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# The Effects of Incentive Initiatives on Teacher Retention in Tanzania: A Case of the Rukwa Region

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The effects of incentive initiatives on teacher retention in  
Tanzania: A case of the Rukwa region

A Master's Thesis Presented

By

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## DEDICATION

My almighty God, my savior, my shepherd and my redeemer, you are amazing! Jehovah, you are my strength, my power and everything. For my life and for this work I uplift and glorify your holy name!!!

My marriage to Shikwinuye years ago was the beginning of a relationship that has permanently shaped my character and enriched my life. Together we have raised a family of four kids of whom, we are extremely proud, and who we love with all our hearts. Together we have faced challenges that could have been overwhelming to deal with alone. With his unconditional love, encouragement, care, infinite support, here I am finishing my masters' degree. I lovingly dedicate this thesis to you, my beloved husband, as your caring support and friendship helped me to stay focused on this project and you provided me the encouragement to see it through. It would have been difficult to accomplish this degree without your support. I am proud of you, dear, and I believe that what I have achieved is for the prestige of the whole family.

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## ABSTRACT

Availability of teachers at Secondary schools is one of the major factors that enhance students and general school performance. Despite this fact, there is high teacher reluctance in taking teaching position in remote areas. Different policy initiatives have dramatically improved the state of education in Tanzania, particularly in terms of classroom infrastructure and student enrollment. The increased students' enrollment has increased the national demand for secondary school teachers and training of teachers has not mirrored this growth. There is a very high teacher shortage in secondary schools particularly those located in remote areas.

In 2004, in the National Strategy for Growth and Deduction of Poverty (NSGRP) cluster two, Tanzania clearly stipulated its goal to motivate and attract secondary school teachers to work in remote areas. Although the country has not yet taken any action to implement this goal, in 2007, Rukwa region responded to this high teacher shortage by initiating Rukwa Civil Servant Facilitation Fund (RCSFF) program to attract and retain Secondary School teachers at the region. This study examines the effects of this incentives program for these teachers in the Rukwa region on retention rate in comparison to a neighboring region, Kigoma.

The societal model (3C's) for teacher retention proposed by Sher (1983) grounds this study. Under this model Sher claims that teacher retention is the function of teacher Characteristics, working Conditions and Compensation. I used mixed research design. The interviews with 24 teachers and educational officers and a total of 40 reviewed Tanzanian Secondary School forms from both Rukwa and Kigoma provide the qualitative and quantitative data respectively. Both descriptive analysis and SPSS software were used to analyze these data. The research results show that the RCSFF was a strong inducement tool but teacher retention is still questionable. Suggestions and recommendations are offered.

## TABLE OF CONTENTS

CHAPTER I INTRODUCTION .....	1
Research Questions .....	3
Question One: .....	3
Question Two:.....	4
Question Three:.....	5
Significance of the Study .....	5
Significance to policy makers in the government/MOEVT:.....	5
<i>Significance to politicians</i> .....	6
CHAPTER II: BACKGROUND AND CONTEXT .....	8
Education in Tanzania.....	8
Pathways to Teaching Profession in Tanzania.....	11
The study sites: Rukwa and Kigoma.....	13
Education in Rukwa and Kigoma .....	14
Challenges of Teaching in the case-study areas.....	16
Teacher Incentive Program in Rukwa.....	20
CHAPTER III: LITERATURE REVIEW .....	22
Theoretical Basis for Teacher Retention.....	22
Discussion of Reviewed Literature .....	25
Incentive Programs .....	28
Incentive Programs Specificity .....	30
Extrinsic factors and their attributes in teacher retention.....	33
CHAPTER IV: RESEARCH METHODOLOGY .....	39
Sampling and sampling techniques intensified.....	39
Sample and study population .....	40
Instrumentation .....	41
Data analysis .....	44
Ethical issues under the study .....	44
Scope and Limitations of the study.....	45
CHAPTER V: FINDINGS AND DISCUSSION.....	47
Introduction.....	47

RCSFF and Its Effectiveness in Attracting Teachers.....	48
Cash Incentives .....	49
Accommodation.....	55
Other Incentives-Bicycles, Beds, Mattresses, Kitchen Utensils .....	59
RSCFF and its Effectiveness in Retaining Teachers.....	60
Fear of losing an employment opportunity .....	64
Teacher Characteristics .....	65
CHAPTER VI: CHALLENGES AND RECOMMENDATIONS.....	76
Infrastructure.....	76
Coordination between the council’s managements and RCSFF core actors.....	77
Selection criteria lacking specificity .....	78
Resources for Running the RCSFF Program/Strategies for Collecting Funds .....	80
Salary Scales .....	81
CONCLUSION.....	82
REFERENCES .....	84
APPENDICES .....	87
A: TABLES: .....	87
B: FORMS .....	89



## LIST OF TABLES

Table 1: Sampled participants involved in qualitative data collection	40
Table 2: The distances from schools to district headquarters	43
Table 3: Teachers' responses regarding influential factors for them to work in Rukwa...	48
Table 4: A comparison of teacher retention rates between Rukwa and Kigoma regions	61
Table 5: A comparison of teacher retention rates between RCSFF recipients and non-recipients.....	62
Table 6: The region versus place of origin Cross-tabulation.....	68
Table 7: A Cross-tabulation of gender versus number of years teachers stay for Rukwa and Kigoma regions.....	69
Table 8: A Cross-tabulation of gender versus number of years teachers stay for Rukwa region.....	70
Table 9: Teachers' responses reflecting individual interests thus identify teachers' characteristics differences.....	71

## LIST OF FIGURES

Figure 1: The map of Tanzania with its administrative regions .....	13
Figure 2: Sher's 3C's Model of teacher retention (Sher, 1983) .....	23
Figure 3: The comparison of teacher retention rates between Rukwa and Kigoma regions across districts. ....	53

## **CHAPTER I: INTRODUCTION**

Teacher retention is a global challenge. Many developed and developing countries are struggling to staff and retain teachers in schools, particularly in low-performing, remote, and less desirable areas (Prince, 2003; Mulkeen, Chapman, Joan, & Leu 2007; Steele, Murnane, & Willett 2010; Masaiti & Naluyele, 2011; Duflo, Hanna, & Ryan, 2012; Kolbe & Strunk, 2012). Several global movements, notably Education for All (EFA) and the Millennium Development Goals (MDG), have increased access and student enrollments in both primary and secondary schools. At least in some developing countries, newly-built government secondary schools have ensured access to secondary education for more children who could otherwise not attend secondary school. However, most of these schools have not yet stabilized. Many are still works in progress - in the midst of constructing more classrooms, laboratories, and teacher houses, and improving general conditions for a better working environment. Despite offering certain strategies to attract and retain teachers in remote or less developed areas, many schools still face challenges of retaining teachers – particularly the reluctance of teachers to stay in those areas. This study examines the effects of one specific initiative in Tanzania, the Rukwa Civil Servants Facilitation Fund (RCSFF) incentive program, in attracting and retaining teachers in the Rukwa region.

Like most education systems in developing countries, over the past 20 years, Tanzania's educational system has been largely driven by the global MDGs and EFA. In addition, Tanzania's National Strategy for Growth and Reduction of Poverty (NSGPR) campaign goals provide an additional framework for consideration. As would be expected, one of the outcomes of these combined efforts is the rapid increase in primary education enrollment rates. Despite this massive new enrollment in primary education, there has been little planning in terms of

increasing space, facilities, and human resource (teachers) to accommodate these children as they rise to higher education levels (secondary and tertiary education). Although the Secondary Education Development Plan (SEDP) implemented in 2004 has led to significant improvements in secondary school student enrollment in the country. At the same time, however, this increased enrollment has created a teacher shortage, and the current demand for secondary school teachers is exceedingly high. Consequently, this situation affects students' academic progress negatively. It fails to provide quality education and leave these students without the necessary conditions for quality learning. Both physical and human resources are needed for effective teaching outcomes at all education levels, thus to retain teachers. Most notably, the retention of teachers is critical to achieve the intended goals of EFA and MDGs in rural areas, where more than 60 percent of the country's population lives.

One hypothesis about the causes of teacher attrition is that lack of incentives (monetary or non-monetary) especially in peripherally located schools. Nonetheless, there are countless challenges for teaching in hard and tough working environments. For example, since 1961, the Rukwa and Kigoma regions consistently face teacher shortages and high teacher demands, a situation created by limited mechanisms for motivating teachers to accept teaching positions and stay working in the region.

