to attend school while previously some of the pupils felt shy to go to school with bare foot and without proper school uniform, a situation which reduced pupil enrolment rate (November, 2015).

The study findings indicate that most of the provided materials by private educational partners were statistically significant associated with the improved quality of education in regard to increased academic performance among PPP schools in Moshi District Council and Moshi Municipality. Furthermore, Table 3.4 shows that most of the educational supports that were provided to PPP schools focused more on improving school infrastructure than improving the number of teaching and learning materials for pupils and teachers. For example, construction of modern kitchen and cooking stoves used 154 321 240 Tshs, renovation and construction of modern toilets for pupils spent 124 430 900 Tshs while provision of subject textbooks consumed 13 500 000 Tshs only. Elaborating on this situation, the key informant at Ronga Primary School said:

My school has sufficient/extra classrooms but there is a serious shortage of text books and I wonder why the partner has kept building more classrooms instead of providing subject text books (March, 2016).

Table 3.4 shows that 27 out of the 28 types of educational support provided were significantly associated with improved school environment and increased pupils'

academic performance for the previous four years. Renovation and construction of roofed corridors for classrooms and teachers' offices led to good academic performance, although the two aspects were not statistically significant associated (Chi-square =15.48, $p = 0.417$) with good academic performance of a school for the previous four years. Regardless of their insignificant association but during FGDs most of the parents at Benjamin Mkapa Primary School claimed that:

Roofed corridors make school environment more attractive and conducive for teaching and learning as these corridors are helpful to teachers and pupils during rainy and sunny/hot seasons (April, 2016).

Furthermore, the study found that roofed corridors were used as offices for teachers; during data collection the researcher observed some teachers performing their activities such as preparing lesson plans and marking pupils' exercises while sitting on roofed corridors of classes and the teachers' office.

Based on the above findings, the first null hypothesis in section 3.3 (there is no statistical significant association between types of support provided by private education partners and schools'/pupils' academic performance) is rejected and the alternative is confirmed.

3.9 Educational Benefits Gained by PPP Schools from Types of Support Provided

This manuscript has assisted to cut down previously existing ambiguity regarding the significance of benefits gained from different types of support provided by private educational partners in Moshi District Council and Moshi Municipality. Table 3.5 provides information concerning various educational benefits gained from supports provided by private educational as described in the previous subtopics. These includes

increased rate of pupils' attendance to school, increased pupils' enrolment, increase in academic performance among pupils and improved pupils' desk ratio and teachers' house ratio.

Table 3.5: Educational benefits gained to PPP schools from kinds of support provided by private partners (n = 32)

Benefits gained	Before PPP			After PPP				
	Year	MM	MDC	Year	MM	Change%	MDC	Change%
Increased in the rate of pupils attendance to school	2010	87	73	2014	93	6	87	14
Increased academic performance among pupils	2010	84	78	2014	91	7	83	5
Increased access to primary education among school age children	2010	71	69	2014	96	25	92	23
Increased pupils' text book ratio	2010	1:7	1:9	2014	1:4	1:3	1:7	1:2
Improved pupils' classroom ratio	2010	61	42	2014	49	12	35	7
Improved pupils' desk ratio	2010	3.2	3.7	2014	3.0	0.2	3.4	0.3
Improved teachers' house ratio	2010	1:6	1:8	2014	1.5	0.1	1:72	0.08
Improved pupils' latrine ratio	2010	38.5	29	2014	36.5	2.0	24.5	4.5
Reduced walking distance for fetching water go & return to school in kilometres	2010	0.9	1.8	2014	0.05	0.85	0.8	1.0
Improved teachers' attendance to school	2010	89	91	2014	94	5	93	2

MM =Moshi Municipality

MDC = Moshi District Council

n = 32 Teachers

Increase in the rate of pupils' attendance to school was among the most gained educational benefits from support provided by private partners, and this was mostly reported by pupils and teachers. Before PPP (2010) the pupils attendance rate was 87% in Moshi Municipality and 73% in Moshi District Council while after PPP (2014) the pupils attendance rate was 93% and 87% in Moshi Municipality and Moshi District Council

respectively. Most of girls reported to frequently feel to attend school due to availability of water services around the school. The results indicate that PPP interventions increased pupils' attendance by 10% in the studied areas. This is a significant contribution towards improvement of the quality of education as it was revealed in a study by Patrinos (2010) that frequent pupils' attendance to school has direct influence on good academic performance. Commenting on this, the key informant at Benjamin Mkapa Primary School said that:

Connection of water points around the school compound and the modern kitchen that saves energy has reduced pupils' chores at school. And these interventions have assisted to increase pupils' attendance rate to five days while previously some pupils used to attend only three days a week. In addition, favourable teaching and learning environment of the schools was among the factors considered to attract pupils to attend school more frequently (February, 2016).

Moreover, during FGDs most of parents at James Ole Mallya primary school commented that:

Provision of school uniforms, shoes and bags has enabled many pupils to attend schooling while previously some of the pupils felt shy to go to school with bare foot and without proper school uniform, a situation which reduced pupil enrolment rate (November, 2015).

Improvement in the academic performance among pupils and the schools was another educational benefit highly ranked by teachers and gained to schools that has collaboration with private partners. The study findings in Table 3.5 indicate that before PPP (2010) most of primary schools in Moshi Municipality performed at 84% in standard seven national examinations and 78% for the schools in Moshi District Council. During the

period after PPP (2014) the academic performance rose up to 91% and 83% for the schools in Moshi Municipality and Moshi District Council respectively. Collaboration between public and private partners improved school academic performance by 6%. Most of the pupils (84.5%) who had completed standard seven for the previous four years in Kilimanjaro Region have attained minimum level of the expected competencies. The key informant at Jitegemee Primary School reported that:

Provision of subject textbooks, exercise books and school uniforms has directly influenced academic performance among pupils (March, 2016).

This was also supported by the school committee members and parents during focus group discussions at Azimio Primary School by saying that:

Inadequacy of desks and toilet holes at school has made some pupils not attend school regularly hence poor academic performance in national examinations (March, 2016).

The proceeding paragraphs describe other educational benefits gained from support provided by private educational partners collected through FGDs and key informant interviews.

Safety among pupils, teachers and other school assets were among the educational benefits described by school committee members particularly parents. Safe school environment was reported to be an essential element that ensures pupils and teachers to participate actively in the process of teaching and learning at classroom level (Ololube, 2012). Commenting on this the key informant at Boma-Mbuzi ward education department said that:

Before private partnership interventions, some schools' environment in my ward was not safe and not conducive for teaching and learning. This included old and unsafe buildings, particularly toilets, classrooms, kitchens, teachers' houses and far distance from source of water. Such unsafe environment endangered survival life of pupils and teachers while at school (April, 2016).

She further added by saying that:

Private educational partners intervened the situation that existed in my ward through renovation of classrooms and where necessary new school buildings were constructed to ensure safe environment for the provision of quality education (April, 2016).

Furthermore, the key informant at Mweleni Primary School reported that:

The school was mostly affected by vehicle noises and passageways crossing the school surroundings. But the "Danske Commodities Foundation", a Danish private educational partner, constructed school fences (November, 2015).

Types of support provided (Table 3.4) by private partners have significantly guaranteed safe and conducive teaching and learning environment among pupils and teachers as well as improving security of school assets.

Private educational partners have also played great roles in the public schools by implementing projects that have helped pupils to get more time for studying while at school. During FGD at Mandela primary school most parents said that:

Construction and installation of tap water points, pump machines and provision of water storage tanks around our school compounds have reduced wastage of time that was used for fetching water from long distances as now-days pupils are fetching water within school compounds just about 50 metres (May, 2016).

Commenting on the same point the key informant one at Childreach International, Tanzania office reported that:

The construction of modern kitchens that do not waste energy has increased learning time among pupils” (April, 2016).

Moreover, the key informant at Azimio Primary School said that:

After my school being supported with a modern kitchen, pupils are nowadays coming to school with one piece of firewood. One piece of firewood is enough for preparing food compared to previous years when every pupil was supposed to come to school with a number of pieces of firewood daily for cooking pupils’ food (March, 2016).

Construction of modern flush toilets and the use of SWAS project has assisted to prepare pupils to become civilized citizens as one of the key end results of education as reported in a study by Abebe (2004). The key informant at Ronga Primary School reported that:

Construction and use of modern (flush) toilets has modernized pupils in their daily life. Also School, Water, Sanitation and Hygiene project (SWAS) has made pupils and teachers very sensitive on hygienic issues. Nowadays, pupils do wash their hands several times a day with clean water and soap while at school, a practice which was not practised before (March, 2016).

Also a key informant two at Childreach International Tanzania office reported that:

Some of the pupils have transferred the regular hand washing habit to their friends and relatives at their home... She further said that:

The SWAS project has reduced the rate of communicable diseases among pupils hence contributed to improving academic performance among pupils (April, 2016).

Reduction of education burden to the central government was another educational benefit gained through the PPP model. Traditionally, the responsibility of providing education services was fully left to the government. But this responsibility would be shared with the private sector thereby reducing significantly the burden on the government. This would in

turn give an opportunity to the government to focus more on other areas of improving school environment and is more conducive for learning (Platten *et al.*, 2006). Commenting on this, the key informant at Mabogini reported that:

Although it is the government's direct responsibility to ensure that there is conducive environment for teaching and learning for both teachers and pupils, this responsibility has not been well implemented by the central government (June, 2016).

3.10 Conclusions and Recommendations

International private educational partners were supporting the process of improving the quality of education more than local private partners. Also, most of the types of educational support that were provided to PPP schools in Moshi District Council and Moshi Municipality focused more on improving school infrastructure than to increase the number of teaching and learning materials for pupils and teachers. According to this result, it is concluded that improving or supporting more school infrastructure while leaving other educational aspects may not lead to intended outcomes. Moreover, local private partners do support little towards improving the quality of primary education in Moshi District Council and Moshi Municipality compared to what international private partners. On the basis of this conclusion, it is recommended that the local authorities of Moshi Municipal and Moshi District Council should convince individual citizens, groups and local private organisations to contribute and support for quality education improvement programmes instead of depending much on external or international private development partners. Local partners are said to be permanently established within the community and they are closely attached with the government rules and regulations. Also, the types of support provided to schools should focus on improving all necessary requirements/factors for quality education improvement instead of being a one-sided

interventions approach like school infrastructure interventions as it was noticed in this study.

Private educational partners have provided various type of educational support which have led to numerous educational benefits being gained, hence a step a-head towards improving the quality of education to public schools in Moshi District council and Moshi Municipality. In regard to this result it is concluded that interventions done by private educational partners do highly support the process of improving the quality of primary education in Moshi District Council and Moshi Municipality. This implies that the government alone cannot budget considerable funds for the provision of quality education to all schools, but participation of private development partners can reduce and mitigate this government's burden. In connection to this conclusion, it is recommended that the administration of the studied schools should establish strategies to ensure that the gained educational benefits and support provided are well maintained for a long period and for future generation usage. Finally, it is recommended that the PPP model, particularly local private partners, should be embraced and adapted as a tool of choice to most of the public entities that are aiming to improve the provision of quality education to most of the schools in Moshi District Council and Moshi Municipality.

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CHAPTER FOUR

4.0 INFLUENCE OF PUBLIC PRIVATE PARTNERSHIP MODEL ON IMPROVING PUPILS' ACADEMIC PERFORMANCE: A CASE OF SELECTED PRIMARY SCHOOLS IN KILIMANJARO REGION, TANZANIA

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4.1 Abstract

In spite of the long use and many roles played by private educational partners through the Public Private Partnership (PPP) model, the extent to which the model has influenced the schools'/pupils' academic performance in Tanzania is not empirically known. The study on which this manuscript is based was focused on filling in the gap and make a scientific documentation on the actual contribution of the PPP model towards improving schools'/pupils' academic performance in Moshi District Council and Moshi Municipality. Specifically, this manuscript aimed to: (i) identify educational interventions played by private partners and (ii) examine the extent to which the PPP model has improved the schools'/pupils' academic performance in Moshi District Council and Moshi Municipality. Data was collected through a structured questionnaire, administration of individual pupil test, key informant interviews and observation. A total of sixteen primary schools were selected from two strata of 16 schools with PPP and 14 schools without PPP interventions. Difference-in-difference (DiD), t-test and an ordinal logistic regression

model were run to examine the influence of each PPP educational interventions on improving the schools'/pupils' academic performance in Moshi District Council and Moshi Municipality. It was found that the private educational partners had implemented three categories of interventions that had assisted to improve the schools' and pupils' academic performance. Also, results showed that school infrastructure was the category that used a larger amount of money (70.7%) than any other category of interventions implemented by private educational partners for the previous four years (2010 to 2015) in Moshi District Council and Moshi Municipality. The outputs of ordinal logistic regression model showed that renovations or construction of classrooms, teachers' offices, and modern kitchens as well as construction and connection of water systems/points as interventions of the PPP model had significant influence on chances of high schools' academic performance ($p < 0.05$). Furthermore, difference in difference (DiD) results showed that PPP schools had better academic performance (14.6) compared to schools without PPP (8.9) in the previous national exterminations. In view of these results, it is concluded that the PPP model is an effective development tool that assists to reduce educational challenges hence improve pupils' academic performance in a given school. Also, it is concluded that schools with PPP interventions stand a better chance of improving schools'/pupils' academic performance than schools without PPP interventions. In connection to these conclusions, it is recommended that authorities of Moshi District and Moshi Municipality should set strategies that will inspire more private development partners to continue supporting and investing in improving the quality of education in primary schools, and such kind of collaboration should not be understood as a humiliation to one of the partners.

Key words: Influence, Public Private Partnership Framework, quality, primary education, Kilimanjaro, Tanzania.

4.2 Introduction

For over eight decades, the Public and Private Partnership (PPP) model has been promoted as a key strategy for enforcing socio-economic development in many countries in the world. In particular, the PPP model has been used in the provision of public services such as health and education in most of the developing countries and underserved low income communities (Blacke, 2004).

Structural adjustment programmes that were imposed by international monetary institutions also enforced many of the developing countries to open doors to private partners. Private partners through the PPP model are for supporting and investing in the provision of social services for complementing government efforts towards development (Heather and Kathleen, 2007). All governments in the world are advised to highly invest in quality education through the use of the PPP model with the reasons that education is a basic human right, transformational tool for poverty alleviation, equality and peace. Also, quality education is an engine for sustainable development and a factor to unlock progress of Sustainable Development Goals (UNESCO, 2016).

The contributions of the PPP model to some of the developed and middle economy countries including India, Singapore, South Africa and Brazil are scientifically documented and mostly known to the general public (Ravallion, 2011). For example, the PPP model has proved to contribute substantially to the provision of quality services to many people of China, particularly in the health sector where ten health centres were built and operated through PPP in the rural villages of Fujian province. Between 1994 and 2000 more than 2500 pupils from poor families in Tai Po Rural District of Hong Kong accessed primary school through a voucher system which was organized through the PPP model.