In Tanzania, the NSGRP initiative puts forth a cluster of strategies to motivate teachers and attract them to work in rural areas as a mechanism to equip the rural schools with an adequate number of teachers. Under Goal 1 in cluster II of NSGRP—Improvement of quality of life and social wellbeing—Tanzania aims to improve teacher retention by providing incentive packages for teachers working in remote schools (URT, 2005). Although this incentive program is not yet implemented at the national level, the Rukwa region has undertaken its own initiatives

to implement the intended strategy. Through the use of incentives, the teacher incentive program initiated in late 1990's was projected to move forward from the existed bad situation to a better one. While the initiative could be more effective, it continues to be operational since its establishment in 2004. Teachers' willingness to accept teaching positions in Rukwa and other remote areas remains a big challenge with no single answer from the education sector. Rukwa has put in place one of the only incentive programs in Tanzania to motivate teachers to take Rukwa teaching positions.

The purpose of the research study is to systematically study the effects of the Rukwa Civil Service Facilitation Fund (RCSFF) incentive program in enhancing teacher retention in the Rukwa region and compare the outcome with the teacher retention situation in the Kigoma region. Having provided an overview of the research problem and the need to address this issue, I will elaborate three detailed research questions in the next section. Subsequently, I will discuss this study's possible implications for policy makers and politicians in Tanzania.

## **Research Questions**

Question One:

*What motivates secondary school teachers to accept the teaching posts in Rukwa and stay in the region?*

Previous research has attempted to explain factors that contribute to teacher retention in rural areas (Buckley, Schneider, & Shang, 2005; Cobbold, 2006; Plash & Piotrowski, 2006). Although monetary incentives are not the only motivator that can attract and retain teachers in hard-to-staff areas, higher monetary compensation is still important for beginning teachers whose initial salaries are low and cannot cover all their basic needs. In many regions in Tanzania,

particularly in urban areas, teachers engage in small entrepreneurial businesses to supplement their teaching salaries so that they can financially support their families. For those in rural areas and villages, many teachers engage in agricultural activities to increase their earnings and to provide food for their families. Various factors motivate teachers to work in particular areas. Opportunities for agricultural activities, incentive packages, and good working environments affect teachers' decisions in taking teaching positions, differently. Although Rukwa faces the same challenges like other regions in Tanzania, what stands out is that Rukwa has developed strategies for attracting and retaining teachers. This first research question intends to investigate the factors that motivate teachers to accept teaching posts in Rukwa and the decision to stay in the region long-term.

#### Question Two:

*What are teachers' perceptions of valid and relevant incentives that may attract more secondary school teachers to accept teaching positions, to stay, and to work in the Rukwa region?*

There are a number of factors that influence teachers' decisions to stay or to leave schools, particularly in remote schools. Teachers employed in such areas have varied needs and expectations for working in these schools. Teachers' perceptions relating to proper and relevant incentive packages determine how effective these incentives are in convincing teachers to stay as well as attracting more teachers. Rukwa is the peripherally situated region at the southwestern borders of the country. It receives a widely diverse group of teachers from 26 regions of Tanzania. Although the available incentive packages offered to all new teachers might have a significant impact in attracting teachers, this second research question explores teachers'

perceptions of other incentives that might also significantly motivate teachers to accept teaching posts and remain in the profession working in the Rukwa region.

Question Three:

*To what extent does the incentive initiative influence teacher retention in the region?*

The Rukwa Civil Servant Facilitation Fund (RCSFF) program was initiated through individual teachers' efforts in Rukwa. Kigoma a neighboring region that faces similar challenges of teacher shortage does not have any program of incentives to attract teachers to the region. By comparing these two regions, this third research question proposes to examine how the Rukwa incentive program has or has not influenced teacher retention.

### **Significance of the Study**

In this section, I will focus on two sets of key players, policy makers and politicians. I believe that the results of this study will most likely serve their interest and help them analyze the issue of teacher retention more attentively in Rukwa, Tanzania.

### ***Significance to policy makers in the government/MOEVT***

Formulation of policies is just one aspect in the policy cycle, followed by the crucial stage of implementation. Since 2002, Tanzania has made ambitious policy reforms in primary and secondary education. Policies targeted to increase students' enrollments were implemented and have dramatically improved the state of education in the country, particularly in terms of classroom infrastructure, student enrollment, and construction of teacher houses. However, the question remains as to whether or not there are adequate and reliable qualified teachers to facilitate student learning in schools throughout the year. The RCSFF incentive program for teachers in Rukwa potentially impacts teacher recruitment and retention in similarly hard -to-

staff areas. Although there are various motivating factors for teachers to work in remote areas, monetary incentives seem to play the biggest role in retaining teachers in hard-to-staff areas, particularly in peripherally and remotely located regions (Roberts, 2004; Cobbold, 2006; Mulkeen et al., 2007; Duflo et al., 2012; Kolbe & Strunk, 2012). This study is intended to provide information that will help policy makers to deeply visualize educational related policies through a different lens and to provide government policymakers with practical insights on how to design implementation plans of the policy for secondary schools teachers in the country.

Although implementing the incentive initiative for all teachers in the country is challenging, the government has to figure out how to implement the incentive policy at national level, particularly for teachers who serve remote areas where fewer teachers accept teaching positions. Mulkeen et al., (2007) acknowledge the high cost of implementing financial incentives for all teachers, but the authors also suggest that improving working conditions—which is less expensive than financial incentives—could strongly influence teacher decisions to remain in remote schools. Furthermore, based on a rational perspective, recognizing the uniqueness and complexity of education challenges, especially in low-resource countries, the findings will provide information for policymakers about how to better implement educational policies in remote areas of countries like Tanzania.

### ***Significance to politicians***

One of the unforeseeable factors that affect developmental projects is politics. In their study Gunther and Memon reported that the success of community development projects was highly interlinked with politics (Gunther & Memon, 2009). When political power is misused, there is danger to the good progress of initiated interventions particularly at grassroots levels. It was a teacher who initiated the idea of incentive program for teachers in Rukwa. His idea was



accepted by most of the educational stakeholders and it was decided to put the idea into action. Fundraising and other contributions raised a large amount of money that was later offered to new teachers as incentives to stay in the region. Having the power to access this money, politicians wanted to have control over the funds; they thought that teachers have limited financial management skills and technical expertise in funds. On these grounds, regional political leaders decided to do a reshuffle and completely changed the management system. The RCSFF secretary<sup>1</sup> argues “since the restructuring of the funds disbursement, the program is no longer functioning properly.” The restructuring of program management team was expected to yield more positive effects regarding its efficiency, but it did not.

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<sup>1</sup> One of the RCSFF board member who is appointed by Regional Administrative secretary (RAS) as the Representative of Regional Secretariat and s/he acts as a personal secretary to the board.

## **CHAPTER II: BACKGROUND AND CONTEXT**

### **Education in Tanzania**

In Tanzania, education is considered a basic human right for every child. Increasing access to education for all children is both a national and World Bank goal. It is also one goal among several goals in cluster II of the National Strategy for Growth and Reduction of Poverty (NSGRP) initiative (URT, 2005) that Tanzanian government aims to provide quality education equally to all children. Within this context, Tanzania, like other developing countries, continues to struggle to increase access to quality education for both primary and secondary children by 2015.

The Tanzanian educational system is based on the seven-four-two year system: seven years of primary school, four years of Ordinary level secondary school (O-level), and two years of Advanced level secondary school (A-level). Additionally, the three-four-five years' system indicates the years of study for bachelor degree. Three study years for students enrolled in social studies, four study years for students enrolled in education and five study years for students enrolled in medicine and pharmacy fields. According to Basic Education Statistics in Tanzania (URT, 2012a) data, the number of students enrolled at each level can be visualized as a pyramid shape with the primary school level being at the base and the tertiary education level being at the top of the pyramid. Statistics show that there are more students in each lower level of education than in the upper level. Due to the Tanzanian government efforts to increase access to education for all, in 2012 Tanzania had 98.4 percent primary school gross enrollment ratio (URT, 2012a, p. 27) and 36.9 percent secondary school gross enrollment ratio (p.77). Nonetheless, the quality of education remains a question.

The number of secondary schools in Tanzania has increased by 2.4 percent, from 4367 in 2011, to 4528 in 2012, with Rukwa having the smallest number of schools in the country (URT, 2012a, p.101). Consistently, students enrolled in government secondary education has also increased by 54 percent from 1,035,873 students in 2008 to 1,602,752 in 2012 (p. 72). This impressive trend was expected to go hand in hand with the number of people accepting teaching jobs through government employment each year. Because it is widely accepted that teachers are the key players in promoting and enhancing the learning process, I believe supporting long-tenured teachers and keeping enough qualified teachers in remote schools might make a difference in students' learning and performances. Despite the national projections of teacher supply showing an increasing trend with time, it is surprising that in 2012, the total number of teachers entering the system decreased by 9.8 percent compared to that of 2011(p. 113). This situation signals that the government has to re-consider appropriate ways to staff schools—particularly those schools in remote areas—with enough and qualified teachers. Relying on teacher pre-service training colleges does not provide assurances for sustainable teacher supply based on school needs.