PPP studies conducted in the education sector in various parts of the world have shown significant statistical contributions towards improving the quality of secondary education. A study done by Gunnigan and Rajput (2010) in the Uttar Pradesh state of India found that 102 000 Mathematics books that were provided to 102 public schools assisted to improve pupils' academic performance in science subjects. Also, a study by Patrons *et al.* (2009) on the benefits of the PPP model to Sub-Saharan African countries revealed that various numbers of socio-economic interventions are done but the actual contributions on pupils' academic performance were not scientifically documented nor known to the communities. Ravallion (2011) asserted that lack of scientific documentation may lead information and experience generated from any PPP intervention to fail to reach others. Scientific documentation of such PPP interventions is essential for providing the contemporary professionals and future generations with the opportunities to know, learn, and benefit from the past knowledge and experiences.

The extent of statistical contributions for the PPP model toward improving the desired policy outcomes (good academic performance in regard to this study) depends on the nature and number of educational interventions implemented by partners in a certain community/school. In Tanzania, many private educational partners, both local and international, collaborate and support the government by implementing various interventions. According to Itika *et al.* (2011), Tanzania has provided a more positive experience of a case where aid donors have particularly been supportive towards improving the quality of social services. Through the PPP model it was anticipated that schools'/pupils' academic performance would be of high grades. Also, pupils are supposed to reach the expected minimum literacy and numeracy competencies based on their studying class. A study by TEN (2011) and another one by Mpamila (2007)

remarked that many private partners have been implementing various interventions in Tanzania although the statistical contributions on improving pupils' academic performance were neither empirically known nor documented scientifically. Ravallion (2011) asserts that the dual roles that private partners play should be identified, and their actual contributions towards improving the quality of education should be documented and publicized to the respected beneficiaries and the general public.

Basic statistics of Tanzania report of 2014 indicates that various numbers of primary schools in Kilimanjaro Region were performing better (above 125 average marks) in national examinations. And most of pupils in the region were completing standard seven with expected minimum literacy and numeracy competencies (URT, 2014b). Since there was little supportive evidence to suggest that the PPP model has statistically contributed to improving schools'/pupils' academic performance in Kilimanjaro Region Tanzania, there was a need to conduct this study to fill in the gap and document the empirical findings. Specifically, the objectives of this manuscript were to: (i) identify educational interventions implemented by private educational partners through the PPP model towards improving school/pupils' academic performance and (ii) examine the extent to which the PPP model has improved schools'/pupils' academic performance in Kilimanjaro Region.

4.2.1 Study question and hypothesis

This manuscript answers one main research question, "What were the roles/interventions mostly implemented by private partners towards improving the pupils'/schools' academic performance in Kilimanjaro Region?" Moreover, two hypotheses that here are; there is no statistical significant difference of pupils'/ schools' academic performance in schools with and those without PPP interventions in Kilimanjaro Region. And interventions played by

private educational partners do not have statistical significant influence with pupils' /schools' academic performance in Kilimanjaro Region was tested.

In this manuscript the PPP model was referred to as a developmental approach whereby public entities collaborate with private development partner (s) towards achieving a certain desired policy outcome, good academic performance in regard to this study. Private development partner was referred to as organisations (for-profit and not-for-profit), philanthropic groups and individuals that are collaborating and supporting a primary school in the process of improving the quality of education. Pupils'/schools' academic performance was considered as the end result of the whole processes of improving the quality of primary education in this manuscript. Schools' and pupils' academic performance was directly considered to be influenced by the roles/interventions implemented by both partners that are in partnership.

4.2.2 Theory underlying the study

This study was guided by the stakeholder theory as advocated by Stephen Ross and Barry Mitnick (Farah and Rivzi, 2007). Stakeholder theory is based on the assumption that the collaboration and relationship synergies that exist among different partners (the government and private partners) are basically established with the aim of improving the provision of quality of socio-economic services to its people. The relationships occur when these partners invite each other to work in a collaborative manner by sharing their expertise, resources and experiences based on the outlined appropriate collaboration arrangement (Akintoye and Hardcastle, 2003). Various number of private development partners identified in Table 3.3 of this thesis do support the government of Tanzania by playing different roles and interventions that lead to improve school/pupils academic

performance in Tanzania. It is believed that incorporating different stakeholders in the process of improving the quality of education is more likely expected to respond to broader and more educational challenges than to narrow this responsibility to a single partner (TEN, 2011). The stakeholder theory fitted well in this study as it assisted the researcher to identify categories of educational interventions that are played by private education partners towards improving the schools'/pupils' academic performance in Kilimanjaro Region. What resources do private partners assist the government towards improving the schools'/pupils' academic performance was assessed as a key variable. Then later the actual contributions of each intervention implemented by private educational partner(s) towards improving school/pupils academic performance were determined.

4.3 Methodology

This manuscript is based on a research which was conducted in Moshi District Council and Moshi Municipality in Kilimanjaro Region, Tanzania. The districts were selected purposively due to the facts that they had many private educational partners which they had been collaborating with since the 1960s (URT, 2014a). So, the study was meant to analyse the influence of the interventions and or types of support provided by private partners on improving the quality of primary education in Moshi District Council and Moshi Municipality through the PPP model.

Eight primary schools were chosen from a group of sixteen PPP primary schools (with PPP schools) and another eight primary schools were also chosen from a group of fourteen public primary schools that had no support from any private partner (without PPP schools). A total of sixteen primary schools were chosen and two teachers and four pupils studying in standard seven were randomly selected from each of the chosen schools. Data

based on the roles of private educational partners were collected through a structured questionnaire and observation through the use of a checklist of items. Key informant interviews using an interview guide were also used to collect qualitative information. Secondary data about school academic performance for the year 2010 and 2014 (with and without PPP schools) were collected from the studied schools and from offices of the District and Municipal Education Officers. Three standard tests were prepared and administered to standard seven pupils that aimed to measure their literacy competencies in regard to recognizing a letter, reading, writing a word, reading a paragraph, read and comprehend a short story in English and Kiswahili subjects. Numeracy competencies were tested in particular to recognizing numbers, count as well as in performing basic calculations. The literacy and numeracy tests competencies were derived based on national curriculum of standard seven set by the Ministry of Education, Science, Technology and Vocational Training.

The collected quantitative data was analysed using IBM Statistical Package for Social Sciences (SPSS) and Ms Excel software whereby descriptive statistics were computed. Moreover, inferential analysis was done whereby difference-in-difference (DiD) and an ordinal logistic regression model was run to examine the influence of each PPP interventions on improving pupils'/schools' academic performance. DiD technique was used to test the first hypothesis whereby the difference in-different (counterfactual) of school academic performance between with and without PPP schools was calculated. The DiD method has advantages of controlling unobserved characteristics of the individual and time invariant. It also has the ability to show *what would have happened* if a participant had not participated in a programme (White, 2008). Hence the comparison of what happened to the outcome *with* and an outcome *without* an intervention. If the two groups were identical, except only that one group participated in the programme and the other one did not, then DiD method guarantees that any observable difference in the

outcomes is associated with the programme that is PPP interventions (Paul *et al.*, 2011). Also, fixed effect model (fixed effect within method) was used to analyse the extent to which the PPP model influences on pupils' academic performance whereby the pupils' literacy and numeracy competencies were tested. This method leads to consistent estimation of the dependent variable as it systematically eliminates the individual specific effects which could be correlated with other factors (Ravallion, 2001). The average score of 50 marks was used to determine pupils' literacy and numeracy competencies in the examined subjects as required and expected in the national curricula.

Thereafter, the ordinal logistic regression model (Appendix 7) was used to test the second hypothesis. School academic performance for the year 2015 was considered as an outcome (Y) in the ordinal logistic regression model used. Three categories of school academic performance were determined: 2 = best performance (80 – 100%), 1 = average performance (41 – 79%) and 0 = poor performance (0 – 40%) whereby best academic performance was the rank level of reference in this study.

4.4 Results and Discussions

This section and its subsections present and discuss the findings of the manuscript number three with two specific objectives studied. Largely the discussion of this section focuses on the various educational interventions implemented by private partners and the extent to which the PPP model has improved schools'/pupils' academic performance in Moshi District Council and Moshi Municipality.

4.4.1 Education level of teachers

The study findings presented in Table 4.1 show that most of the studied schools were staffed with teachers with certificates in education (59.5%), the level that is recognized for teaching in primary schools in Tanzania. This implies that the government has ensured

that a basic factor for quality education provision is adhered to by all schools. Schools with PPP were found to have teachers of more education levels (diploma and degree in education) than teachers in schools without PPP. URT (2014b) reports that a well-qualified teacher is an important factor for effective delivery of lessons due to mastering subject matters and understanding of pedagogic content knowledge, a condition which influences the process of providing quality education. Various private educational partners, particularly Childreach International and FT-Kilimanjaro, have implemented different interventions that have improved teaching skills of teachers (capacity building). These include financing teachers to attend various on job training seminars, payment of salaries to teachers teaching remedial classes in PPP schools and exchange programmes of teachers between PPP school and a school from outside the country. This study reveals that teachers in PPP schools have a better chance to improve their teaching skills and carrier compared to teachers in schools without PPP.

Table 4.1: Education level of teachers in schools With PPP and schools Without PPP Interventions (n = 32)

Levels of education	With PPP		Without PPP		Total	%
	Male	Female	Male	Female		
Primary education plus modules	0	0	1	0	1	3
Certificate in education (Form four only)	2	4	6	3	15	47
Certificate in education plus form six	2	1	0	1	4	12.5
Diploma in education	2	3	1	1	7	21.5
Degree in education	1	1	2	1	5	16
Total	7	9	10	6	32	100

4.4.2 Total number of teachers and pupils in the schools studied

The findings in Table 4.2 show that schools with PPP had more pupils (6269) compared to schools without PPP where the total number of pupils was 3220. The findings indicate that schools without PPP had low pupil teacher ratios (PTR) of 1:28 compared to schools

with PPP with a PTR of 1:42. Also, Table 4.2 indicates that there was a variation of PTR; some schools had high PTR while others had low PTR. Many schools with PPP were found to have higher PTRs than the set standard of 1:45. This indicates that schools with PPP had conducive teaching-learning environment hence many parents are attracted to enrol their children a situation which causes the schools to have many pupils compared to the number of teachers available. Commenting on this during participants in a focus group discussion at Shirimatunda PPP school agreed as follows:

High school PTR is thought to be caused by high enrolment rate in the schools due to school environment being good, a situation which is influenced by the interventions done by private educational partners (May, 2016).

In regard to this, a key informant at Benjamin Mkapa Primary School said:

Some of the parents are lobbying the school authority strategically for their children to be enrolled or transferred to this school (with PPP) due to the fact that the school has conducive environment for teaching and learning for both teachers and pupils (March, 2016).

Table 4.2: Pupils teacher ratio (PTR) to schools with and schools without PPP interventions

With PPP Schools				Without PPP Schools			
Name of school	Pupils	Teachers	PTR	Name of school	Pupils	Teachers	PTR
Mandela	1065	23	1:46	Kiborloni	734	22	1:33
Kaloleni	1069	20	1:54	Mnazi	757	21	1:36
Jitegemee	996	20	1:50	Msandaka	388	14	1:28
J.K.Nyerere	426	19	1:23	Dr.Omary Juma	195	12	1:16
Kilimanjaro	709	19	1:37	Kisaseni	153	6	1:26
Shirimatunda	718	27	1:27	Himo-Pofo	365	15	1:24
Benjamin Mkapa	1025	16	1:64	Rongoma	363	18	1:20
Ronga	261	4	1:65	Kidia	265	6	1:44
Total	6 269	148	1:42		3 220	114	1:28

4.5 Educational Interventions Implemented by Private Partners to PPP Schools

It was found that private educational partners that were collaborating with the public primary schools had implemented a number of interventions that focused on improving pupils' academic performance in Moshi District Council and Moshi Municipality in various ways. The findings as presented in Table 4.3 show three categories of interventions that were implemented by private educational partners in the studied schools. The identified categories are; renovation and construction of school infrastructure, provision of teaching-learning materials, and financing/provision of other quality education support services. Each of the identified categories comprised various types of interventions/roles as described and discussed in detail in the following sub topics.

4.5.1 Renovation and construction of school infrastructure

The results in Table 4.3 show that school infrastructure was the second role (40.6%) that was mostly implemented by private educational partners in public primary schools. Also, the results show that school infrastructure was the first category to use large amount of money (70.7%) compared with any other category of academic performance interventions implemented by private educational partners for the previous four years (2010 to 2015) in Moshi District Council and Moshi Municipality. The implemented interventions that focused on improving and increasing school infrastructure included renovation and construction of classrooms, toilet holes, roofed corridors, teachers' houses, libraries, modern kitchens, dining halls, teachers' offices and provision of desks, chairs and tables. Other school infrastructures implemented in this category were installation of water system, construction of school fence and building playing pitches for pupils and teachers.

Adequate number of classrooms had a very significant positive effect on students' attendance rates while the overcrowded classrooms are associated with decreased levels of

pupils' engagement and, therefore, decreased levels of learning (Buckley *et al.*, 2004). The study findings reveal that availability of adequate number of classrooms reduces pupils' overcrowdings hence give teachers flexible instructional space for effective teaching and pupils with complex or special educational needs are easily served. Furthermore, evidence in Bangladesh, Ecuador, India, Indonesia, Peru, and Uganda indicates that teachers in schools with enough teachers' houses have, on average, 10% less absenteeism than teachers in schools with deficient houses (Branham, 2004).

During focus group discussions most of the parents and school committee members said that:

The intervened school infrastructures to our school have close and direct influence toward improving the quality of primary education; and that's why the government and private partners are spending a lot of money on them (February, 2016).

The results coincide with those of a study by Rose (2006) who asserted that availability of adequate numbers of school infrastructure is a key important condition to be met by academic institutions as these influence teachers and pupils to fully participate in the teaching-learning process. And thus, the study findings indicate that there is a direct relationship between school infrastructure and educational performance, and that investments in educational infrastructure contribute to improve the quality of education and the economic performance of countries.

4.5.2 Financing other support services to quality education

The results in Table 4.3 show that financing quality education support services was the first intervention (50%) that was mostly implemented by private educational partners to the public primary schools in Moshi District Council and Moshi Municipality. Also, Table

4.3 indicates that financing quality education support services was the second category to use huge amount of money (26.3%) compared to other categories of quality education improvement intervention done by private partners for the previous four years (2010 to 2015) in Moshi District Council and Moshi Municipality. Farah and Rivzi (2007) asserted that quality education improvement processes should ensure the availability of other support services other than school infrastructure and teaching-learning materials. Among the projects that were implemented to ensure that educational support services are available to PPP schools were installation of water systems (tap points, pump machine and water storage tanks), provision of school uniforms, shoes, bags, provision of food /cooking materials (maize, beans and sugar) as well as construction of play grounds and provision of playing tools such as balls. Other interventions that focused on this category were provision of free transport to teachers, payment of school fees to pupils from poor families, construction of school fences, financing seminars to members of the school committee and teachers teaching lower classes. The findings shows that, through the use of the PPP model, many schools were connected with water service (tap points, pump machine and water storage tanks). Also, provision of food/cooking materials to pupils was among the services that were mostly implemented to public primary schools in Kilimanjaro Region for the year 2010 to 2015.