Rukwa and Kigoma share some common similarities. They are both peripherally located from Dar-es-Salaam, the government official administrative region where most of the public servant services are offered. They are both sparsely populated and hard to access. They also have historically been associated with witchcraft and superstitious beliefs, have poor infrastructure systems, high illiterate rates, low students' performance rates, and in general, are geographically less attractive regions. While in 2012, the Tanzanian government started to build paved roads in Rukwa both regions had never had paved roads before. Therefore access to the schools is still limited to a large extent. Additionally, most of the school buildings are either of poor quality or

have incomplete buildings. The higher illiteracy rate of parents in these regions contributes to poor student academic performance.

Although the country Certificate for Secondary Education Examination (CSEE) performance is not good in general, Rukwa and Kigoma are both below the national passing rate average. For instance, in 2011, 7,281 in Rukwa and 11,169 candidates in Kigoma sat for CSEE exams. Of these candidates, a total of 506 (6.95 percent) in Rukwa and 869 (7.78 percent) in Kigoma passed the exam and acquired division I-III grades. A large proportion of students received divisions IV and 0: 6708=93 percent in Rukwa and 10,269=92 percent in Kigoma (URT, 2012a)—who will mostly not qualify for further education opportunities. Based on 2011 CSEE results, the overall quality of passing (division I-III) for both regions is below that of national average 7.94 percent . It is surprising that, in 2003, the general (division I-III) passing rate was 38.1 percent but eight years later, the students' performance rate tremendously dropped to 10 percent (p. 90). This trend signals problems of education quality at the secondary school level. While it is likely that current students have equal capabilities compared to those tested in 2003, a difference may be the increasing adverse and seriously inadequate learning facilities. Inadequate teachers and unattractive learning environments inhibit the flourishing of students' talents.

Student performance also affects teachers' satisfaction and willingness to stay in a certain school (Mulkeen, 2007). Most teachers tend to be proud when students perform well but when student performance drops teachers are discouraged and are more likely to leave the schools. In fact, teacher retention is a challenge for many regions but seems to be critical in these isolated regions. Buhingu Secondary School is one among many cases of one-teacher-schools in Rukwa and Kigoma. The school has four classes with two streams each. Recalling that nine subjects at

“O” level schools need to be offered by more than a single teacher because each teacher specializes in only two subjects, how can a single teacher facilitate teaching for all nine subjects for all classes? This is ridiculous! Within the context of the on-going debate about education quality, in the case of Buhingu, do students really have access quality education or are they just attending school with ultimate failures at the end of their education programs? This school provides an example for the need to address the issue of teacher shortage, especially in unattractive areas, such as Rukwa and Kigoma.

### **Pathways to Teaching Profession in Tanzania**

As stated previously, the education system of Tanzania consists of 16 to 17 total years for schooling from primary to tertiary levels. Except for university students, where instructors set the exams to evaluate students’ learning, all students in other levels must sit for standardized national examinations normally administered by the National Examination Council of Tanzania (NECTA) each year. Secondary education has two categories— Ordinary secondary school— “O” level (also called junior secondary) and Advanced—“A” level (also called Senior secondary). Students who pass standard seven are selected to join “O” level secondary school education. Upon completion, students sit for the national examination, and for those who pass it, they get admission to “A” level schools. Based on their interests, academic performance and abilities, students narrow down the focus of their studies and choose to concentrate on certain subject combinations. The combination specialization can be Science (PCB, PGM, PCM, EGM, and CBG)<sup>2</sup>, art (HGK, HGL,<sup>3</sup>) and business (ECA, EGM)<sup>4</sup>.

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<sup>2</sup> P=Physics, B=Biology, C=Chemistry, G=Geography, E=Economics, and M=Mathematics

<sup>3</sup> H= History, G= Geography, K=Kiswahili, and L=English Language.

<sup>4</sup> E= Economics, C= Commerce, A= Accountancy, G= Geography and M=Mathematics

Following their “A” level passing rates, students at this level can apply to university to earn their degree or apply for a diploma in different fields. Completing “A” level education, students can apply for teacher training programs at TTCs or universities and become secondary school teachers. In preparing for teaching at the secondary school level, student teachers specialize in two particular subject areas that they will teach in schools. The Ministry of Education and Vocational Training (MOEVT) manages all processes of student teacher selection and allocating them to the respective colleges. Upon completion, all student teachers fill out job application forms, listing the top three most-preferred regions where they would like to work. Based on districts’ demands for teachers and student teachers’ preferences, MOEVT deploys teachers all over the country to various districts. Although District Educational Officers have the responsibility of positioning these teachers to schools based on school needs, it is common to find that many teachers are posted to a handful of schools while other schools receive no or few teachers.

From my experience as an education officer, uneven distribution of secondary school teachers is very common in Tanzania. Many factors, such as teacher health conditions, marital status, nepotism, and the likelihood of certain teachers to simply reject job positions in less desirable areas, reinforces this trend in teacher distribution. Evaluating the outcome of posting teachers evenly, we (educational officers) decide to position potential teachers based on teachers’ preferences and desirable areas. The rationale is that it is better to have high teacher concentration in certain schools rather than assigning these teachers to less desirable areas where they may not stay, thus eventually losing all of these teachers.

Consequently, this uneven distribution of teachers directly or indirectly impacts teacher retention. It is obvious that the general teacher-workload is higher in schools with

fewer teachers than in schools with many teachers. Among many other reasons this disparate workload situation demoralizes teachers from staying in those schools and increases teacher attrition rates.

### The study sites: Rukwa and Kigoma

Rukwa and Kigoma are both situated in the southern highlands of Tanzania. The Rukwa region lies along the remote southwestern border of Tanzania between Lake Tanganyika and Lake Rukwa. To the northwest, Rukwa borders with the Kigoma region, and to the northeast, with Tabora, and to the southeast, with Mbeya. To the south, Rukwa borders with Zambia and partly, with Congo DRC. It is one of the largest and one of the least populated regions in Tanzania.



Figure 1: The map of Tanzania with its administrative regions

Kigoma resides in the northwest corner of Tanzania and it borders with Burundi and the Kagera region to its north. It borders Shinyanga and Tabora to the east, the Rukwa region to the south, and to the west, Lake Tanganyika. Kigoma borders across the lake with Congo DRC. While the Rukwa region has three administrative councils: 1) the Sumbawanga Municipal, 2) the Sumbawanga rural, and 3) the Nkasi councils, Kigoma has four administrative councils: 1) the Kigoma/Ujiji urban, 2) the Kigoma rural, 3) the Kibondo and 4) the Kasulu councils. The councils are named after district's names. Since decentralization by devolution took place in Tanzania, all administrative issues are managed at the district level.

According to the 2002 national census, Rukwa had a projected population of 1,615,098 by 2012 where secondary school age children (from 11 to 18years) account for 23 percent<sup>5</sup> of the projected population. Rukwa has the second lowest population size going to Lindi (URT, 2002). In previous years, Rukwa was the least populated but in recent years the population has increased by 30 percent from 1,136,354 in 2002 to 1,615,098 in 2012. Among other factors, the high growth rate may be attributed to some social, economic, and political factors within and outside of the region. This includes the past influx of refugees from Burundi and Rwanda, and currently refugees from Congo DRC. In addition, high fertility rates may also contribute to the increased population in Rukwa.

### **Education in Rukwa and Kigoma**

Since it was established in 1974, Rukwa been slow to progress in economic development and infrastructure growth, and it has remained behind for many years in various social sector development aspects. In terms of educational development, few schools were developed in the last 50 years. When established, Rukwa had a single secondary school and now the region has a

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<sup>5</sup> Author's calculation using URT 2002 national census data



total of 117 schools in which 98 schools are run by the government and 19 are not. Of these schools, 96 (84 percent) are community schools commonly known as “ward” schools. These schools have relatively high community support in terms of man-power and funds compared to schools managed by central government. Additionally, Rukwa has a single public and three privately owned Teacher Training Colleges (TTCs). On the other hand, Kigoma had only 2 government secondary schools in 1961. Fifty years later Kigoma had reached to 157 secondary schools where 121 are run by the government and 36 are not. Of the government-run schools, 119 are community schools which most of the students attend, to get their education. While Kigoma places 6th among all districts in the number of government secondary schools in Tanzania, Rukwa region places last.

Rukwa and Kigoma have a total of 1598 and 1845 secondary school teaching staff (URT, 2012a). Data shows that Rukwa and Kigoma schools are in the bottom six regions (Lindi-852, Mtwara-1401, Singida-1530, Rukwa-1598, Manyara-1830 and Kigoma 1845) with the smallest number of teaching staff in the country. Despite having a large number of challenges such as teacher shortages, lack of adequate finances to run the schools efficiently, and little parents motivation to send their children to school, the government’s efforts to establish community schools was seen as good news for most Rukwa people.

Though regional data on teacher average age were inaccessible, national data shows that, in these regions, more than 82 percent (Kigoma) and 86 percent (Rukwa) of teachers are between 20 and 40 years of age. Of these percentages, 38 percent and 39 percent consists of 25-29year olds in Rukwa and Kigoma respectively (URT, 2012a). This teacher age-group is highly mobile and is frequently reported to have low retention rate (Ingersoll & Smith, 2003; Hughes, 2012).

## **Challenges of Teaching in the case-study areas**

The key challenges of teaching in Rukwa and Kigoma includes high teacher shortage, poor working conditions, challenging and poor infrastructure systems, cultural beliefs, and the refugees challenges from neighbor countries. The challenges are briefly described below.

Teacher shortage is a global crisis. The Ministry of Education and Vocational training in Tanzania annually deploys thousands of secondary school teachers but most of them are reluctant to take teaching positions in remote areas. This reluctance leads to teacher shortage that has a tremendous effect on students' academics. For the past four years, the percentage of candidates who pass the CSEE national exams has been decreasing from 90.3 percent in 2007 to 50.4 percent in 2010 (URT, 2012a). In CSEE 2012 results, the pass rate has further dropped to 36 percent compared to that in 2010 (URT, 2012). This trend could signal a decline in the quality of our current education system. Students are enrolled, but if there are not enough teachers who are committed to teach students, then the government is less likely to meet its goal of increasing access to quality education equally to all children.

Limited space and resources in secondary schools greatly affects expected educational outcomes. There is insufficient supply of instructional materials, decent houses, working places (offices), laboratories, and lavatories, all which contribute to low teacher retention. It's common to find one or two teachers in most of highly isolated schools in Rukwa and Kigoma. According to Sher, (1983) when teacher deployment in remote schools contain more "urban-breed" than "rural-breed" group of teachers, there is high possibility of these teachers to leave the schools. Lack of life experience in such areas, causes most of urban-breed teachers to reject Rukwa working positions. Being raised in an urban area, better services influence teachers' likelihood to

decline work in less developed areas. Rukwa and Kigoma have similar working conditions particularly in newly built and remote community schools.

In addition to teacher shortage and poor working condition, there are other contextual factors that make it harder for the existing handful of teachers. For years Rukwa has had no paved roads to connect it with other regions and neighboring countries. Since independence in 1961, Rukwa had no a single paved road within or across the regions. , People coming to the Rukwa use airplanes, ships, or buses. But land travelling is tedious and long buses rides are common. It almost takes 22 to 24 hours to reach Rukwa from Dar es Salaam (the capital city of Tanzania). This includes a 12 hours trip from Dar es Salaam to Mbeya, where one has to sleep over in Mbeya and the next day one has to connect with another bus for an additional nine to ten hour trip to Rukwa.

The situation is worse in rural areas both in terms of time and resources. For instance, if a teacher in a Kala secondary school wishes to receive administrative services from the district, s/he has to spend two days on unpaved roads to reach Namanye (the Nkasi District administrative town) where the district administrative headquarters are located. Due to poor road systems, teachers have to travel to the Rukwa municipal, sleep over there and then on the next day take another bus to Namanye. In some of the areas, buses are available for transportation, but in some areas there is limited bus service. For instance, in Kaoze some teachers from Kaoze Secondary school prefer to take the cheapest available options of lorries. In these areas lorries are commonly used to transport people as well as other things such as farm products.

The transportation system varies across districts, thus making more peripheral areas difficult to get to. In 2012, the Tanzanian government started to construct paved roads to connect the region with the neighbor regions; however Rukwa roadways are still poor. The unpaved

roads in Rukwa not only are slow, dusty and pot-holes laden, but when it rains, cars can stuck in the mud for days. Fortunately, the largest road project underway is going to link Rukwa with Mbeya. This will enable easy access to the region and thus greater reliability of transportations links in the future.

Similar situation of transportation is observed in Kigoma. Kigoma has only one 3km paved road that runs from Ujiji to a railway station. Though there are possibilities of using buses for convenience, most of the people depend on the marine transportation system. One of the oldest ships in the world, MV Lihemba— made during German colonial times is still in operation and serves most of the rural Kigoma districts. Apart from its higher fares (Tshs 25,000 or \$15), this ship is not reliable for travel. For unknown reasons the ship runs once in a month; so this restricts people to travel in a single day within a month. Although there are some boats that run more frequently than the ship, due to safety reasons, most of the teachers like to travel on the ship. Because of once a month departure schedule of the ship, most of the government employees are indirectly forced to travel during that single day. As a consequence, this situation leaves students with no or few teachers to teach during the ship's schedule. Since this ship run so seldom, people are forced to use other transportation which in most cases is very rare or inaccessible. .

In order to ensure access and quality education and training, good infrastructures and good facilities occupy a central position in achieving these goals. These amenities not only provide shelter and good working conditions for students and teachers but , they act as incentives for teachers and students to stay in schools. Improved amenities increases the possibilities of effective learning and better student performance outcomes.

Recognizing the importance of teachers in schools and the potential of incentives in retaining them in schools, the Tanzanian government under Basic Education Master Plan (BEMP), clearly stipulates its aim as “to equip schools with all necessary equipment for learning.”

*These infrastructures and facilities reduce absenteeism, dropouts, and accidents and enhance retention for both students and teachers. It is therefore critical that these facilities be made available and in sufficient quantity and reasonable quality. The government is committed to providing good physical facilities on an incremental basis so as to provide access to quality education to majority of Tanzanians* (URT, January 2001, p. 15).

Most Tanzanians will not be surprised to hear about historically questioned superstition beliefs in Rukwa and Kigoma. Rukwa is mostly occupied by the Fipa tribe; the tribe popular for witchcraft doctor practices, with people well known for their knowledge of local medicine and magical powers. The name of the Rukwa capital city “Sumbawanga” literally means “throw away your witches.” It is believed that the Fipa were scared of being seized by witchcraft intruders from other areas. So the word sumbawanga conveys to outsider who may think they are better-skilled witchdoctors than the Fipa people, to discard their witchcraft powers before they enter the Rukwa region. They did this because the local Fipa people were defensive against people who possess more powerful witchcrafts skills.

The belief in the magic power of Fipa people and the superstitious beliefs in Rukwa have prevailed for years in such a way that most government employees are scared to work in the region. It can be inferred from interviews that (although RCSFF attracted teachers to the region) some teachers applied for Rukwa posts were eyewitness the witchcraft practices. Kigoma has a similar situation regarding superstitious beliefs.

Referring to the situation described above, most of the government employees particularly teachers and medical professionals refer to Rukwa and Kigoma as unsafe places to

live. This perception is associated with the long-term teacher shortage and poor teacher retention in the two regions (URT, 2009). Not only poor road systems and unreliable transportations options, poor working environments, fear of witchcraft and geographical isolation increases the uncertainty to the regions, but the regions experience refugees' challenges due to the impacts of civil wars from neighbor countries, i.e Congo DRC, Rwanda, and Burundi conflicts. It seems reasonable that such challenges most certainly would affect a teachers desire to accept and stay working in such conditions.

### **Teacher Incentive Program in Rukwa**

The Rukwa Civil Servant Facilitation Fund (RCSFF) is the incentive program established in Rukwa as a response to high teacher shortage in the region. Reports on incentive programs launched in other countries which are designed to attract and retain teachers have given administrators insights on how well-designed incentive programs can serve their own teacher attraction and retention objectives. In many cases, most teachers do not wish to live in highly isolated and remote areas. Not only in Tanzania, but in most developing and even in developed countries (Sher, 1983; Duflo, Hanna, & Ryan, 2012) schools are struggling to staff remote schools with qualified teachers which serve large populations of poor, minority and low performing students. Teachers who decide to teach in isolated schools face many more challenges than those that teach in towns and cities. To name a few, unreliable transportation, poor communication systems, inappropriate infrastructures, lacking basic necessities (houses, medical services, reliable and worthy food, clean and safe drinking water), insecurity, and students' poor academic performance are some of challenges remote schools face.

Although there are many strategies proposed to minimize the gap between students in municipal schools who seem to have more advantages: wealth, access to education facilities,

access to quality and experienced teachers, and access to shadow education. This metaphor creates differences in students' performance. Prince (2003) claims that,

*No strategy to close the academic achievement gap between these two groups or improve students' achievement is likely to work in the absence of highly qualified teachers ...and principals who can create good working conditions that will attract and retain them.*  
(Prince, 2003, p. xi)

The education systems have to sort out the differences between the education offered to students in isolated areas and that in non-isolated schools. Improved environment, availability of fully furnished instructional facilities and provision of incentives might motivate teachers to work in these less desirable areas. This strategy might reduce the disparities of education offered to Tanzanian children thus better education equally to all students.