During a focus group discussion at Ronga primary school most of parents concluded by saying that:

Provision and support of food program projects by private educational partners at our school has assisted to improve pupils' academic performance as previously pupils lacked concentration while learning in the classroom due to remaining starved for the whole day. Also, previously our pupils were wasting a lot of time just walking long distances for fetching water (March, 2016).

White (2009), in his study on the government expenditure to primary education in India, found that quality education support services are more costly financially that's why pupils

in public and community schools lack access to them hence need of assistance from private educational partners. The study findings found that financing for sufficient availability of water services at school assists to increase pupils' attendance hence improved pupils' academic performance. This urges decision-makers and key educational stakeholders to increase investment in availability of clean and safe water in primary schools as this will help keep the promise of meeting the sustainable development goals of access to quality primary education. Furthermore, the study revealed that availability of school feeding programmes enhances pupils' attendance and their participation in extra school curricular activities. Also, Ahmed (2004, p.23) suggests that financing for availability and accessibility of school food programmes plays a great role in improving pupils' behaviour, cognition, and academic performance. Wearing of school uniforms was considered being among the vehicles to improve pupils' behaviour, discipline, school attendance hence good academic achievement (Breitenbach, 2010). Based on school uniform during a focus group discussion with parents at Kaloleni Primary School it was reported that:

“Special school wears generate a tangible sense of identity and belonging among pupils, and subsequently helps to create a safe environment both in and out of the school” (November, 2015).

Commenting on the same, one of the school committee members at Ronga primary school also said that:

“School uniform acts as a socioeconomic leveller and ensures that every child is treated equally in the eyes of their peers, so I do insist that all parents should ensure that their pupils are provided with proper school uniform” (March, 2016)

Also, a study conducted in rural Southwest Georgia found higher rate of school absenteeism among pupils with no proper school uniforms compared to pupils with proper school uniforms (Russell, 2012).

4.5.3 Provision of teaching and learning materials

This manuscript revealed that government entities and private educational partners in Kilimanjaro Region collaborated with the aim to ensure that all pupils/schools had enough number of teaching and learning materials. But the results in Table 4.3 show that provision of teaching-learning materials was rarely done (9.4%) to PPP schools in Moshi District Council and Moshi Municipality. Also the results show that private educational partners spent little amount of money (3.0%) towards provision of teaching-learning materials compared to other categories of quality education improvement intervention done for the previous four years (2010 to 2015) in Moshi District Council and Moshi Municipality. The study findings illustrate that few numbers of subject text books, computers, desks, tables, chairs, exercise books, pens and pencils were supported and provided to studied PPP schools/pupils.

Chonjo (1994), in his study that assessed the quality of education in Tanzanian primary schools, concluded that the critical shortage of teaching-learning materials particularly textbooks and other teaching-learning materials has affected the quality of education a great deal. During data collection pupils' noises were heard from far distances. One would think that pupils were playing because of the noise they were making, as they scrambled for a textbook, the only one available for them for sharing. Governments in developing countries investment in textbooks is often little and unpredictable; thus serious shortage of textbooks affects academic performance of pupils (UNESCO, 2016).

The study findings revealed that lack of electricity and absence of safe and standard classrooms caused some schools not to be provided with computers as well as not being connected to internet services by private partners. These results correspond with a study

by Rose (2009) who found that lack of electricity in learning institutions hinders improving schools'/pupils' academic performance due to the fact that learners are not doing practical's based on modern tools recommended in their training curricula such as computers. The key informant interview at Himo-Pofo Primary School emphasised that:

Availability and accessibility of teaching and learning materials particularly subject text books and desks is still a big challenge in this school a situation which hinders the process of providing quality education in my school (March, 2016).

The study findings indicate that a considerable number of pupils in some of primary schools in Moshi District Council and Moshi Municipality were still studying in poor conditions from a ratio of one desk to seven pupils (1:7) making it harder for them to perform well academically. Imbalance number between pupils and subject textbooks caused some pupils not to concentrate on the taught subject topic (s). This bad education situation causes some pupils to complete standard seven with minimum literacy and numeracy competencies compared to the expected ones. Furthermore, the study results show that private educational partners have improved the learning environment by increasing the desk to pupil ratio to the recommended government target of 1:3 from the previous ratio of 1:10, although this exists in few primary schools as described in section 2.6.2 of this thesis.

The study findings indicate that inadequate number of teaching-learning materials particularly subject text books is among the factors that lead to poor quality of education.

Table 4.3: Mostly Implemented interventions by private educational partners to PPP schools (n=32)

Roles played	Teachers' Responses		Total amount used (Tshs)	Per cent
	n	%		
Renovation and construction of school infrastructures	13	40.6	717 016 760	70.7
Provision of teaching learning materials	3	9.4	28 642 865	3.0
Financing other quality educational support services	16	50	267 322 125	26.3
Total	32	100	1 012 981 750	100

4.6 The Extent to which PPP model has Improved Academic Performance

Literature on the contribution of the PPP model shows that the extents of PPP model contribution to improving the quality of public services such as education differ from one country to another, and sometimes the variation can be experienced within the same country (World Bank *et al.*, 2014). The study analyzed the actual contribution of PPP model to improving the quality of primary education in Moshi District Council and Moshi Municipality, and the results are discussed in the following sub-sections.

4.6.1 PPP model and school academic performance in the national examinations

The study examined the extent to which the interventions implemented by private educational partners have contributed to improving schools'/pupils' academic performance in Kilimanjaro Region. The results in Table 4.4 show that schools with PPP had better academic performance with a mean score of 14.6, compared to schools without PPP which scored a mean of 8.9 with a mean difference of 5.7 in standard seven national examinations. Since the DiD is positive hence PPP model/interventions has significantly contributed on improving pupils' academic performance in standard seven national examinations for previous four years. Furthermore, the results in Tables 4.4 show that there was statistical difference in school academic performance in standard seven national

examinations between with PPP and without PPP schools. In regard to these results, the second studied null hypothesis (There is no statistical significant difference of pupils' academic performance in schools with and those without PPP in Moshi District Council and Moshi Municipality) is rejected and the alternative is confirmed. Thus, the most plausible reason that caused this difference is that the PPP schools received various types of educational support that assisted to improve schools'/pupils' academic performance while the other group (without PPP schools) did not receive such interventions. This indicates inadequacy of the financial resource within the government hence a need to collaborate with private partners to overcome this educational challenge. Generally, these results fortify the usage of stakeholder theory in this study. A large scale study in Bangladesh on the literacy levels in recent years has shown that children in non-PPP schools had lower levels of literacy than children schooling in PPP schools (Willms, 2000). Lastly, the results in Table 4.4 show that the PPP model had statistically significantly contributed to improving of pupils'/ schools' academic performance in Moshi District Council and Moshi Municipality for the previous five years (2010 to 2015).

Table 4.4: Difference in Difference (DiD) for the schools' academic performance in std seven national exams between with and without PPP schools

School	Without PPP		Differences	Schools	With PPP		Differences	DiD
	Before	After			Before	After		
Kiborloni	79	85	6	Mandela	78	99	21	15
Mnazi	80	91	11	Kaloleni	78	92	14	3
Rongoma	78	91	13	Jitegemee	79	97	18	5
Msandaka	76	79	3	J.K.Nyerere	77	98	21	18
Kisaseni	77	86	9	Kilimanjaro	80	100	20	11
Kidia	70	75	5	Shirimatunda	78	84	6	1
Himo-Pofo	77	85	8	Ronga	76	79	3	(-5)
Dr.Omary	76	92	16	Benjamini	79	93	14	(-2)
Juma				Mkapa				
Total			71				117	46
Mean			8.9				14.6	5.7

4.6.2 PPP model and pupils' academic performance

The Public Private Partnership model was also adopted Kilimanjaro Region to contribute to the improvement of the quality of education so that children learn and develop greater competencies particularly in basic literacy and numeracy. Pupils' competency in literacy and numeracy was measured whereby three tests (English Kiswahili and Mathematics subjects) were prepared and administered to pupils studying standard seven. Fixed effect within method was used to determine the influence of the PPP model on pupils' academic performance, and the results are described in the following sub-sections.

4.6.2.1 PPP model and pupils' competency in Kiswahili language

The study findings in Table 4.5 show that all pupils studying in the surveyed schools with PPP and without PPP performed better in Kiswahili subject with an average score of above 60 marks. This indicates that all pupils in the studied schools (with and without PP) had attained the expected minimum literacy competencies in Kiswahili subject compared to their class level. Table 4.5 shows that there was a considerable competency difference in Kiswahili across pupils. Also, Table 4.5 shows that pupils studying in schools without PPP were the best performers and had more attained the expected minimum literacy competencies (0.2 average score) compared to pupils studying in schools with PPP (-0.3 average score) in Kiswahili subject. Furthermore, the results in Table 4.5 show a slight difference score in this subject as the mean score between two schools categories (with and without PP) was not statistically significant. Kiswahili language being the mother language medium of instruction and communication in the studied schools influenced positively the overall results.

Table 4.5: Pupils' Literacy Competency in Kiswahili

With PPP Pupils, n=32			Without PPP Pupils, n=32		
Actual scores (X ₁)	$X - \bar{x} = X_2$	X ₂ =Fixed score	Actual scores (X ₁)	$X - \bar{x} = X_2$	X ₂ =Fixed score
80.0	80.0-87	-7	87.5	87.5-88	-0.5
95.0	95.0-87	8	80.0	80.0-88	-8
100.0	100.0- 87	13	70.0	70.0-88	-18
70.0	70.0- 87	-17	70.0	70.0-88	-18
97.5	97.5-87	10.5	99.0	99.0-88	11
90.0	90.0-87	3	97.5	97.5-88	9.5
37.5	37.5-87	-49.5	92.5	92.5-88	4.5
99.0	99.0-87	12	97.5	97.5-88	9.5
90.0	90.0-87	3	95.0	95.0-88	7
90.0	90.0-87	3	85.0	85.0-88	-3
70.0	70.0-87	-17	77.5	77.5-88	-10.5
70.0	70.0-87	-17	90.0	90.0-88	2
87.5	87.5-87	0.5	92.5	92.5-88	4.5
92.5	92.5-87	5.5	87.5	87.5-88	-0.5
92.5	92.5-87	5.5	92.5	92.5-88	4.5
99.0	99.0-87	12	99.0	99.0-88	11
100.0	100.0-87	13	82.5	82.5-88	-5.5
95.0	95.0-87	8	82.5	82.5-88	-5.5
95.0	95.0-87	8	85.0	85.0-88	-3
85.0	85.0-87	-2	95.0	95.0-88	7
85.0	85.0-87	-2	95.0	95.0-88	7
87.5	87.5-87	0.5	85.0	85.0-88	-3
92.5	92.5-87	5.5	90.0	90.0-88	2
75.0	75.0-87	-12	90.0	90.0-88	2
87.5	87.5-87	0.5	95.0	95.0-88	7
98.5	98.5-87	11.5	95.0	95.0-88	7
99.0	99.0-87	12	90.0	90.0-88	2
77.5	77.5-87	-9.5	85.0	85.0-88	-3
92.5	92.5-87	5.5	85.0	85.0-88	-3
90.0	90.0-87	3	80.0	80.0-88	-8
80.0	80.0-87	-7	85.0	85.0-88	-3
75.0	75.0-87	-12	90.0	90.0-88	2
Total	2 775	-8.5	2 823		7
Average	86.7	-0.3	88.2		0.2
DiD					-0.3 – 0.2 = 0.1

4.6.2.2 PPP model and pupils' competency in English language

The study results in Table 4.6 show that schools with PPP performed better (2.2 average score) and their pupils had attained the minimum competency skills in English subject more than pupils studying in schools without PPP with an average score of 0.3. This indicates that the PPP model influenced pupils' performance in English language. Also, Table 4.7 shows that most of pupils in schools without PPP performed poorly and had attained low literacy competency skills (below 50 score) in English subject compared to the expected minimum competency in regard to their age and class level. Furthermore, Table 4.6 shows that the difference in performance between two school categories (with and without PP) was statistically significant. Provision of teaching-learning materials particularly English textbooks to PPP schools/pupils assisted to improve pupils' literacy competency in English language. The key informant at Kaloleni Primary School said that:

Exchange programme between teachers and pupils of the friend school from foreign countries has assisted them improve teachers' teaching skills and pupils' academic performance in English language as a subject (April, 2016).

Also, the key informant from Boma-Mbuzi ward education office reported that:

Financing seminars and training workshops to teachers teaching English subject in PPP schools has enabled them to improve their teaching skills in English language hence improved pupils' academic performance in the same subject (May, 2016).

Table 4.6: Pupils' literacy competency in English

With PPP Pupils, n=32			Without PPP Pupils, n=32		
Actual scores (X ₁)	$X - \bar{x} = X_2$	X ₂ =Fixed score	Actual scores (X ₁)	$X - \bar{x} = X_2$	X ₂ =Fixed score
65.00	65.00-57	10	15.00	15.00-48	-33
90.00	90.00-57	35	17.50	17.50-48	-30.5
95.50	95.50-57	40.5	15.00	15.00-48	-33
37.50	37.50-57	-17.5	10.00	10.00-48	-38
45.00	45.00-57	-10	62.50	62.50-48	14.5
60.00	60.00-57	5	40.00	40.00-48	-8
61.00	61.00-57	6	42.50	42.50-48	-5.5
67.50	67.50-57	12.5	67.50	67.50-48	19.5
40.00	40.00-57	-15	65.00	65.00-48	17
40.00	40.00-57	-15	42.50	42.50-48	-5.5
17.50	17.50-57	-37.5	10.00	10.00-48	-38
45.00	45.00-57	-10	25.00	25.00-48	-23
30.00	30.00-57	-25	87.50	87.50-48	39.5
70.00	70.00-57	15	40.00	40.00-48	-8
92.50	92.50-57	37.5	55.00	55.00-48	7
95.00	95.00-57	40	62.50	62.50-48	14.5
87.50	87.50-57	32.5	22.50	22.50-48	-25.5
25.00	25.00-57	-30	65.00	65.00-48	17
90.00	90.00-57	35	80.00	80.00-48	32
62.50	62.50-57	7.5	70.00	70.00-48	22
32.50	32.50-57	-22.5	30.00	30.00-48	-18
20.00	20.00-57	-35	35.00	35.00-48	-13
95.00	95.00-57	40	65.00	65.00-48	17
22.50	22.50-57	-32.5	25.00	25.00-48	-23
65.00	65.00-57	10	45.00	45.00-48	-3
72.50	72.50-57	17.5	97.50	97.50-48	49.5
70.00	70.00-57	15	85.00	85.00-48	37
27.50	27.50-57	-27.5	77.50	77.50-48	29.5
92.50	92.50-57	37.5	37.50	37.50-48	-10.5
50.00	50.00-57	-5	22.50	22.50-48	-25.5
55.00	55.00-57	0	35.00	35.00-48	-13
12.50	12.50-57	-42.5	95.00	95.00-48	47
Total	1 831	72	1 530		9
Average	57	2.2	48		0.3
DiD			2.2 - 0.3 = 1.9		

4.6.2.3 PPP model and pupils' competency in Mathematics

In measuring pupils' competency in mathematics, pupils were tested to recognize numbers and count, as well as to perform basic calculations. The study results in Table 4.7 show that schools and pupils with PPP interventions had attained slight numeracy competencies (0.2 average score) in Mathematics subject more than pupils studying in schools without PPP with an average score of -0.4. The results show that pupils in schools with PPP were learning and attaining some basic numeracy skills more than pupils studying in schools without PPP, albeit not at the expected level as set by the curriculum. The result indicates that few pupils attained the expected minimum competencies in Mathematics subject, and most of them scored below 50 marks compared to their class level. This specifies that the PPP model has not significantly influenced pupils' performance in Mathematics subject. This puzzled result was found to be caused by little investment in the provision of teaching-learning materials compared to other categories of quality education improvement done by private educational partners in Moshi District Council and Moshi Municipality as described in subsection 5.5.3.