After increasing the students' enrollment, now MOEVT has to focus on keeping teachers in these remote regions. Facing the same challenges, Rukwa initiated the RCSFF program in 1999 with the initial legal work beginning as earlier as 1994, and implemented in 2005. The program is registered as a non-governmental organization (NGO) and it serves the purpose of attracting and retaining government employees including secondary school teachers to the region. Targeting the time near graduation, some of the RCSFF committee members (by that time, most of them were teachers) visited different Teacher Training Colleges (TTC) to publicize and promote the Rukwa RCSFF program to student teachers. These RCSFF committee members were campaigning and searching for teachers from revered and highly populated TTCs. There was miscommunication between the District Human Resource Officers (DHRO) and the RCSFF committee members to match-up the actual number of teachers councils wanted and the budgeted amount set aside for teacher hires. In addition to set salaries, student teachers were promised to receive several incentive packages including cash, bicycles for transportation, beds with mattresses, and kitchen utensils when they accepted Rukwa teaching positions.

## **CHAPTER III: LITERATURE REVIEW**

### **Theoretical Basis for Teacher Retention**

Several models can be applied to describe teacher retention in less desirable areas. The societal model proposed by (Sher, 1983) provides the theoretical grounds for this present research study (see Figure 2). This model identifies the three C's to explain teacher retention; Conditions, Characteristics, and Compensation. Sher explains that there is enough evidence to suggest that attracting and retaining competent teachers to work in rural schools is largely a function of the "three C's."



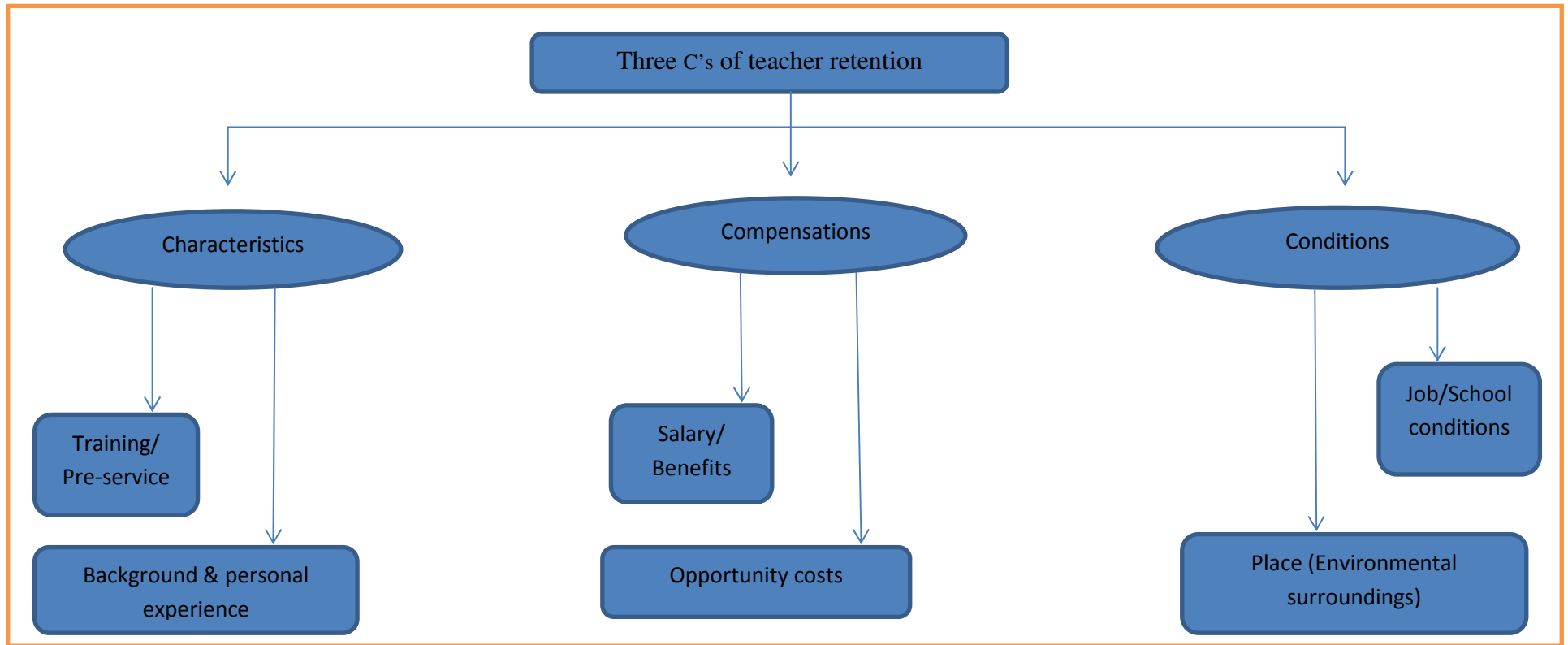


Figure 2: Sher's 3C's Model of teacher retention (Sher, 1983)

## **Characteristics “C”**

“Characteristics” is one of the three components in Sher’s model. This component represents teacher’s backgrounds, personal experiences in life, individual characteristics, and teacher trainings and/or pre-service programs attended. In a subsequent study, Jahangiri and Mucciolo (2008) found a correlation between students who liked the teacher’s personality characteristics, teaching-process characteristics, and teacher’s performance characteristics. Colker (2008) emphasizes the use of demographic backgrounds in terms of ethnicity, gender, geographic location, marital status, and experience to predict teachers’ possibilities of staying at hard-to-staff areas and assign teachers working positions based on their likelihood of staying for long in those areas. Sher (1983) and Schnorr (1995) argue that planning for teacher retention should start with teacher training programs.

Early and proper designing of teacher retention at training level, will provide enough time to identify teachers with required characteristics to take teaching positions in remote areas. The logic behind this is that, if schools/ministries of education can attract and recruit teachers from the pool that comprise not only “urban-bred” candidates, the pool will contain teachers with different characteristics. The higher diversity of the teachers we might have, the higher the probability to reduce the recruitments and retention problems in remote and most difficult schools to staff areas. Sher (1983) argues that education systems should hire right people, at the right time for the right places. The right person to serve remote areas has different personal characteristics compared to one who will serve non-remote areas.

## **Compensations “C”**

In this part of the model, Sher (1983) suggests “Compensations” in terms of incentives, salary/benefit packages, opportunity costs, and rewards as essential components for teacher

retention. Oliver (1988) mentioned incentives that teachers are supposed to receive in hard working areas to be both intrinsic and extrinsic. Teachers who are intrinsically motivated are energetic and active workers. Although there are mixed reports on whether or not incentives can improve education quality (Mulkeen et al., 2007; Masaiti & Naluyele, 2011; Kolbe & Strunk, 2012; ), and students learning, Prince (2003), Duflo et al. (2012) and Hughes (2012) report, teachers are responsive to the financial incentives as an extrinsic *stimulus* which marks the importance of incentives for attracting and retaining teachers in hard-to-staff areas.

### **Conditions “C”**

In Sher’s (1983) three C’s teacher retention model, the third factor, “Conditions,” is characterized as a component that comprises the school and working conditions. Most remote schools in developing countries are characterized by poor working conditions which demoralize teachers from accepting teaching positions in those areas. Generally speaking, unpaved roads, poor or no electric power facilities, inadequate transportation systems, indigent houses, poor health services, social and professional isolation, lack of places to buy foods—to list a few—are common features in remote areas. Reed (1985) admits poor working conditions to be a critical challenge for many of novice teachers. This condition forces many teachers either to reject teaching positions or accept them as a stepping stone to better teaching opportunities. Sher (1983) claims a positive correlation between working conditions and teacher retention, particularly in less desirable areas.

### **Discussion of Reviewed Literature**

Teacher retention has been an issue of concern for decades. It is documented that teachers are the most important factor to facilitate students’ learning in any school settings (Ingersoll, 2003; Mulkeen et al., 2007). They play a pivotal role in ensuring learning happens

and reducing dropout rates (Sargent & Hannum, 2005), particularly in highly needy schools. Staffing difficulties and un-implemented strategies for retaining teachers have been experienced for a number of factors. Because these factors vary across school settings, teacher's personal characteristics (Ingersoll & Smith, 2003; Sargent & Hannum, 2005; Plash & Piotrowski, 2006; Cobbold, 2006) and can sometimes be determined by availability of teacher compensations and incentives, it is hard to address them. While some research studies on teacher retention indicate that incentives have been successfully applied in retaining teachers in the profession (Vegas, 2007; Holochwost, DeMott, Buell, Yannetta, & Amsden, 2009; Kolbe & Strunk, 2012), other studies indicate contradictory findings. In their studies Masaiti and Naluyele (2011) and Steele et al.(2010) report incentives programs to have no significant effect on retaining teachers. Additionally, some researchers suggest a well-designed and well-planned incentive program correlate with a higher probability to positively impact teacher retention particularly in remote areas.

In Tanzania the teaching pool receives thousands of new teachers each year from Teacher Training Colleges (TTCs). According to URT (2012a) a total of 105 TTCs enrolled 16,632 student teachers in 2012. While the TTCs were expected to produce a sufficient number of teachers to adequately staff all schools, this expectation has not been realized, particularly in remote schools. There appears to be an endless cycle where the government keeps funding pre-service teacher trainings, deploying teachers who may teach for a few months and leave the teaching profession or move to other school districts, and deploying new teachers in the next year and so on. Some research specifies that education systems have little or no incentives (Mabogoane & Patel, 2006) and therefore fail to communicate with teachers the kind of

anticipations the government systems expect from them (in this case to stay in their positions and work).