Table 4.7: Pupils numeracy competency in mathematics

With PPP Pupils, n=32			Without PPP Pupils, n=32		
Actual scores (X ₁)	$\bar{X} - \bar{x} = X_2$	X ₂ =Fixed score	Actual scores (X ₁)	$\bar{X} - \bar{x} = X_2$	X ₂ =Fixed score
80	80 -35	45	20	20-25	-5
10	10 -35	-25	20	20-25	-5
15	15 -35	-20	40	40-25	15
0	0 -35	-35	40	40-25	15
20	20 -35	-15	20	20-25	-5
0	0 -35	-35	40	40-25	15
40	40 -35	5	0	0-25	-25
20	20-35	-15	20	20-25	-5
60	60-35	25	28	28-25	3
60	60-35	25	40	40-25	15
60	60-35	25	0	0-25	-25
55	55-35	20	20	20-25	-5
40	40-35	5	20	20-25	-5
40	40-35	5	20	20-25	-5
20	20-35	-15	40	40-25	15
40	40-35	5	25	25-25	0
60	60-35	25	50	50-25	25
0	0-35	-35	20	20-25	-5
60	60-35	25	20	20-25	-5
60	60-35	25	20	20-25	-5
20	20-35	-15	20	20-25	-5
20	20-35	-15	20	20-25	-5
20	20-35	-15	20	20-25	-5
45	45-35	10	50	50-25	25
20	20-35	-15	60	60-25	35
20	20-35	-15	20	20-25	-5
20	20-35	-15	0	0-25	-25
40	40-35	5	20	20-25	-5
50	50-35	15	40	40-25	15
20	20-35	-15	0	0-25	-25
70	70-35	35	15	15-25	-10
40	40-35	5	20	20-25	-5
Total	1 125	5	788		-12
Average	35	0.2	25		-0.4
DiD				0.2 - (-0.4) = 0.6	

4.6.3 Actual contribution of PPP interventions/roles on academic performance

After assessing the contributions of the PPP model to pupils' literacy and numeracy competencies, the study used an ordinal logistic regression model to examine the extent to which each PPP intervention contributed to improving pupils'/schools' academic performance in terms of best performance, average performance and poor performance as categorised in section 4.3. The model was run based on schools' academic performance for the previous five years, 2010-2015. Literature on the PPP model and education argues that the PPP model does offer a considerable contribution towards improving the quality of education provided that the PPP framework is well designed to provide conducive environment for both partners to interplay their roles. The researcher conceptualizes and hypothesizes that PPP intervention as independent variables do influence schools'/pupils' academic performance. The outputs of β coefficient of the run ordinal logistic regression model show that all variables entered in the model had positive relationship with pupils' academic performance (Table 4.8). This indicates that any unit increase in the independent variable entered in the model will result to positive increase on pupils'/schools' academic performance. Also Table 4.8 show that renovations or construction of classrooms, teachers' offices, and modern kitchens as well as construction and connection of water systems/points to the school variables had statistical significant influence on chances of improving pupils'/ schools' academic performance at best level ($p < 0.05$). These findings do support results of a study by Patrinos (2009) who found significant influence of the number of classrooms and availability of water sources within school compounds on improving students' academic performance. The remaining variables entered in the model had positive influence of improving pupils'/schools' academic performance, although they were not statistically significant at 0.05. The extent to which each PPP intervention that were entered in the model, contributed to improving the academic performance of the studied primary schools is described in the following paragraphs.

Table 4.8: Summarized outputs of ordinal logistic regression model

Variables	B	S.E.	Wald	P-value	Exp (B)	95% C.I. for EXP(B)	
						Lower	Upper
Classrooms renovated or constructed by PPP	2.430	1.785	2.124	0.032*	3.789	0.235	6.045
Desks provided by PPP	0.020	0.0212	1.013	0.712	1.123	0.679	1.032
Toilet holes renovated or constructed by PPP	0.403	0.356	1.354	0.156	1.212	0.563	3.245
Teachers' houses renovated or constructed by PPP	0.645	1.375	1.342	0.314	4.235	0.218	2.765
Teachers' offices renovated or constructed by PPP	0.218	2.678	2.213	0.035*	3.567	0.672	1.103
Whether PPP provided food	0.0268	1.182	1.367	0.378	4.782	0.569	0.567
Whether PPP constructed modern kitchen	0.719	1.387	1.173	0.023*	1.756	0.0542	0.231
Whether PPP constructed/connected water system/points	0.691	0.648	3.021	0.034*	4.174	0.0536	0.875
Books provided	0.004	0.003	1.023	0.062	1.123	0.752	0.739
Whether PPP provided exercise books, pens and pencils	0.876	0.478	6.134	0.312	0.003	0.0489	0.253
Whether PPP financed seminars to school committee members and teachers	0.284	1.105	5.084	0.673	0.001	0.0203	4.184
Constant	16.025	11.286	1.672	0.0754	0.035		

*Statistically significant at the 5% level

Renovation or construction of classrooms, as shown in Table 4.8, had positive influence on chances of improving pupils academic performance in the national examination ($\beta = 2.430$) and $p = 0.032$. The Wald statistic value implies that if other factors in the model remain constant, an increase in number of classrooms by a unit will increase the likelihood of improving the school/pupils academic performance (best performer) by 2.124 chances. The exponential β coefficient (odds ratios) shows that renovations or construction of classrooms was 3.789 times more likely to affect the school from

improving the quality of education. This finding is supported by an observation reported in a study by Ravallion (2001) that revealed the need for renovating and constructing more classrooms in rural primary schools of Southern Uganda so as to provide conducive school environment for teaching and learning between pupils and teachers. The study findings of manuscript number one of this thesis showed a maximum of 93 pupils' classroom ratio (PCR) in the surveyed primary schools. For all the surveyed schools to have sufficiency PCR, they were supposed to have 1 511 classrooms, but there were only 1 016 classrooms with a deficit of 495 classrooms. In regard to these findings, more interventions focusing on constructing classrooms in the studied areas are needed in order to cope with the larger number of pupils enrolled in the primary schools. If the government and private partners respond positively to this role, pupils' academic performance in Moshi District Council and Moshi Municipality will significantly improve.

Construction of modern kitchens was also found to have significant influence on improving the schools'/pupils' academic performance in Moshi District Council and Moshi Municipality. The results in Table 4.8 show that modern kitchens had a positive relationship and significant influence on the improvement of the pupils'/schools' academic performance ($\beta = 0.719$) and $p = 0.023$. The Wald statistic value implies that, if other factors in the model remain constant, having a modern kitchen will increase 1.173 chances of school improving school academic performance (best performer). So, more time will be available for study, time provision of food and saving funds for other utilities. The exponential β coefficient (odds ratios) shows that renovation or construction of modern kitchens was 1.756 times more likely to affect the school from improving pupils' academic performance. These findings are not surprising; they are in line with findings of

a study by Jyoti *et al.* (2005) who found that modern kitchens that utilize and use small energy do influence and contribute to the process of improving pupils academic performance at school. The findings of manuscript number one showed that most of the public schools in Kilimanjaro Region were found to use more of the traditional kitchens that needed a lot of energy and were of more time consuming. In regard to this, finding more interventions focusing on the construction of modern kitchens that use less energy are highly needed to ensure qualities of good education are adhered to in the studied public primary schools.

Construction and connection of water systems/points to the school was also found to have a positive relationship and a significant influence on the improvement of school academic performance ($\beta = 0.691$) and $p = 0.034$. The Wald statistic value of this variable implies that, if other factors in the model remain constant, having constructed and connected water storage/points to the school increases the likelihood of improving the pupils' academic performance (best performers) by 3.021 chances. The exponential β coefficient (odds ratios) shows that construction and connection of water system/points was 4.174 times more likely to affect the school from improving pupils' academic performance. This finding is supported by an observation reported in a study by Lwaitama and Mpamila (2008) that revealed the need of connecting schools with water services as well as providing water storage facilities. This intervention had reduced pupils' chores of fetching water from far distances hence concentrate and use more time for learning while at school. Also, results for objective number one showed that pupils in the studied public schools were wasting a lot of time for fetching water from far distances of about 750 metres. Intervention based on construction of water systems and connecting schools with water services around need to be capitalized so as to reduce wastage of time used on fetching

water hence more time will be used on teaching and learning by teachers and pupils respectively.

The results on the fitness of the analysed logistic regression model show that the omnibus (goodness of fit) coefficient test value was less than 0.05 (0.022) indicating that the model was highly significant and the overall model well predicted the outcome. Since the Hosmer and Lemeshow test showed insignificant value that was above 0.05 (0.890) this indicated that the model was also worthwhile and the model well predicted the outcome. Also, the results of Cox and Snell's R Square as well as the Nagelkerke's R square was between 0.538 and 0.725 this indicated that the independent variables entered in the model were able to predict the variance of the dependent variable by 53.8% and 72.5 % (Appendix 8). In regard to these results, the studied null hypothesis educational interventions implemented (types of support provided) by private educational partners do not have statistical significant influence on improving the pupils'/ schools' academic performance at best level in Moshi District Council and Moshi Municipality) is rejected and the alternative is confirmed.

4.7 Conclusions and Recommendations

Private educational partners that were collaborating with primary schools in Moshi District Council and Moshi Municipality had implemented a number of educational interventions that have helped to reduce educational challenges facing primary schools. These included renovation and construction of school infrastructure, provision of teaching and learning materials and financing other quality education support services. In view of these results, it is concluded that the PPP model is an effective development tool that does assist the government on improving pupils' academic performance in a given school. In

connection to this conclusion, it is recommended that authorities of Moshi District Council and Moshi Municipality should set strategies that will inspire more private development partners to continue supporting and investing on improving schools'/pupils' academic performance in Kilimanjaro Region. PPP educational interventions were found to have a significant contribution on improving the school/pupils academic performance whereby schools with PPP interventions were found to have better academic performance compared to schools without PPP. Based on this result, it is concluded that PPP schools stand a better chance to improve schools'/pupils' academic performance than schools without PPP. In regard to this conclusion, it is recommended that educational authorities in Moshi District Council and Moshi Municipality should form plans for continuous collaboration in the education sector with private partners particularly to primary schools facing educational challenges in the region. In regard to these recommendations it should be noted that collaboration through PPP model should not be understood as a humiliation to one of the collaborating partner rather than efforts towards facing educational challenges impeding provision of quality education to all children.

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CHAPTER FIVE

5.0 CONSTRAINTS OF PUBLIC PRIVATE PARTNERSHIP FRAMEWORK ON IMPROVING THE QUALITY OF EDUCATION: A CASE OF SELECTED PRIMARY SCHOOLS IN KILIMANJARO REGION, TANZANIA

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5.1 Abstract

Despite the long-time of implementing the PPP model for improving the quality of primary education in Tanzania, specific constraints emanating from its implementation were not empirically known. It was thus essential to identify constraints of the PPP framework from its implementation in the education sector. Specifically, the manuscript aimed to (i) identify weaknesses of the public private partnership framework and (ii) identify challenges that emanate from implementing the public private partnership framework in the education sector. Mixed methods approaches were used whereby qualitative data was collected through structured interviews, focus group discussions, key informant interviews and observation methods. Teachers from PPP schools were the unit of observation and a sample size of thirty two (32) teachers was randomly selected from sixteen PPP schools. Content analysis was used to analyse the qualitative information collected. Many weaknesses that hinder PPP framework from exercising its roles effectively in Moshi District Council and Moshi Municipality were identified. These

included late establishment of specific institutional bodies for enforcing implementation of the PPP model and lack of awareness among government officials on the potential of the PPP model. Also, challenges that emanated from implementing the PPP framework in the education sector were identified and lengthy delay in negotiations for PPP projects between public and private partners were the most pressing challenges that were identified. Based on these results, it is concluded that the PPP model is operating in very challenging environments in Moshi District Council and Moshi Municipality. It is recommended that school leaders and education administrators of Moshi District Council and Moshi Municipality, in collaboration with private partners working in their areas, should form a joint platform for rectifying the identified limitations. Furthermore, it is recommend that PPP stakeholders should recognize the identified challenges and adapt the proposed strategies for efficient implementation of the PPP framework hence contribute significantly to improving the quality of primary education in Moshi District Council and Moshi Municipality.

Key words: Constraints, Public Private Partnership Framework, Quality education, Kilimanjaro Region

5.2 Introduction

Most of the developed countries have involved the Public Private Partnership model in the delivery of public assets and services particularly in health, education, water, housing and transport sectors. It has become increasingly difficult to find a region of the world in which the Public Private Partnership (PPP) model is not used. The use of private partners to meet public needs dates back from the 15th century in most of the developed countries. And from the mid-19th century, there has been an increased use of the PPP model in the

provision of public assets and services in many of the developing countries (Farah and Rivzi, 2007). Conscious policy design, risk sharing and inefficiency of the public sector to provide quality services to all people influenced countries to adopt the PPP model as the preferred approach for delivering public assets and services throughout the world. Efficient use of the PPP model towards achieving desired public goods and services need conducive environment with tolerable weaknesses and challenges of the PPP framework (Gunnigan and Rajput, 2010).

Literature shows that few PPP studies done in Africa have much confined themselves to the overall contribution of the PPP model. Realities on the ground indicate that there are a number of constraints which arise and hinder public and private partners from exercising their agreed roles effectively. A study by Heather and Kathleen (2007) revealed that irrespective of significant contribution of the PPP model in the provision of quality services in most African countries, particularly in the education sector, the framework was faced with a number of weaknesses. Also, a study by Patrons (2006) on the roles of PPP in higher learning institutions revealed that the PPP framework in Southern District of Colombia faces stiff legal challenges, a situation which has resulted in incomplete and cancellation of most of the higher educational PPP projects, hence poor quality of education.

The Government of Tanzania also adapted the use of the PPP model for services delivery in education from the late 1970s. And in the mid-1990s there was an increase in participation of the private partners in the process of improving provision of quality education services. Regardless of practising the PPP model in the education sector for about five decades, the constraints hindering its efficient implementation were not

identified and scientifically documented in Tanzania. This has slowed down the implementation and even diminished the attainment of the desired goals of public entities to collaborate with private partners in the primary education sub-sector. Constraints to PPP implementation have also made the framework not substantially contribute to the improvement of the quality of primary education in Tanzania compared to most countries other which have adopted it. In Tanzania it was anticipated that through the PPP model, provision of quality education would be assured to most of our PPP schools (sufficient number of school infrastructures, T/L materials and good pupils' academic performance) in view of the standards set by the Ministry of Education, Science and Technology. But the practice evidence on the ground indicates inadequacy of T/L materials and poor school infrastructure to most of primary schools in Tanzania (URT-BEST, 2013). A number of weaknesses and challenges of the PPP framework were thought of by the researcher to be among the probable causes for this situation.

Empirical review has shown that there is little scientific information based on the weaknesses of the PPP framework. Also, challenges that originate from implementing PPP projects in the education sector in Africa are not scientifically researched and documented. Few studies which have been done on PPP and the education sector have much been confined to its contribution to improving the quality of education (Heather and Kathleen, 2007). In regard to this, it is important for the government's entities and private development partners to identify and recognize the likely constraints of PPP framework in the education sector. Understanding of these constraints will assist PPP practitioners to establish coping strategies hence allow such developmental approach (PPP model) to be implemented successfully in Tanzania. The theoretical review on this outlook asserts that identification and recognition of PPP framework obstacles enables the educational

partners to cope with them by undertaking the identified mitigation measures (Mahalingam, 2010). Therefore, this manuscript focused on assessing constraints of the PPP framework from its implementation in delivering quality primary education in Kilimanjaro Region. Specifically, the manuscript aimed to (i) identify weaknesses of the public private partnership framework towards improving the quality of primary education and (ii) identify challenges that emanate from implementing the public private partnership framework in the education sector.

5.3 Theory Underlying the Study

The constraints theory that was developed by Goldratt in the early 1980s was used to underpin this study. Since the mid of the 1980s, the theoretical body of knowledge based on constraints theory has grown significantly and has been successfully applied in different fields ranging from education, manufacturing, finance to health and construction, industry particularly in project management aspects (Mahalingam, 2000). Goldratt through his theory advocates identification of constraints as the hindering factors towards achieving a desired policy outcome and the identified setbacks should be taken as an opportunity for improving the situation (Goldratt, 1990). The theory fits well and was adopted in this study as it enabled the researcher to identify weaknesses and challenges that emanate and hinder efficient and successful implementation of the PPP framework towards the process of improving the quality of education. Based on the identified constraints, the theory enabled the respondents to identify and describe strategies which may lead to successful implementation of the PPP framework towards improving the quality of primary education in Kilimanjaro Region.

The findings of this study may benefit PPP practitioners to further enhance effective implementation of the PPP model in the education sector by recognizing, minimizing or/

and eliminating PPP framework implementation constraints hence improve the quality of primary education in Kilimanjaro Region.

5.4 Methodology

The study was conducted in Moshi District Council and Moshi Municipality in Kilimanjaro Region, Tanzania. Public primary schools that are supported by private educational partners (with PPP schools) were considered as a case study in this research. Sixteen out of the fifty seven public primary schools that are supported by private educational partners (schools with PPP) were randomly chosen from two local government authorities, and from each district eight primary schools were randomly selected. From each selected school, two teachers that were aware of PPP interventions at the schools were randomly selected, making a total of 32 teachers from all the schools that were sampled. Seven parents and three school committee members from each of the schools were selected and involved in focus group discussions (FGDs) at every surveyed school. Key informants were also involved in this study including Ward Education Coordinators, District and Municipal Education Officers, and Managing Director and spokespersons of the surveyed private educational partners. Other key informants interviewed were one official from the Prime Minister's Office (PPP Unit), one official from Tanzania Investment Centre (Northern zone) and one official from Tanzania Private Sector Foundation.

Primary data based on weaknesses of the PPP framework and challenges hindering successful implementation of the PPP model in education sector were collected through structured interviews using questionnaire. Other methods used to collect data included focus group discussions using an FGD guide and key informant interviews using an interview guide. Qualitative information from FGDs and key informant interviews were

analysed using content analysis (Elo and Kyngas, 2008). In this regard, information which was collected in terms of field notes, pictures and recorded conversations were summarized and transcribed into categories of themes/concepts based on the study objectives. The transcribed concepts were compared and discussed in comparison with empirical information that was given by respondents from structured interviews (Hsieh and Shannon, 2005). The data that was collected through structured interviews were processed and analysed descriptively using the IBM Statistical Package for Social Sciences (SPSS) and Microsoft Excel computer programmes. In this regard, frequencies and percentages were calculated to quantify multiple responses which were given by the respondents on the weaknesses and challenges of the PPP framework in the education sector.

5.5 Results and Discussion

The sub-topics in this section present and discuss the findings of the manuscript number four. Specifically, the discussion of this section focuses on the weaknesses of the public private partnership framework and challenges that emanate from implementing the public private partnership model in the education sector in Moshi District Council and Moshi Municipality.

5.5.1 Socio-demographic characteristics of the respondents

This sub-section describes the levels of education of the teachers and proportional number between pupils and teachers in the studied schools.

5.5.1.1 Education level of teachers

The findings, as presented in Table 5.1, show that 62.5% of the interviewed teachers had attained certificate education, and only two teachers (6.2%) had attained form four education (Table 5.1). These findings imply that most of the studied PPP schools were

staffed with teachers of Grade A that is a certificate in education only (URT, 2014a). A study by Gibson and Davies (2008) recommended that low education level of PPP project administrators do affect the implementation of PPP projects hence poor achievement of the desired policy outcome. Also, during FGDs at Ronga Primary School, one of the school committee members said that:

Poor fluency in English language among primary school teachers acted as a strong barrier during communication between our teachers and some staff of FT Kilimanjaro a Dutch international private educational partner that was collaborating and supporting our school in the past two years (March, 2016).

This challenge may also cause poor performance and poor attainment of the desired goal of the partnership between government entities and private partners in the education sector.

Table 5.1: Education level of teachers

Levels of education	Frequency (n = 32)		Per cent
	Male	Female	
Form IV only	1	1	6.2
Certificate in education (Grade A)	6	14	62.5
Certificate in education plus Form VI	2	1	9.4
Diploma in education	2	1	9.4
Degree in education	1	3	12.5
Sub-total	12	20	-
Total	32		100.0

5.5.1.2 Pupil teacher ratio (PTR) in the studied PPP schools

The findings in Table 5.2 show that schools in Moshi Municipality had many pupils (6380) compared to their counterparts in Moshi District Council (4003). Also, Table 5.2 shows that schools in Moshi Municipality had more teachers (168) compared to 108

teachers in Moshi District Council. This result implies that many PPP interventions were implemented in Moshi Municipality thus made the school environment conducive hence attracted many pupils and teachers. Some of the private education partners are obliged to serve schools that are located in urban areas only. Also, the results indicate that, within a district, there was a variation of PTR; some schools had high PTR, while others had low PTR. The study revealed that the number of pupils and teachers as well as the expertise and financial capability of a given private partner do affect the extent to which a private partner supports a school through the PPP model. Commenting on this key informant number one from Moshi Municipality education department said that:

Numbers of pupils and teachers at a school have an implication on PPP implementation in focus on the financial capability of private partners (November, 2015).

She further added by saying that:

Many private partners do prefer to collaborate with schools which have few pupils and teachers while few of them do prefer schools with many pupils and teachers (November, 2015).

Table 5.2: Pupils teacher ratio (PTR) of the studied schools

Primary Schools in Moshi Municipality				Primary Schools in Moshi District Council			
Name of school	Pupils	Teachers	PTR	Name of school	Pupils	Teachers	PTR
Mandela	1062	23	1:46	Katanini	763	20	1:38
Azimio	1017	24	1:42	Kiyungi Mpya	543	14	1:39
Kaloleni	1069	20	1:56	Ronga	261	4	1:65
Jitegemee	996	20	1:50	Kiyungi	413	18	1:23
Muongano	382	16	1:24	James Ole Mallya	422	11	1:38
J.K.Nyerere	426	19	1:23	Dr.Omary Juma	195	12	1:16
Kilimanjaro	709	19	1:37	Benjamin Mkapa	1025	16	1:64
Shirimatunda	718	27	1:27	Arusha chini	381	13	1:29
Total	6 380	168	1:38		4 003	108	1:37

5.6 Weaknesses of the Public Private Partnership Framework

Six weaknesses of the PPP framework implementation in the primary education sub-sector were identified. As shown in Table 5.3, the per cent scores for the six factors ranged from 13.3 to 18.5, which indicate that each factor was of different effect as perceived by the respondents on how each weakness affects the implementation of the PPP framework in Kilimanjaro, Tanzania.

Table 5.3: Multiple responses on the weaknesses of PPP framework in Kilimanjaro

Region (n = 32)

Weaknesses	Responses	Percent
Late establishment of specific institutions/enforcing bodies like department and units for PPP in Tanzania	25	18.5
Late establishment and absence of effective implementation of the existing PPP legal instruments	25	18.5
Lack of awareness among government officials on the potentials of the PPP framework	24	17.8
Lack of advanced tools for assessing and measuring capability of private partners	22	16.3
Lack of close monitoring of the activities done by private educational partners	21	15.6
Negative attitude towards the PPP framework from government entities, officials and the community	18	13.3
Total	135	100.0

* n = 32 teachers gave 135 responses. Therefore, the per cents was over 135

Out of the six weaknesses depicted in Table 5.3, there were three factors that were perceived as the most critical weaknesses of the PPP framework in Moshi District Council and Moshi Municipality and these are discussed in the paragraphs below.

Late establishment of specific enforcing bodies that include centres, committees, departments and units for PPP in Tanzania at all levels was identified as the biggest

weakness (18.5 %) that hinder efficient implementation of PPP framework. Empirical review showed that collaboration between studied areas and private education partners started from the early 1970s and increased from the mid-1980s. But this study has found that, up to the year 2005 there were no specific bodies, departments and units that were responsible for coordination and supervision of projects under public private partnership. These bodies could have assisted smooth and clear operation of PPP model hence improved quality of education to most of primary schools in Moshi District Council and Moshi Municipality. It was found that it was through the PPP act of 18th June, 2010 that ordered the establishment of the specific bodies, departments and units responsible for enforcing effective implementation and administration of PPP projects in Tanzania. Regardless of the PPP institutions having been ordered to be established in the PPP act number zero of 2010, but the PPP coordinating centres and units were officially established in 2015 (URT, 2009). This finding implies that late establishment of the specific PPP institutions in Tanzania has caused private educational partners to act on their own interests, a situation which has led various numbers of primary educational challenges to prevail unsolved and for long time in the study areas. Explaining this weakness, the key informant at Tanzania Investment Centre, Northern Zone office, said that:

Absence of specific PPP institutional instruments for a long period has made some of the PPP projects not to be successful and this has become among the causes of poor quality of primary education in Tanzania regardless of long time collaboration between government entities and private partners (November, 2015).

He concluded by saying that:

Some of the established PPP institutions are still very weak and not effectively functioning as some of them are not fully independent organs because they are still termed as sub-sections under the ministerial level (November, 2015).

These findings reveal that absence and late establishment of the PPP model enforcing bodies affected effective implementation of the PPP model in the education sector thus uneven provision of quality education in Moshi District Council and Moshi Municipality.

Late establishment and absence of effective implementation of the specific PPP legal framework tools was identified as the second weakness (18.5%) of the PPP framework that also slowed down efficient implementation of the PPP framework in the education sector. The findings of the study showed that regardless of long (since the 1970s) collaboration between government entities and private partners through the PPP framework, up to 2008 there were no specific legal tools (policy and its enforcing laws, rules and regulations) to smoothen implementation of PPP framework in Tanzania. Tanzania's Public Private Partnership policy was officially established in November 2009 (URT, 2009). The study noticed that, regardless of the establishment of the Tanzania's PPP policy in 2009, the PPP act/laws was established later in June, 2010 while its enforcing regulations were established in 2011 through Government Notice No. 165, which was published on 3rd June, 2011. Due to having many weaknesses, the PPP acts/laws were amended in 2014 while the PPP regulations were amended in the 2015/2016 financial year. With regard to this, a number of conflicts among private partners, government officials and project beneficiaries have emerged and led to some projects being incomplete, hence unsuccessful achievement of the intended goal. These findings imply that lack of effective regulatory tools has led to a number of private partners operating on their own interests, and such partnership has benefited only one side instead of being a win-win partnership to both parties. A study by Jamali (2004) concluded that "some private development partners that do support government efforts on improving the quality of education decide to shift their projects/interventions to other

areas/nations because of continuous quarrels against their organisation” (p. 423). A key informant from the Prime Minister’s Office, Private Sector Development Investment and Empowerment Division said:

Absence of specific legal instruments for a long period for regulating private development partners has led the government of Tanzania to be exploited in many sectors. This has been done specifically by foreign international partners pretending to be supporting government’s efforts of improving quality of education while indirectly they are using such partnership as a means of continuing exploiting the country and making it as a dumping place for their old technologies (June, 2016).

The assumption of exploitation was indicated by the absence of legal tools to guide private development partners that have been collaborating with Tanzania for so long a time. This was also reported in a study by Ricks (2012) who asserted that, “lack of strong legal and institutional bodies governing private partners has led to a severe exploitation of the resources in most of the developing countries” (p. 33).

Lack of awareness among government officials on the potential of the PPP model in fostering development of the country was among the serious weaknesses (17.8%) of the PPP framework in Moshi District Council and Moshi Municipality. It was found that most of the government officials and community members were not aware on the roles and benefits that the PPP model could offer towards improving the quality of primary education in Kilimanjaro Region. This result does contradict with results of a study by Mahalingam (2010) that revealed that aggressiveness to change was the major reason that causes government leaders to not adopt new approaches and strategies for fostering socio-economic development of the people. Explaining this fault, the key informant at HakiElimu Tanzania office said:

Most of the government officials are still fooled with the old ideas that the government is the sole provider of all assets and social services to its people (June, 2016).

Business as usual syndrome, laziness and lack of innovative ideas among the government officials was also described by the respondents to be among the causes hindering government leaders not using the PPP model as a good alternative approach for fostering socio-economic development in the country. The discussed weaknesses hinder effective implementation of the PPP model, a situation which leads to un-attainment of the desired education outcomes hence prevalence of the barriers towards improving the quality of education to some primary schools in Moshi District Council and Moshi Municipality.