Although some teachers claim to be intrinsically motivated towards teaching profession, several studies illustrate that many teachers are extrinsically motivated to the profession ( Schnorr, 1995; Buckley et al., 2005; Cobbold, 2006; Holochwost et al., 2009 ). As pointed out earlier, teachers are only one among many factors that influence student learning and performance. For example, in a situation with inadequate instructional materials, a well-motivated and creative teacher can design alternative materials for class learning. Generally, without teachers in our classrooms it is hard to improve access and quality education to Tanzanians. This can be illustrated in the 2011 CSEE national results (URT, 2012a). Students' poor performance is largely due to high teacher shortage in community schools where more than 60 percent of secondary school students study.

As I mentioned earlier, considering the current low retention rate for secondary school teachers and based on the current trends, Tanzania has to take deliberate measures to address the teacher shortage in remote areas; otherwise, the situation will get worse and worse (URT, 2012a). The situation is doubtful when poor families are unable to provide private schooling to their children like elite families do. Is this increasing access to quality education or creating differences and inequalities in accessing quality education? Unintentionally, we might be creating power structuralism that will ultimately increase disparities between upper and lower classes. This poses dangerous situation for a socialist country like Tanzania. During his power Mwalimu Julius Kambarage Nyerere<sup>6</sup> also known as the *father of Tanzanian nation* emphasized socialist practices. Based on the theory of *Ujamaa-socialism*, Mwalimu Julius

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<sup>6</sup> The first president of Tanzania

Nyerere advocates equal social structures. He discouraged degrees of stratification and class formation. For Julius Nyerere, education was the single means of equalizing people that could lead into socially identical nation. From my working experience both as a teacher and as a district academic officer; I have observed talented students from low-income families move from a situation of deprivation to a wealthy life via education opportunity. Provision of quality education to all children can enhance the lives of students who could otherwise never move up in the socioeconomic strata. In the following section, I present a review of the literature that offers insights into how several strategies have been used to address the issue of teacher shortage.

### **Incentive Programs**

In this era of highly needed economic development, countries have increased efforts to equip schools with adequate teachers whom are believed to enhance better students learning. Better and well-prepared students with expected skills are assumed to positively contribute to individual and societal economic growth. Although student learning can be interfered by several factors, many research reports show that teachers are the most key factor to facilitate student learning and academic performance.

Teachers' retention mechanisms in less desirable working areas not only need the use of multiple motivational strategies, but also the use of proper and well-designed programs that can systematically and effectively be implemented. Some developing and developed countries are struggling to staff schools with enough teachers through the use of variety of incentive programs.

Aiming to attract and retain teachers, State of California offered a \$20,000 incentive package to all new teachers who accept to work and stay in low-performing schools at least for four or more years. The incentive package operated under the Governor's Teaching Fellowship (GTF) program.

Steele et al. (2010) explored the effects of GTF program by obtaining data from California Student Aid Commission (CSAC), the California Commission on Teacher Credentialing (CCTC), and California State University Chancellor's Office (CSUCO). He did not find any significant difference on retention rate between teachers, who receive GTF and teachers, who did not receive it. Both groups of teachers recorded the same rate of retention. Therefore, it was assumed that teachers' tendency to stay in teaching job and their interest to teach keep them in their profession more than any other incentive.

On the contrary to Steele et al. (2010), Duflo, Hanna, & Ryan (2012) assessed attendance of teachers and their teaching performance by using video cameras in Seva Mandir India. . The results of the study showed considerable differences on attendance of teacher between teachers who received incentives and those who did not. Although Duflo et al. (2012) explored the impact of financial incentives on teacher attendance and students' performance, incentives consistently improved teachers' attendance behaviors. Duflo et al. (2012) reports a long persistent behavioral change of teacher attendance to classrooms that allowed for extra instructional time for students, thus increased their performance.

Unlike in Steele et al. (2010) study, in Duflo (2012) study, no incentives were offered for recruitment, however, the incentives offered had strong impact on teacher retention. Steele et al. (2010) reports GTF program in California had a strong impact in recruiting teachers

where more than 75 percent of teachers from both groups had strong desires to take teaching jobs in designated areas.

Contrary to Duflo et al.(2012) and Steele et al. (2010) case studies, reports from a recent study conducted in Zambia reveals that, both financial and non-financial incentives programs demonstrated no impact on employees' decisions to take and stay working at the Ministry of Education (MOE) (Masaiti & Naluyele, 2011). In this study, more than 75 percent of interviewed employees perceived the offered recruitment and retention incentives packages had little influence in their decision to stay and work in the Ministry. Only 23.4 percent valued these incentives as motivators for them to work at the ministry.

### **Incentive Programs Specificity**

Varieties of financial incentives are reported as the essential strategies used in recruiting and retaining teachers. Although some countries with scarce financial resources face challenges to implement the financial strategies (Masaiti & Naluyele 2011), some research studies reports that it is easy to implement targeted and financial incentives programs in retaining teachers. One of the recent studies by Kolbe and Strunk (2012) examined on variety of incentives used in Florida and California to address the issue of teacher shortages in these states.

Kolbe and Strunk (2012) reviewed a vast array of literature on incentive typologies; they explored how these typologies are used, and what is their effectiveness in addressing the teacher shortage problem. They raised the question of how financial incentives are designed and implemented to curb the existing challenge of teacher shortage in less desired schools. Though in his study Shen (1997) did not concentrate on program design and implementation



planning, rather examined general issues of teacher retention in public school; both Kolbe and Strunk (2012) and Shen (1997) recommended targeted incentive programs rather than general incentives programs .

Building on Kolbe and Strunk (2012) work, Masaiti and Naluyele (2011) argue that, for an incentive program to be recognized as effective, it has to be appropriately designed to suit a definite purpose. The incentive programs have to be precise and target-specific for a particular group of teachers (Shen, 1997).

Likewise, Cobbold (2006) examined how Ghana addressed the teacher shortage problem in rural schools by establishing district sponsorship program. Working as an inducement policy, the sponsorship program deliberately attracted teachers to teach in rural areas. The program was strong in recruiting teachers, but, unfortunately all sponsored teachers intended to leave after three mandatory working years. Though the study differs in context with Steele's (2010) study, Cobbold (2006) findings echoes Steele, Murnane, and Willett (2010) findings conducted in California.

In both studies, the offered incentives had no significant differences on teacher retention. Neither sponsored and non-sponsored teachers in Ghana fellowship program nor the GTF and non-GTF recipients in California showed differences in retaining teachers at less desirable locales. Both groups in both areas showed similar patterns of teacher retention. For the teacher incentive program to be effective and efficient, both Cobbold (2006) and Steele et al. (2010) insist on systematic use of certain criteria to offer incentives. They both highlighted the need for creativity, program specificity and proper designing of incentive programs.

Furthermore, regarding appropriate time to start programs planning process, Sher (1983) and Schnorr (1995) mentioned that, planning and designing should start at teacher

training programs. Both authors suggest that, incentives for teachers need to be addressed in personnel preparation programs. Selection of student teachers for training colleges has to consider equal proportions of student teachers from both urban and rural areas. Because teacher shortage challenges prevail in remote areas, Sher (1983) argues that, the teacher training programs should be designed to prepare students to work in remote areas and for higher retention Cobbold (2006) insisted the issue of teachers' orientation to rural teaching. Collectively, both authors see teaching practices in remote schools as a crucial issue to consider in teacher training programs.

Alternatively, Sher (1983), Kolbe and Strunk (2012), Cobbold (2006), and Masaiti and Naluyele (2011) emphasize appropriate planning and program specificity. In addition, Vegas (2007) suggests for re-designing of incentive programs. He claims that, well-designed incentive programs which communicate expectations for teachers are more likely to retain teachers in desired areas. Ministries of education, districts and schools must have specific goals for targeting specific teachers for specific areas. If a certain school needs three physics and four mathematics teachers, then, we should use limited resources to attract and keep these teachers and hire not generalists. Depending on the school needs and available resources for rewards, incentives can be offered for novice, experienced, or transferred teachers for a specific purpose.

In a similar way, Kolbe and Strunk (2012) argue that incentive structures are very complex, so we should use certain criteria—level of education, teaching subjects, teachers' readiness to work in remote/needy schools, gender, school location—to select whom to attract and what resources to invest to retain them. Apart from emphasizing the teachers involvement in incentive policy formulation process, both Kolbe and Strunk (2012) and Masaiti and

Naluyele (2011) clearly explore the hazardous gap between current developed incentive policies and their appropriateness in addressing the teacher shortage issues. In order to meet teacher retention challenges that confront MOEs, districts, and schools, it is necessary to consider strategic mechanisms for designing relevant policies where upon their implementation are more likely to address the issue of teacher retention in remote and hard-to-staff areas.