5.7 Challenges which Emanated from Implementing Public Private Partnership

Model in Education

In regard to Goldratt theory, many challenges emanate in the process of implementing the PPP model towards achieving quality primary education. The study identified fifteen challenges that emanate from implementing the PPP framework in the education sector in Moshi District Council and Moshi Municipality. These results are in line with the findings of a study by Kwak *et al.* (2009) that reported that “Despite the huge recognition of the Public Private Partnership (PPP) model and its increasing usage in the education sector, but such collaborative ideal of two partners, the public and private sectors has not always been easily positive in California” (p. 63). An analytical description with regard to the identified challenges and how they affect Moshi District Council and Moshi Municipality to provide and attain quality primary education through the PPP model is discussed in the subsequent paragraphs.

Table 5.4: Multiple responses on the challenges which emanated from PPP model implementation in Kilimanjaro Region (n = 32)

Challenges	Responses	Percent
Lengthy delay in negotiations for PPP projects between public and private partners	32	10.2
Bureaucracy among government officials	30	9.6
Biased implementation (selective to urban schools only)	25	8.0
Corruption and request for bribes by government workers from private partners	25	8.0
Dependency syndrome to beneficiaries	24	7.8
Beneficiaries being overambitious	23	7.3
Little and late delivery of the promised educational supports	22	7.0
Commercialization of education	20	6.4
Sometimes beneficiaries have no say & choice to the supported materials	20	6.4
Indirect exploitation of TZ done by International partners	18	5.8
Partnership contracts being signed as personal instead of the institution/ school	18	5.8
Reluctance of some teachers to be part of supervisors or project co-coordinator to school related project	16	5.1
Lack of training to school staff on the use and administration for the provided supports	15	4.8
Poor and inefficient work due to use of local technicians (lack of experience & appropriate skills)	14	4.5
Low community participation	11	3.6
Total	313	100.0

* n = 32 teachers, gave 313 responses. Therefore, the per cents were over 313

Lengthy delay in negotiations for the PPP educational projects between public entities, officials and private partners was found as the worst challenge that affected implementation of PPP model (10.2%). This was affiliated to political debate and lack of strong government commitment to use the PPP model as a development approach. Hence, this unanticipated situation caused some of the PPP education projects not to be implemented and be shifted to other areas due to lack of close support from government

officials and political leaders. Elaborating on this, one of the school committee members at Kiyungi primary school reported:

In our school it reached a stage when the politicians disagreed with government officials to allow some private partners to be involved in development activities and that's why you see a number of educational challenges are still facing our school. Politicians think that involving private partners in doing main roles of the government would humiliate the public sector and its leaders (March, 2016).

He concluded by saying:

... this is a very poor notion among our leaders that has contributed to poor quality of education in our area (March, 2016).

Government officials and political leaders do play delay tactics to some projects that are fully financed by private development partners. This includes issues like failure to respond on time to requests and claims of private development partners, a situation which also discourages the partners hence little involvement of private partners in fostering the process of providing quality education in Moshi District Council and Moshi Municipality; a situation which leads to poor and weak collaboration with private development partners.

These results are converging with findings of a study by Gibson and Davies (2008) that revealed that “opposition political leaders are among the big barriers on exercising and implementing the PPP policy particularly in pre-mature economies” (p. 84).

Bureaucracy of government officials was also identified as among the problematic challenges jeopardizing the implementation of the PPP framework in the education sector (9.6%). It was noted that any private partner that is ready to collaborate with any

government entity should get a permit that will allow them to start working together with the public entity on the agreed project area. During FGDs it was revealed that to get a permit for collaboration one has to follow several procedures in different offices located in different areas. Commenting on this weakness, the key informant at Camara Education Tanzania office said that:

When seeking permits to collaborate with public entities you lack close support from government officials due to their bureaucratic behaviour and sometime we lack close support from expected project beneficiaries. It can take more than three months to get a permit from the District government and sometimes you as a private partner you may be influenced to bribe government officials and leaders just to fast track the processes of getting the permit. Does this make sense? (June, 2016)... He questioned.

This condition does not attract many private partners to collaborate with government entities towards improving the quality of primary education hence existence of various educational difficulties for so long in Moshi District Council and Moshi Municipality. These results imply that many procedures are imposed to private development partners when seeking collaborative registrations and permits from government entities and bodies, a situation which strongly constrains effective use and implementation of the PPP model in the education sector.

Biasness in implementing PPP projects was also identified as among the complex challenges that also impede successful implementation of the PPP framework in Kilimanjaro Region (8%). Private education partners collaborating with the government in the process of improving the quality of education were found to concentrate more on the urban schools and leaving primary schools in rural remote areas being faced with many

educational challenges. This challenge causes uneven provision of quality education between urban and rural remote primary schools. Clarifying this, the key informant two at Moshi Municipality education department said that:

You may find many different educational partners conflicting to support one school while there are many schools in the area which are faced with educational challenges similar to those of the school they are struggling for (February, 2016).

When she was asked on what they did when such a situation happened, she responded by saying:

It reaches a time you cannot shift the partners to other schools which they do not like; hence the same school is divided into different areas of intervention such as classrooms, offices, toilets, water and kitchen. Then these areas are located to different partners (February, 2016).

In a study by Gibson and Davies (2008) it was found that absence of strong regulations and criteria to be adhered to guide private partners' roles and interventions at national and grassroots level leads to variations in the quality of education offered to various schools in the country. The set regulations and criteria avoid the tendency of private partners to concentrate on one area (one side development) particularly urban schools. Establishment of partnership with schools that have conducive environment for teaching and learning is also controlled by the available PPP regulations.

Low community participation was also among the key challenges that were found to inhibit efficient use of the PPP model in Moshi District Council and Moshi Municipality. In implementing the PPP model both partners do contribute on the agreed resources or expertise but the extent of the beneficiary community to contribute was found to be

different from one private partner to another. Little community participation to school projects was found as a big problem, particularly in projects that were mostly supported by international private partners. Clarifying on this problem, the community liaison person at Moshi International School reported that:

Since 2002, the cost sharing between our institution and the beneficial community was fifty by fifty per cent. It was very difficult for the community to contribute and it took long time for the community to fulfill their obligatory part, hence late start of the project implementation. In regard to this challenge, eight years later the management of Moshi International School changed the rate of contribution to ten per cent from fifty per cent for the beneficiary community. But even this small amount of contribution was still a big burden to the community, a situation which still hinders successful implementation of PPP educational projects in Moshi Municipal (April, 2016).

This result converges with findings of a study by Yusuph (2013) who revealed that the “extent to which members of the beneficiary community participate in educational development projects affect the status of the school as well as pupils’ academic performance” (p. 44). Lack and low participation of the beneficiary communities in projects supported by private partners leads to poor social services among people in that society. These findings imply that close participation of the beneficiary community is of great importance for successful implementation and sustainability of the PPP school projects. This important lubricant to PPP projects should be adhered to by project managers in collaboration with community leaders.

The study revealed that the identified challenges in Table 5.4 do impede efficient implementation of the PPP model in primary education sub-sector. This situation causes the joint efforts between the public sector and private partners to not attain the desired

goal of providing quality primary education to children in Moshi District Council and Moshi Municipality. Other challenges that are facing successful implementation of public private partnership model in Moshi District Council and Moshi Municipality are presented in Table 5.4.

5.8 Strategies Leading to Successful Implementation of the PPP Educational Projects

Based on the identified PPP implementation weaknesses and challenges in sub-sections 5.6 and 5.7 Goldratt, the founder of constraints theory of 1990 asserted that “the identification of the constraints represents opportunities for improvement” (p. 13). Hence the PPP stakeholders debated and discussed the identified weaknesses and challenges; finally they proposed and agreed on eleven strategies that will lead to successful implementation of the PPP model in Moshi District Council and Moshi Municipality. The findings on this reflect the implications of the constraints theory as the principle of this study. This manuscript strongly agrees that if the proposed strategies in Table 5.5 will be adopted by both partners they will assist and contribute to successful implementation of the PPP model towards provision of quality primary education in Moshi District Council and Moshi Municipality. An analytical description of the proposed strategies and how they contribute to successful implementation of the PPP model in Moshi District Council and Moshi Municipality is discussed in the subsequent paragraphs.

Table 5.5: Multiple responses on the strategies leading to successful implementation of PPP educational projects (n = 32)

Strategies	Responses	Percent
Awareness creation on PPP to government officials and the society at large	30	11.5
Quick establishment of specific and effective PPP bodies and units (platform) at national, regional and district level	27	10.2
Collaboration should focus to schools with high need and not concentrate in one school area	26	9.8
Reduce/avoid bureaucratic to interested educational partners	25	9.5
Faithfulness among leaders and beneficiaries of educational supports (Value for money)	24	9.1
Create more conducive environment for private educational partners	23	8.8
The government should be open and declare its budgetary inefficient and make use of PPP for quality education improvement	23	8.8
Implementation of PPP projects should be under school management and not individual teacher	22	8.3
Establishment of educational informational desk/centers	21	8.0
The government should establish conditions for allocating private educational partners ready to support	21	8.0
Private educational partners should discuss with beneficial communities and agreed on project cost sharing	21	8.0
Total	263	100.0

*n= 32 teachers gave 263 responses. Therefore, the per cents was over 263

Awareness creation on the roles and benefits of the PPP model to government officials and the general public at large was the best and first strategy (11.5%) that was proposed by PPP stakeholders. This was highlighted as the most important tactic to work upon as most of the interviewed government officials and community members were found not to be aware on the roles and strengths of the PPP model as a development tool. Clarifying on this, the key informant at Tanzania Investment Centre, Northern Zone said:

Government officials and community members are still fooled by the traditional method that the government is the sole provider of all assets and social services to its people. Also, aggressiveness and laziness of government officials has caused them not to use the PPP framework for fostering development in the country (March, 2016).

On the same note, he concluded by saying:

Much more should be done to Tanzanian citizen as most of them are still thinking that private partners are foreigners only (March, 2016).

This result implies that sensitization programmes are needed and should be provided to the government officials and community members on the roles and strengths of the PPP framework as an exemplified method for fostering socio-economic development of a certain society.

Quick establishment of the specific and effective PPP institutions was another key strategy (10.2%) that was proposed as a way which may lead to successful implementation of the PPP framework in the education sector in Tanzania. In regard on this, an informant at Prime Ministers' Office, Private Development Investment and Empowerment Division said:

Some of PPP units and departments like the PPP centre, technical committee and nodes are not yet formed regardless of being stipulated in the PPP policy of 2009 and the amended laws/act of 2014. Also, the newly formed PPP institutions have not yet started performing their roles effectively (June, 2016).

He concluded by saying that,

These governing bodies should be established in each ministry, zone, region and district for close supervision of PPP activities (June, 2016).

The findings indicate that there is a need to formulate bodies and units that are specifically responsible for implementation and administration of PPP activities in each zone, region and district as stipulated in the PPP policy of 2009 and the PPP regulations of 2010. The formed bodies should ensure that they exercise their duties and functions effectively as stipulated in the revised version of PPP regulations of 2015.

PPP interventions should focus on all schools with rigorous educational challenges and not concentrate on one school; this was also proposed as important strategy (9.8%) to improve successful implementation of the PPP model in Moshi District Council and Moshi Municipality. It was found that many private educational partners concentrate on assisting one school and leaving other schools with numerous educational challenges. In regard to this, it was proposed that in order to improve the quality of primary education, private educational partners should be advised to support a school in need regardless of the schools being of interest to them or not. In regard to this one of participants at Mweleni Primary school during FGD he questioned that:

Why are many educational supports/projects directed to only one school while there are many primary schools with numerous educational challenges?
(November, 2015)

Responding to this question, the key informant at Moshi Municipality education department replied that:

This problem has prevailed for so long a time in their areas but currently they have established conditions and criteria to partners collaborating with their districts for fostering socio-economic development (March, 2016).

Reduction and avoidance of bureaucratic processes to private educational partners interested in working with government entities was another key strategy (9.5%) that was proposed towards successful implementation of the PPP framework. It was found that private partners had to pass into more than five different steps and offices before they got permits that allowed them to start collaborative projects in particular Moshi District Council and Moshi Municipality. Clarifying on this aspect, an informant from *Kikundi cha Wanawake cha Kupambana na Ukimwi Kilimanjaro (KIWAKUKI)* said:

There are unnecessary delays done by government officials in responding to the requests and claims raised by private educational partners. She concluded by saying that: “we are tired with the answers of come tomorrow, come next week, come next month (May, 2016).

Also, the key informant at HAKIELIMU office advised the government by saying:

The government should closely and effectively collaborate with the private educational partners by responding to them in time on the raised issues (April, 2016).

He concluded by saying

...Local government entities should reduce the imposed procedures when applying for collaborative permits and evade other setbacks that hinder effective implementation of the PPP framework in the education sector (April, 2016).

This implies that creation of conducive and supportive environment for effective implementation of the PPP model in the education sector is vital for quality education provision in Moshi District Council and Moshi Municipality. If the above proposed strategies will be adopted and harmonized in the Tanzania’s PPP framework, this will encourage many private partners to closely work together with government entities and

thus increase the likelihood of providing the quality of primary education in Moshi District Council and Moshi Municipality.

5.9 Conclusions and Recommendations

The study found various categories of PPP weaknesses that endanger effective implementation of the PPP model in Moshi District Council and Moshi Municipality in Kilimanjaro Region. The study concludes that the PPP model is operating in very challenging environments, a situation which impedes the government efforts towards provision of quality primary education to all schools in Moshi District Council and Moshi Municipality. It is also concluded that the identified challenges hamper efforts of improving the quality of primary education through the PPP model thus existence of poor quality education to some schools in Moshi District Council and Moshi Municipality.

On the basis of these conclusions, it is recommended that educational partners working in Moshi District Council and Moshi Municipality should form a platform for rectifying the identified limitations. Also leaders in the studied areas should create conducive environment for efficient implementation and achievement of the PPP model towards improving the quality of primary education in Moshi District Council and Moshi Municipality. It is also recommended that the PPP stakeholders in Moshi District Council and Moshi Municipality should recognize the identified PPP challenges and adapt the proposed strategies in this manuscript; the situation will assist the PPP framework to function more efficiently towards improving the quality of primary education in Moshi District Council and Moshi Municipality in Kilimanjaro Region, Tanzania.

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CHAPTER SIX

6.0 SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

This chapter presents conclusions drawn from the research findings in terms of implications of the findings. Then recommendations derived from the conclusions are also presented, specifying appropriate strategies and measures to be undertaken by school leaders, administrators of the education departments, executive directors of Moshi District council and Moshi Municipality in Kilimanjaro Region and leaders of private organizations that were/are supporting the process of providing quality primary educational in the studied areas.

6.1 Summary of the Major Findings and Conclusions

This section presents a summary of the results and conclusions drawn from the implications of the findings in each of the four manuscripts presented in this thesis as described under the following subtopics.

6.1.1 Quality of primary education in schools under public private partnership model in comparison to private schools

The first objective of this study focused on examining the quality of primary education offered in public primary schools that had got support from private educational partners (PPP schools) in comparison with private and public primary schools that do not get any support from private partners. The results showed that private schools had better quality of education compared to PPP schools and public schools that had not got any support from any private partner. On the basis of these findings, it is concluded that:

- i. Inadequacy of school infrastructure leads to poor quality of education.

- ii. Disproportional availability of teaching and learning materials leads to ineffective teaching and learning processes at classroom level, hence causes to pupils complete standard seven with low literacy and numeracy competencies compared to the minimum expected competencies.
- iii. Schools with PPP interventions have a better chance of improving the quality of education compared to schools without PPP.

6.1.2 Improving quality of primary education through PPP framework

The second specific objective of the study was to examine the contributions played by private educational development partners in improving the quality of primary education. It was found that international private educational partners were supporting the process of improving the quality of education more than local private partners. Also, most of the types of educational support that were provided to PPP schools in Moshi District council and Moshi Municipality focused more on improving school infrastructure than to increase the number of teaching and learning materials for pupils and teachers. The conclusions drawn from the results meeting this objective are:

- i. International private educational partners provide unbalanced support in provision of quality education as they may concentrate on one aspect such as school infrastructure and neglect other aspects of quality education such as teaching-learning materials for pupils, and this may not lead to intended outcomes.
- ii. International private partners do support more compared to local private partners (individual, groups and organisations) towards the process of improving the quality of primary education in Moshi District council and Moshi Municipality.
- iii. Involvement of private development partners in the provision of education assists public schools to reduce and overcome educational challenges hindering them to provide quality primary education to all pupils.

6.1.3 Influence of PPP model on improving school academic performance

The third objective of the study was to analyse the influence of the PPP model on improving the quality of primary education. Results showed that types of support provided by private partners had statistical significant influence on the chances of improving pupils'/schools' academic performance. In view of these findings it is concluded that:

- i. The PPP model is an effective development tool that can be used to assist the government on improving pupils' academic performance in a given school.
- ii. PPP schools have a higher potential to improve pupils'/schools' academic performance than schools without PPP interventions.

6.1.4 Constraints hindering the PPP model on improving the quality of primary education

The fourth objective of the study was to identify constraints hindering the existing public private partnership framework in delivering quality primary education. The results showed a number of internal weaknesses of the PPP framework categorized into three groups (legal framework, institutional framework and personnel/staff weaknesses). Moreover, numerous challenges that emanate from implementing educational projects under the PPP model were identified. In view of these findings it is concluded that:

- i. PPP model is operating in very challenging environments that dependent variable impede government efforts towards provision of quality primary education to schools under PPP model in Moshi District Council and Moshi Municipality.
- ii. Constraints of the PPP model are associated with poor quality of primary education to some of the studied schools in Moshi District Council and Moshi Municipality.

6.2 Recommendations

This section presents recommendations derived from the conclusions presented in section 6.1. Furthermore, the section specifies appropriate strategies and measures which should be undertaken by different educational stakeholders in order to improve the process of providing quality primary education in Moshi District council and Moshi Municipality.

6.2.1 Quality of primary education in schools under PPP model

Based on the conclusions drawn about the quality of education to schools under PPP model, it is recommended that:

- i. The administration and authorities of Moshi District council and Moshi Municipality should prioritise and adequately budget to adhere the educational regulations that require all primary schools to have sufficient school infrastructure and T/L materials.
- ii. School management and the educational departments of Moshi District council and Moshi Municipality should establish strategies for close collaboration with private partners to get rid of shortage of teaching and learning school infrastructure.

6.2.2 Improving quality of primary education through PPP framework

In view of the conclusions drawn about improving the quality of education through PPP model, it is recommended that:

- i. Authorities of Moshi District council and Moshi Municipality should set strategies to ensure that types of educational support provided are focusing on improving all necessary requirements/factors for quality education provision to schools instead of being one-sided interventions.

- ii. School administration and authorities of Moshi District Council and Moshi Municipality should create awareness to private partners, particularly locally oriented ones (individuals, groups and organisations) to closely collaborate with their government to reduce educational challenges facing primary schools in Moshi District Council and Moshi Municipality rather than depending much on external or international private development partners.
- iii. The school administration and community members of the studied schools should establish strategies to ensure that the gained educational benefits and types of support provided are well maintained for a long period and for future generation usage.

6.2.3 Influence of PPP model on improving school academic performance

In regard to the conclusions drawn about the influence of PPP model on improving schools academic performance, it is recommended that:

- i. The school administration, education department and the authorities of Moshi District Council and Moshi Municipality should set strategies that will inspire more private development partners to continue supporting and investing in improving schools' /pupils academic performance.
- ii. School administrators, education department, Moshi District Council Executive Director and Moshi Municipality Director should create supportive environment for private partners to continue collaborating with more primary schools facing educational challenges in the region.

6.2.4 Constraints hindering public private partnership model on improving the quality of primary education

In view of the conclusions drawn about constraints hindering Public Private Partnership model on improving the quality of primary education, it is recommended that:

- i. Educational partners working in Moshi District Council and Moshi Municipality should form a platform for rectifying the identified limitations and create supportive and conducive environment for efficient implementation and achievement of the PPP model towards improving the quality of primary education in Moshi District Council and Moshi Municipality.
- ii. For future provision of quality education to all schools in Moshi District Council and Moshi Municipality, the PPP stakeholders either being public and or private partner (s) should recognize the identified PPP challenges and adopt the proposed strategies; this will assist the PPP model to function more effective towards improving the quality of primary education in Moshi District council and Moshi Municipality.

6.3 Contribution of the Study

This section explains the contribution of the study with regard to the PPP practices, knowledge and theories used in the study as described in the following subsections.

6.3.1 Contribution on the practices of PPP model

Various literature sources indicate that the PPP model has been mostly used for hard partnerships that involve productive sectors with economics and business aspects such as transport, electricity, water, mining and agriculture particularly in the production of business or marketable crops. The findings of this study have indicated that PPP model can also be practised in soft partnerships involving social services that are not directly provided to people with commercial aspects such as education. This result has the potential to influence educational practitioners and administrators to use the PPP model in the education sector to solve educational challenges hence improve the quality of primary education in Moshi District Council and Moshi Municipality.

6.3.2 Contribution to the body of knowledge

The partnership between the public and private sectors (PPP model) has been promoted as a key strategy for risks and resource sharing towards improving provision of quality of social services, particularly quality primary education. Regardless of the significance of the PPP model being recognized worldwide but its actual contribution towards improving the quality of primary education in Moshi District Council and Moshi Municipality was not empirically known. The findings of this study provide a confirmation that private partners through the PPP model implemented several projects and played different roles that had a significant contribution towards improving school teaching and learning environments as well as improving pupils'/schools' academic performance. The status of the quality of education to PPP schools was examined in comparison with public and private schools. Furthermore, the study generated and documented information on the constraints hindering efficient and effective implementation of Public Private Partnership framework from improving the quality of education in Moshi District council and Moshi Municipality.

The study used the “counterfactual analysis technique”; this methodological approach provided an alternative way of determining the actual contributions of the PPP model in improving the quality of primary education in Moshi District Council and Moshi Municipality. Two indices for determining whether a school was providing quality education based on the availability of sufficient school infrastructures and T/L materials for pupils were constructed and efficiently used in this study.

6.3.2 Contribution to the theory

Risks and resources sharing as among the variables of the stakeholder theory were used in the this study with the assumption that public entities and private partners would share

various resources for eradicating educational challenges hence improve the quality of primary education in Moshi District Council and Moshi Municipality. Also, the use of the constraint theory in this study was based on the assumption that this theory considers any weaknesses and challenges that impede achievement of the agreed policy decision as threats and opportunities towards achieving a desired policy outcome. So, identification of constraints of the PPP model will be a step ahead towards successful implementation of the model, hence improved quality of education in Moshi District Council and Moshi Municipality. In terms of theoretical contributions, the Public Private Partnership model, stakeholder theory and the constraint theory were found to be applicable in the study areas; hence they can be adopted and efficiently implemented to improve the quality of primary education by addressing different educational challenges. Also, the study confirmed that joint efforts and collaboration between private partners and the public entities on addressing educational challenges contributed to improving the delivery of quality services to the people through the stakeholder theory. Through the use of the constraints theory, information on the weaknesses and challenges hindering effective and efficient implementation of the PPP framework towards improving the quality of primary education in the study area was identified. This gave a chance to PPP stakeholders' to describe strategies to cope with the likely identified PPP constraints.

6.4 Areas for Further Study

- i. The Public Private Partnership framework has been recognized as an important tool for improving and provision of quality primary education in most of the developing countries. This study was confined only to Moshi District Council and Moshi Municipality as an area with numerous private development partners, but it did not cover other areas with private development partners. Therefore, it is

suggested that further studies should be conducted and scaled up to other areas with similar situations for policy and theory recommendations.

- ii. A further study focused on the critical success factors leading to successful implementation of PPP projects in Moshi District Council and Moshi Municipality should be conducted for effectiveness use of the PPP model hence eradication of the educational challenges that impede provision of quality primary education in Moshi District Council and Moshi Municipality.
- iii. More advanced methodological techniques that will control other intervening variables for quality of education should be used in the same study topic to come up with the actual influence of the PPP model on improving the quality of education in Moshi District Council and Moshi Municipality as this was not well controlled in this study.
- iv. A study should also be done on the contributions of the PPP model to improving teachers' requirements including teachers' qualifications because teachers' requirements is among the crucial factors for improving schools'/pupils' academic performance.
- v. Factors that attract and influence private development partners to support primary schools towards improving the quality of education in Moshi District Council and Moshi Municipality should be investigated to get clear understanding on the PPP model interplay.

APPENDICES

Appendix 1: A copy of the questionnaire used for research

A: researchers' introduction

Dear Respondent,

I am Paulin Paul a PhD student from Moshi Co-operative University. I am conducting a study **about Public Private Partnership Model and the quality of primary education in Kilimanjaro Region**. The main purpose is to generate information on the existing PPP framework for improving the quality of primary education in Kilimanjaro. You have been selected to participate in a research that is on-going in this district. All the responses you will give will be treated confidentially, and the research results will be used only for the purpose stated above and for academic purposes. Therefore, you are kindly requested to respond to all questions openly and truthfully. For more information please contact me through the following contact:

Email address: kabyazi2007@yahoo.com

Mobile: +255 759 70 33 33

Section A: Questionnaire identification

S/n	Item	Response
1.	Questionnaire number	
2.	Name of the respondent (optional)	
3.	Date of interview	
4.	Name of interviewer	
5.	Name of the school	
6.	School category	
7.	Ward	
8.	District	

Section B: Respondents' general characteristics

Please provide response (s) for each question. For question with multiple answers please put a tick to the response number of your choice from the list of choices given and for other questions fill your response in the space provided.

Respondent characteristics

Parameters	Responses
Sex (1 = Male; 2 = Female)	
Date of birth	
Education level	
Marital status	
School category	

Key to respondent characteristics

Marital status	Education level	School category
1. Married	1. Primary education only	1. Public primary school
2. Never married	2. Form four only	2. Private primary school
3. Widower	3. Form six only	3. Primary school operated & supported by both public and private sector
4. Widow	4. Form six plus short course training in teaching	
5. Divorced	5. Certificate in Education	
6. Separated	6. Diploma in Education	
7. Too young to be married	7. 1 st Degree in Education	
	8. Master's Degree	

5. Total number of pupils in the school Boys Girls

6. Please fill the table below on the available number of teachers in the school and their qualifications.

Educational level/qualification	Total number of teachers	
	Male teachers	Female teachers
Primary education only		
Form four only		
Form six only		
Form six plus short course training in teaching		

Certificate in Education		
Diploma in Education		
Advanced diploma		
Degree in education		
<i>Other please specify.....</i>		
<i>Total number of teachers</i>		

PUPILS' QUESTIONNAIRE

B: AVAILABILITY OF TEACHING & LEARNING INFRASTRUCTURES

5. Does your school have enough classrooms for all pupils 1= Yes, 2=No
6. Number of pupils in your classroom: Std IV =Std VII =.....
7. Number of pupils per desk in standard IVstd VII.....
8. Number of available functional toilet holes in the school for boys.....
9. Number of available functional toilet holes in the school for girls.....
10. Does the school have a modern kitchen? 1= Yes 2= No
11. Does the school have a nutritional programme for food 1= Yes, 2=No
12. Does the school have a modern dining hall? 1= Yes 2= No
13. Does the school have water services? 1= Yes 2= No
14. Which type of water source is available at your school? 1=Tap water 2=Tank 3=Well 4= River
15. Distance from school to source of water (metres)

C: AVAILABILITY OF TEACHING & LEARNING MATERIALS

16. Please tell if every pupil can access his or her own copy of textbooks listed below while in classroom

SN	Subject text book	Accessed 1= Yes 2= No	Personally owned 1= Yes 2= No
1	Mathematics		
2	English		
3	Kiswahili		
4	Science		
5	Geography		
6	History		
7	Civics		
8	Vocational skills		
9	Personality development & Sport		

17. If you cannot access or own your own copy of a textbook from the above listed subjects, please tell how many pupils you share one copy of a textbook in each listed subject while in class

SN	Subject text books	Number of pupils sharing one textbook
1	Mathematics	

2	English	
3	Kiswahili	
4	Science	
5	Geography	
6	History	
7	Civics	
8	Vocational skills	
9	Personality development & Sport	

18. Do you own a mathematical set? 1= Yes 2= No

19. If Yes, please tell if each of the following instruments is present in that mathematical set

SN	Instruments in the mathematical set	Presence 1= Yes 2= No
1	Ruler	
2	Compass	
3	Protractor	
4	Triangle	
5	T-square	
6	Divider	
7	Eraser	
8	Pencil	
9	Pencil Sharper	

20. Does each pupil have enough exercise books for all taught subjects for enhancing effective learning in the classroom? 1=Yes 2= No

21. Does each pupil have his or her own pens and pencils while in classroom for enhancing effective learning? 1=Yes 2= No

D: SCHOOL ACADEMIC PERFORMANCE

20. Do all pupils from standard four to seven know to read and write Kiswahili words?

1=Yes 2= No

21. Do all pupils from standard four to seven know to read and write English words?

1=Yes 2= No

22. Do all pupils from standard four to seven know to compute simple mathematics based on their class level? 1=Yes 2= No

22. What are your views on the trend of the school academic performance in the national examinations?

(1= Good performance 2= Poor performance 2= Average performance

.....

E: SCHOOL RELATIONSHIP WITH PRIVATE EDUCATIONAL PARTNERS

23. Does your school have collaboration with the government and or any private education partners? 1. Yes 2.No

24. Please list educational partners supporting your school and type of support or service they have contributed to your school to enhance quality education provision

S/N	Name of the private educational partners	Type of the support or service provided to the school
1		
2		
3		
4		
5		

Note: Three standard tests will be prepared and examined to measure competency in reading (English & Kiswahili) and numeracy to individual pupils of standard four and seven in each selected school.