### **Extrinsic factors and their attributes in teacher retention**

Extrinsic factors vary from monetary-related to non-monetary-related factors. Vast research studies report differently on the potential influence of salaries and compensation packages as monetary factors on retaining teachers (Sher,1983; Cobbold, 2006; Mulkeen et al., 2007; Vegas, 2007; Masaiti & Naluyele, 2011; Kolbe & Strunk, 2012). Sher (1983), the father of 3C's model argues that, teacher retention is the function of working Conditions, teacher Characteristics and Compensations. Reed (1985) also argues that adequate financial compensation can solve the problem of teacher shortage in remote areas.

The study by Mulkeen et al. (2007) on whether or not the Governor's Teachers Fund(GTF) program in California could help in attracting and keep teachers, provides an interesting insight. The program offered a total of \$20,000 per individual teacher who accepted to work in low-performing schools. In his study Mulkeen et al. (2007) had only 2.65 percent of the total sample as GTF incentive recipients and the rest were not. The research findings showed that approximately 75 percent of both GTF incentive recipients and non-recipients were attracted to work in low-performing schools. Although there was no significance differences on teacher retention between these two groups, Mulkeen et al. conclude his findings by emphasizing the potential role played by monetary incentives to attract and retain teachers.

Likewise, Shen (1997) asserts the inevitability of incentive programs to positively impact students' performance. Shen (1997) argues that incentive packages provide dual-benefit; teacher retention and improved students' academic performance. By providing incentives to teachers and when other factors are kept constant, districts, Ministries of Education, and parents have to demand better education quality for students.

Salary is one of the strongest factors highly valued by teachers under compensation packages. Many education scholars think that, compensation is the most critical factor teachers use to decide whether or not to take and stay in a particular school (Sher, 1983; Vegas, 2007; Mulkeen et al., 2007; Kolbe & Strunk, 2012). Generally speaking, education practitioners, teachers, policy makers even the governments recognize the importance of salaries in recruitment and retention processes.

A study done by Shen in 2010 parallels the Sher's (1983) general argument. Shen (2010) conducted a study to examine teacher retention and attrition patterns using SASS91 data in USA. From a designed conceptual framework, he assumed that teacher retention is the function of individual characteristics and school related factors. Under individual characteristics Shen found that, there was a positive correlation ( $r=.54$ ) between teaching experience and salaries with teacher retention of stayers and leavers. Stayers ( $M= 3.32$ ) had greater salaries than movers ( $M= 2.73$ ). Teaching experience also differentiated the stayers from the leavers. More experienced teachers had higher retention rate than others. These findings concerning salary and work experiences conform to several research studies (Holochwost, DeMott, Buell, Yannetta, and Amsden, 2009; Hughes, 2012; Kolbe and Strunk, 2012)

From my working experience as a district academic officer, several times in informal conversation, teachers mention salary as a strong determinant factor for their decision in accepting the job.

School/organizational structure and school characteristics also is reported to influence teachers' level of satisfaction in staying in a certain school. Renzulli, Macpherson Parrott, and Beattie (2011) studied teacher retention in charter and traditional public schools. Renzulli and her colleagues found that school organization models/structures that promote autonomy are associated with teachers' job satisfaction thus high teacher retention. Although teachers in charter schools seemed to have more autonomy, Benzulli et al (2011) reported these teachers have less likelihood to stay in the teaching profession than teachers in traditional public schools. Similar to Renzulli et al (2011) argument, Masaiti and Naluyele (2011) also reports that employees autonomy in decision making matters.

A well-structured organization is expected to provide administrative support to the employees. Research studies provide varied evidences on this aspect. The work by Mulkeen et al. (2007) demonstrates how financial incentives can help to attract and retain talented teachers in highly needy schools. Noting the important role played by head teachers in administrative issues, Mulkeen (2007) reports that, most secondary schools head teachers are less capable to handle administrative responsibilities. To provide valuable support to teachers, Mulkeen (2007) argues systematic approaches to train head teachers to become more capable that would ultimately strengthen school leadership capacities. The assumption is that, well-prepared head teachers are more likely to provide relevant support to their junior teachers. This argument echoes Schnorr (1995) research findings. Schnorr (1995) investigated teacher retention planning efforts undertaken by Alaska Comprehensive System of personnel Development

(CSPD). In his study 88 percent of all respondents perceived principal/head teacher support as the preferred incentive package they would like to get. Schnorr's (1995) findings contradict with Hughes (2012) study report. Hughes (2012) demonstrates no association between teacher retention and provision of administrative support to teachers. Hughes (2012) reports schools' administrative supports to teachers have negligible impact on teacher retention.

Examining teacher labor markets in developing countries, Vegas (2007) show that empowering teachers and increased school autonomy, schools performed better. The author referred Programa de Educación con Participación de la Comunidad (EDUCO) in El Salvador and Proyecto Hondureño de Educación Comunitaria in Honduras. Discussing school-based management, Vegas (2007) argues that, decentralization and increased school and teacher autonomy can substantially enhance teachers' accountability on school resources and students' performance.

Adding to Vegas (2007) idea of incentive double-benefit, actually by increasing administrative, managerial and decision-making power at school level, education system could have incentive trio-benefits (the higher teacher retention, the better students' performance and the wise use of resources). Governments seem to hesitate to empower schools, but under clear and defined goals, systematic, regular monitoring and evaluation mechanisms, schools autonomy could definitely increase school efficiency and performance. Vegas concluded under-designed programs that cannot meet teachers' specific needs will influence teachers' decisions negatively.

Teacher characteristics can also determine teacher retention rate. Teachers specialized in science and mathematics subjects are less likely to stay in hard-to-staff areas (World Bank, 2005). Teachers with higher level of education (degree holders, and graduate degree holders)

are also highly reported to quit from classroom teaching. Based on their qualification and availability of potential job opportunities outside, these teachers might not settle in a single school unless they are satisfied. Mostly, satisfaction is measured comparing what others with similar qualification earn outside there. As argued before, the use of compensations and other incentive packages might remove these differences, support teacher retention and ultimately facilitate student learning.

In terms of job experience and marital status, teachers with higher teaching experience and/or are married tend to stay longer in their schools (Steele et al., 2010; Hughes, 2012). Hughes investigated how school characteristics and teacher efficacy can affect teacher retention. Citing Hanushek and Rivkin (2007) and Hughes (2012) demonstrated a U-shaped plot of age and teacher attrition (Hughes, 2012, p. 246). Middle aged teachers, who are mostly married, stay in the teaching profession for long period time than the younger and older aged teachers. While older teachers leave the profession through retirement, younger teachers leave for “green pastures” elsewhere.

Job dissatisfaction is reported as causing young teachers to leave teaching in government schools. As discussed by Renzulli et al. (2011) teachers’ level of satisfaction is associated with teacher retention rates. Investigating on proper practices towards teacher shortage, Ingersoll and Smith (2003) found that, among many factors, job dissatisfaction causes teachers to leave profession. Based on their findings, both Renzulli et al. (2011) and Ingersoll and Smith (2003) recommended the use of various methods (increased teacher autonomy, improved working conditions, provide compensation) increase teacher satisfaction.

Consequently, on the basis of the literature reviewed about incentive programs, teacher retention and the association of teachers’ needs, concludes that incentive programs

have a positive correlation with needs of the teacher. Thus such programs can play an important role to increase teacher retention.



## **CHAPTER IV: RESEARCH METHODOLOGY**

This study employs a mixed methods research design. The interviews and reviewed documents are the instruments used to collect data for the study. Both quantitative and qualitative data were collected to describe the case study. Nonetheless, there is more emphasis on qualitative data than quantitative data.

### **Sampling and sampling techniques**

Based on the nature of this study, I employed snowball and convenience sampling techniques to select individuals for an interview. Teachers in the Rukwa region employed under RCSFF program were managed by the regional office, and this office provided me with a list of 27 secondary schools and a letter of permission to collect data at schools. From this list of 27 schools, I then randomly selected 7 schools to get a representative sample from which I then selected 13 teachers to interview. These teachers were employed when the incentive program was in operation and some benefited from the RCSFF packages. However, some were employed but did not get any incentives.

Additionally, I interviewed Regional Educational Officers (REOs) and District Educational officers (DEOs). These interviewees were from the Rukwa and Kigoma regions and were all interviewed over different time period. The interviews ranged from one to two hour time period. Out of the list of 24 interviewees I was able to interview 13 teachers, one head teacher and a total of ten officers from both regions. I did in-person interviews with all interviewees. I could get more data if I was able to interview more teachers, but some of the teachers and DEOs had other national responsibilities that prevented me from interviewing them. The following table shows the number of participants based on different groups of teachers and administrators.