Thank you for your participation

TEACHERS' QUESTIONNAIRE

B: AVAILABILITY OF TEACHING & LEARNING INFRASTRUCTURES

7. Please fill in the table below to show the availability of the following school infrastructures

School infrastructures	Needed number		Available number		Their Quality 1. Very good 2. Good 3. Poor
	Boys.....	Girls....	Boys.....	Girls....	
Classrooms					
Chalk board in the classroom					
Desks					
Toilet buildings for pupils					
Toilets holes for pupils	Boys.....	Girls....	Boys.....	Girls....	
Teachers' houses					
Teachers' offices					

8. Do teachers have their own toilets at school? 1= Yes 2= No

9. Number of toilet holes for teachers.....

10. If there are no toilet holes for teachers, where do they go for "self-help?"

1. Pupils toilets 2. Teachers' houses 3. Neighbours' toilets

11. Do the pupils get food while at school? 1= Yes 2= No

12. Does the school have a modern kitchen? 1= Yes 2= No

13. Does the school have a modern dining hall? 1= Yes 2= No

14. Does the school have water services? 1= Yes 2= No

15. Which type of water source 1= Tap 2= Tank 3= Well 4= River

16. Distance from the school to the water source.....(metres)

17. Please fill in the table below indicating the number of pupils and available numbers of desks for the classes

Standard or class level	Number of pupils			Desks	
	Boys	Girls	Total	Needed	Available
I					
II					
III					
IV					
V					
VI					
VII					

C: AVAILABILITY OF TEACHING & LEARNING MATERIALS

18. Please fill in the table below indicating availability of text books in the listed subjects

SN	Subjects	Number of available text books	
		STD IV	STD VII
1	Mathematics		
2	English		
3	Kiswahili		
4	Science		
5	Geography		
6	History		
7	Civics		
8	Vocational skills		
9	Personality development & Sport		

D: SCHOOL ACADEMIC PERFORMANCE

19. What is the trend of the school's Grade Point Average (GPA) in the standard seven national examinations for the past four years, 2012.....2013.....2014.....and 2015.....

20. Please fill in the table below based on the performance of standard seven pupils in the national examinations

School name	2012			2013			2014			2015		
	PASS	FAIL	TOTAL	PASS	FAIL	TOTAL	PASS	FAIL	TOTAL	PASS	FAIL	TOTAL

Note: PASS = Number of pupils completed std seven and continued with secondary education in government schools

FAIL = Number of pupils completed std seven and did not continue with secondary education in government schools

E: SCHOOL COLLABORATION WITH PRIVATE EDUCATIONAL PARTNERS

21. Does your school have collaboration with government and or any private education partners?

1. Yes 2.No

22. If yes, list down any support that your school has received from private partners, and list the names of the partners

S/N	Name of the private educational partners	Type of the support or service provided to the school
1		
2		
3		
4		
5		

23. How did your school start to collaborate with the above listed partners and which form/type of partnership (contract, joint venture, lease, concession or philanthropy)?

.....

24. For how long have you been in partnership with the above listed partners?

.....months/years.....

25. Mention educational benefits achieved at your school based on the support provided under public private partnership.

- i.
- ii.
- iii.

26. Are there any challenges that are still hindering your school from achieving quality education?

1. Yes 2. No

27. If yes, please list the current challenges hindering your school not to provide and achieve quality education

- i.
- ii.
- iii.

G. STRENGTHS OF THE EXISTING PPP FRAMEWORK ON QUALITY EDUCATON DELIVERY

28. What can you say on the quality of education to primary schools with and those without support or collaboration with private partners and why? Give evidence on your opinion

.....

29. What are the strengths of the existing public private partnership framework in delivering quality service in this district/Tanzania?

- i.
- ii.
- iii.
- iv.

30. What do you recommend on the existing implementation framework between public and private partners in Tanzania? 1= Weak 2= Very strong

H. WEAKNESSES OF THE EXISTING PPP FRAMEWORK ON QUALITY EDUCATION DELIVERY

31. How do you perceive the existing relationship between government and private educational partners? 1= Good 2= Poor

32. Mention five challenges that hinder the existing public private partnership framework not to deliver quality service in the district/Tanzania (with focus to legal and institutional framework, forms and modalities of PP)

- i.
- ii.
- iii.
- iv.

33. What should be done to improve participation of private partners in the delivery or provision of quality primary education in Tanzania?

- i.
- ii.
- iii.
- iv.

34. In your opinion please list only one educational service/area (for example; *infrastructures, management, operational, support services and professional service*), that strongly need support through the use of PPP model for sustainable quality primary education delivery?

- i.
- ii.

35. Give reasons for your answer in question 34 above

- i.
- ii.
- iii.

Thank you for your cooperation

Appendix 2: Checklist for focus group discussions

1. Availability and status of teaching and learning infrastructures (classrooms, toilets, kitchen, dining hall, teacher's houses) against user ratio
2. Availability of teaching and learning materials (textbooks) and its user ratio
3. Trends of school academic performance from 2012 to 2015
4. Pupils academic performance
5. Challenges hindering primary schools not to achieve quality education in your area
6. Type/form of partnership between government bodies and private partners in education sector
7. Contributions of private partners toward quality of primary education provision
8. Strengths of the existing PPP framework in education
9. Comparison between the Quality of education to primary schools with and those without support or collaboration with private partners
10. Key principles and factors for successful implementation and mutual benefits of PPP in Tanzania
11. Challenges (legal & institutional, forms and modalities) hindering smooth implementation of PPP framework in education
12. Elements to be incorporated in the PPP framework for smooth implementation
13. Important roles that should the government play to strengthen the participation of the private sector through PPP framework towards public service delivery in Tanzania

Thank you for your cooperation

Appendix 3: Interview guide for discussion with key informants (PPP experts only)

1. Contributions of private partners toward quality of primary education provision
2. Nature and type/form of partnership between government bodies and private sector
3. Strengths of the existing PPP framework in education.....
4. Comparison between the Quality of education to primary schools with and those without support or collaboration with private partners
5. Key principles and factors for successful implementation and mutual benefits of PPP in Tanzania
6. Challenges hindering primary schools not to achieve quality education in your area
7. Challenges hindering effective implementation of PPP framework towards improving the quality of education
8. Elements to be incorporated in the PPP framework for smooth implementation
9. Educational area that do highly need support through the use of PPP model
10. Important roles that should the government play to strengthen the participation of the private sector through PPP framework towards public service delivery in Tanzania
11. What are the dos and don'ts for implementing successful PPP education projects in Tanzania?

Dos	Don'ts
1.	
2.	
3.	
4.	
5.	

Thank you for your cooperation

Appendix 4: A checklist for observation

1. School infrastructures and services supported by private partners.
2. Availability of standard number of school infrastructures (classrooms, toilets, kitchen, dining hall, teacher's houses) and their user ratio.
3. Quality of the available school infrastructures including chalk board, roof and windows.
4. Availability of pupil's desks, their status and user ratio.
5. Availability of textbooks per subject in each class (standard I to VII) and their user ratio.
6. Availability of teaching and learning materials owned by pupils eg exercise books, mathematical set, pen and pencils.
7. Availability of support services; water, food programmes and play grounds.

Appendix 5: An index summated scale used to determine sufficient availability of school infrastructures (Quality of education)

Indicators of the sufficient availability of T & L infrastructures	Possible score		Actual scores
	Minimum	Maximum	
1. Whether the school has sufficient classrooms for all pupils	0	1	
2. Whether the school has sufficient desks for all pupil	0	1	
3. Whether the school has enough houses for teachers (if all teachers stay at school)	0	1	
4. Whether the school has sufficient functional toilet holes for boys	0	1	
5. Whether the school has sufficient functional toilet holes for girls	0	1	
6. Whether the school has a modern kitchen	0	1	
7. Whether the school has a modern dining hall	0	1	
8. Availability & type of water source for the school (3 = Tap water, 2 = Tank, 1 = Well, 0 = River)	0	3	
9. Whether every classroom has two chalkboards	0	1	
Total	0	11	

Note: 0 – 5.4 = Insufficient infrastructure

5.5 – 11 = Sufficient infrastructure

Appendix 6: An index summated scale used to determine sufficient availability of learning materials (Quality of education)

Indicators of the sufficient availability of T & L Materials	Possible score		Actual scores
	Minimum	Maximum	
1. Whether every pupil gets access to one copy of Mathematics book while in class	0	1	
2. Whether every pupil gets access to one copy of English book while in class	0	1	
3. Whether every pupil gets access to one copy of Kiswahili book while in class	0	1	
4. Whether every pupil gets access to one copy of Science book while in class	0	1	
5. Whether every pupil gets access to one copy of Geography book while in class	0	1	
6. Whether every pupil gets access to one copy of History book while in class	0	1	
7. Whether every pupil gets access to one copy of Civics book while in class	0	1	
8. Whether every pupil gets access to one copy of Personality Development & Sports book while in class	0	1	
9. Whether every pupil gets access to one copy of Vocational skills book while in class	0	1	
10. Ownership of a mathematical set while in class	0	1	
11. Possession of sufficient exercise books for all taught subjects in class	0	1	
12. Having own pen while in classroom	0	1	
13. Having own pencil while in classroom	0	1	
Total	0	13	

Note: 0 – 6.4 = Insufficient T/L materials

6.5 – 13 = Sufficient T/L materials

Appendix 7: Ordinal logistic regression model used

The empirical model for this analysis was specified according to Marija (2010) as given in the equation below:

$$P(y = 1) = \frac{e^{\alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k}}{1 + e^{\alpha + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_k X_k}}$$

Where:

e = the natural log

α = the intercept of the equation

β_1 to β_k = coefficients of the predictor/ independent variables

x_1 to x_k = predictor/ independent variables entered in the regression model

k = number of independent variables

X_1 = Number of toilet holes constructed by PPP

X_2 = Number of classrooms renovated or constructed by PPP

X_3 = Number of teachers' houses renovated or constructed by PPP

X_4 = Number of desks provided by PPP

X_5 = Number of textbook provided by PPP

X_6 = Do PPP constructed modern kitchen to the school (0 = No, 1= Yes)

X_7 = Do PPP constructed/connected water system/points to the school (0 = No, 1 = Yes)

X_8 = Do PPP provide/supported food programme at the school (0 = No, 1= Yes)

X_9 = Do PPP financed seminars to school committee members and teachers (0 = No, 1= Yes)

X_{10} = Do PPP provided exercise books, pens and pencils to pupils (0 = No, 1 = Yes)

X_{11} = Number of teachers' offices renovated or constructed by PPP

In this study:

$P(y) = 1$ = the likelihood of a pupil/school being considered as the best academic performer (0= Poor academic performer, 1= Average, 2= Best academic performer)

Outputs from the ordinal logistic regression model were interpreted based on β -coefficients for measuring the direction of the impact (positive or negative) of predictor variables, Wald statistics for measuring the magnitudes of the impact, and p-value for testing significance of the impact of the studied predictors.

Appendix 8: Fitness of the ordinal logistic regression model used

Omnibus test (Sig)	Hosmer and Lemeshow test (Sig)	Cox and Snell's R square	Nagelkerke's R square
0.022	0.890	0.538	0.725

Appendix 9: Areas, categories of schools and sample size selected for the study

Type of school	Moshi Rural District	Moshi Municipality	Total
Public primary schools	4	4	8
Private primary schools	3	3	6
Public primary schools that get educational support from private partners (PPP school)	8	8	16
Total	15	15	30

Appendix 10: Tests administered to pupils**A: BACKGROUND INFORMATION**

1. Jina
2. Tarehe ya dodoso.....
3. Jina la shule..... Kijiji/Kata..... Wilaya.....
4. Aina ya shule (1= Serikali, 2= Private, 3= Ya Serikali na inapata misaada kutoka mashirika binafsi)
5. Pupils' characteristics

Parameters	Responses
Jinsia (1 = Mvulana; 2 = Msichana)	
Mwaka wa kuzaliwa	
Darasa unalozoma	

ENGLISH: TESTING READING, WRITING & COMPREHENSION SKILLS (ENGLISH SUBJECT) FOR STANDARD SEVEN PUPILS

A: WRITING SKILLS

1. John and Rose wake up early in the morning at six o'clock
2. They wash their body and after that they drink porridge
3. Their father has bought a bicycle for them to ride
4. They are all studying in one school and they go by bicycle
5. John is in standard six and Rose is in standard three

B: READING SKILLS (@05 marks)

1. Pangani river passes through Kilimanjaro and Tanga Regions into the Indian ocean
2. On its way to the ocean, it flows through the town of Korogwe
3. Most of the people living around this river do many activities
4. Fishing and farming are the big activities conducted along this river
5. Fishermen catch many fish of different size from the river

QUESTIONS

- Q1. At what time in the morning do John and Rose wake?
 Q2. Mention two activities that are conducted around Pangani river?

END

KISWAHILI: TESTING READING, WRITING & COMPREHENSION SKILLS OF KISWAHILI SUBJECT FOR STANDARD SEVEN PUPILS

A: WRITING SKILLS

1. Kila mwananchi yeyote ana haki ya kupata habari kupitia vyazo vyovyote vile
2. Baba alininunulia gari lakini ufunguo hakunipa kwasababu nilikuwa ningali mdogo
3. Niliwachinjia wanangu ng'ombe, wakala nyama wapakanda mkia ukaota ukawa ng'ombe tena.
4. Hatari kubwa kwa ujamaa katika nchi hii ilitokana na wananchi kukosa viongozi waadilifu
5. Ili kupata maendeleo yaliyo endelevu kila mwananchi inabidi atimize wajibu wake

B: READING SKILLS

1. Watu pateni habari kuhusu UKIMWI kuwa ni janga hatari na bado lipo

2. Ukimwi ni ndwele isiyopoa mwilini na imeishawaua wengi kwa kukosa tahadhari
3. Tafadhari jiepushe komolela na ngono zembe kwani ndicho chazo kikubwa
4. Ni vyema kila mtu apime mara kwa mara ili kujitambua afya yake
5. Nakama utagundulika UKIMWI tayari unao, anza dawa za kuimarisha afya ya mwili

MASWALI

1. Chanzo kikubwa cha UKIMWI ni nini?
2. Utafanya nini ukigundulika una UKIMWI?

END

6: MATHEMATICS: FOR TESTING NUMERACY CAPABILITY TO STANDARD SEVEN PUPILS

Jibu maswali matano tu @20 marks

1. Andika namba kwa tarakimu, ishirini na tano elfu na thelathini na tano.
2. Andika namba hizi kwa kifupi: 6000 na 200 na 30 na 7
3. $7992 - 6586$
4. Gawanya 4824 kwa 8 kwa nija ndefu
5. $\frac{4}{8} + \frac{2}{8} =$
6. Andika XLVII kwa namba za kawaida
7. Fundi mwashi alijenga nyumba kwa kutumia matofali 32 000 kwa muda wa siku nane. Je kila siku alijenga matofali mangapi?

END