**Table 1: Sampled participants involved in qualitative data collection**

Title of participants	Work station	Numbers in gender		Region	Total no. of interviewees per region	Method applied to collect data
		Male	Female			
Teachers	Nkasi S.S	3	1	Rukwa	20	FOCUS GROUP DISCUSSION
Teachers	Nkomolo S.S	2	1			
DEOs & SLOs	Regional office	2	-			
Ag. DEO & Head teacher	Nkasi District Wampembe S.S	1	-			
Teachers	Kaoze S.S	2	-			INTERVIEWS
Teachers	Kate S.S	1	-			
Teachers	Ntuchi S.S	1	1			
RAS	Rukwa regional office	1	-			
REO	Rukwa regional office	1	-			
DAO	Rukwa urban	1	-			
RSCFF Secretary	Rukwa regional office	1	-			
REO	Kigoma regional Office	1	-	Kigoma	4	
SLO	Rural district office	1	-			
Head teachers			1			
Ag. DEO	Kigoma Ujiji		1			

During these interviews, I also collected qualitative data from two of three DEOs, two of three Statistics and Logistics Officer (SLOs) in the Rukwa region. Lastly, at the regional level, I interviewed the Rukwa Regional Administrative Secretary (RAS), Kigoma REO, and the RCSFF General Secretary. I also interviewed one head teacher in the Kigoma region. Most of my qualitative data were mainly collected through interviews and focus group discussions.

### **Sample and study population**

I chose the sample for this study from the teacher population in the Rukwa and Kigoma regions, because I was interested in teachers who were employed under the RCSFF program. I sampled more teachers from Rukwa than in the Kigoma region. Do RCSFF teachers have a higher retention rate than teachers not employed under the program? I was curious to find out

how RCSFF program and its incentives affect the teachers' decisions to take the teaching positions in the region. The regional and district officers were automatically selected as they were the only administrative people leading teachers and managing all educational related issues in these regions. Of 24, the individuals that were interviewed one was head teacher, 13 were school teachers, 9 were either Regional or District Education Officers, and one was the Rukwa RCSFF general secretary. Because one of the RCSFF program's incentive goals is to retain teachers in the region, more teachers were intentionally selected from the Rukwa region. Twenty (20) of the 24 sampled individuals came from the Rukwa region, and 4 came from the Kigoma region. To enrich the research with relevant information about the incentive program, I purposefully sampled more than 80 percent of the participants from the Rukwa region.

### **Instrumentation**

Educational scholars in research methodologies (Gall, M. D., Borg, W. R., & Gall, J. P. (2007) argue that a researcher's personal disclosure has less effect in participants' reporting the phenomena. For this reason, I conducted all stages of data collection. I used personal semi-structured interviews, focus group discussions and document reviews as the main research instruments to collect data for this study. The interviews and focus group discussions were extensively done in the Rukwa region and lightly done in the Kigoma region (see table 1 in chapter IV). Knowing that the Rukwa region has the incentive program I was curious to understand how Kigoma is managing to retain teachers without applying any incentives. All formal interviews were tape-recorded, and it took an hour or so for one individual interview with the exception of the RCSFF Regional Secretary interview, which took two hours. Retrieval and review of relevant documents for quantitative data that were related to this program took more time. Being assisted by the regional officers, it took me five days with nine

hours each day to search and collect all needed documents that could give relevant information for this study.

The focus group discussion took much longer time than the individual interviews due to a higher number of participants and enthusiastic participation of the groups. I often observed that the larger the group the longer the time the focused group took to finish the conversation. As an active facilitator, I prepared a list of questions to go through during discussion and on average it took two to two and half hours to complete the focus group objectives/questions for four to six members in a group and less than two hours for a smaller group. Since there were groups of teachers with and without incentives in each school, I asked for a separate room to conduct the discussion with those teachers employed under the RCSFF program. In this situation, the RCSFF teacher groups were freer to speak, give out their critiques of the program, and we had a good conversation time with them than if we were with head teachers, or other teachers not under the program. To encourage more open discussion, a private room (mostly it was one of the teachers' offices) was provided by each school's administration to be used during our conversations.

I reviewed the Tanzania Secondary School (TSS) files which generally reserved for government uses only from both regions. I was given access to some of the TSS files/documents from these two regions, but I do not know how they selected the set from a larger sample (It was an incomplete set). From this sub-set, I randomly select 65 TSS forms. Then I sorted the forms based on distance criteria (distance from schools to district headquarters and well completed forms). I then, randomly selected from my sample a total of 40 TSS forms from both regions. All school distances—long, midway and short-distanced schools— were represented in the final sample. The Kala secondary school TSS form was

incompletely filled out, so it misses the distance mileage from the district administrative headquarters. The final sample had a total of 40 TSS forms having 20TSS with complete data in them from each region.

**Table 2: The distances from schools to district headquarters**

S/No.	RUKWA REGION		KIGOMA REGION	
	Schools	Distance (kms)	Schools	Distance (kms)
1	Kalembe	180	Bitale	16
2	Kalambo	75	Matyazo	52
3	Chisenga	85	Buhingu	151
4	Itweleze	15	Mwandiga	12
5	Zengwa	142	Ilagala	60
6	Mzindakaya	35	Zashe	54
7	Vuma	85	Mkigo	89
8	Chanji	8	Sunuka	81
9	Ipepa	18	Kigoma	5
10	Kilangasa	13	Kichangachui	2.5
11	Mbizi	12	Mlole	5
12	Sumbawanga	2	Kasingirima	5
13	Kanda	1	Rusimbi	2
14	Kala		Katubuka	1.5
15	Kilando	64	Muyama	48
16	Kabwe	101	Janga	55
17	Korongwe	80	Kinyaka	25
18	Mashete	16	Kihenya	110
19	Kate	0	Nyakimue	66
20	Kipande	60	Kibwigwa	28

I reviewed and scanned these sampled TSS forms for further data analysis. During this documentary review, both regions were given equal weights since I reviewed 20 TSS from each region. I identified about 565 teacher data from the 40 reviewed TSS forms. I looked various information such as, the number of teachers who stayed in their regions for more than three years (indicating retention), or less than three years (indicating little or no retention), the regions where teachers were born and grew up, their marital status, gender and geographical location of their schools. The other data are school-district headquarter distances that I used to find if there is a relationship between school-district headquarter distances and number of years

teacher stays in a particular school. The comparison intends to express the relationship between these two variables. Both interviews and documentary review were all conducted in teachers' or educational officers' respected offices. The complete field-work and data collection was conducted at the two sites during the period of June 31<sup>st</sup> to August 16<sup>th</sup> 2012.

### **Data analysis**

For qualitative data analysis, I first color coded all variables that motivated teachers such as RCSFF incentives, job responsibility, agricultural opportunities, bicycles, beds and mattresses, and/or no other alternatives as they appeared from teacher responses. I numbered all emerging variables and calculated the proportion of each variable so that I could rank these variables based on their percentages. I then calculated the proportional weights for each variable and listed them based on their weights for further statistical data analysis.

Secondly, I organized quantitative data analysis based on similarities and differences of teacher retention data in both regions. I then entered all numerical data in excel spreadsheet program. This quantitative data was meant to answer the third question by comparing the teacher retention rates between the two regions under study and also between RCSFF recipients with non-recipients. After organizing my data in an Excel, I then used the SPSS statistical software to finally analyze the quantitative data.

### **Ethical issues**

Ethical issues in any research study in the field of education are very critical to consider especially when human beings are research participants in a given study Gall, M., Borg, and Gall, J. (2007). To minimize the harm to the participants, possible complains, negative consequence to the interviewees or creation of inconveniences to individuals in the study, the consent forms were provided to each participant interviewed (see appendix B). Gall, M., Borg,

and Gall, J. (2007) proposed the use of informed consent forms to all adult individuals in any research. I assured all participants that their information will be securely protected during the whole period of the study. Additionally I promised the participants that I would completely destroy of all the information gathered for the study and transcribed audiotapes three years after the study was completed.

### **Scope and Limitations of the study**

The scope of this study was confined to secondary school teachers within the Rukwa region. Since teacher retention at primary school level in this region does not appear to be a problem, the study was purposefully designed to look for evaluation of secondary schools teacher retention in the designated regions. It has been observed that teacher retention for secondary school teachers is more critical than in other levels (Reed, 1985; World Bank, 2005). So the concentration of this study is confined to secondary school teachers only.

Secondly, the approach to this study to look at the factors that affect teacher retention with a focus on the ‘present teachers’ narrations; those teachers who managed to overcome repressive/restrictive conditions such as social, physical, and structural barriers and chose to stay at the sampled schools. Since the group was homogeneous the results might be skewed, and in reality there could be this bias in this study. The biasness could be minimized if those who left could also be interviewed. While the study of success stories is important in gaining an understanding of how to help others in similar circumstances, this line of research provides no or little insight from those who have left the teaching profession or decided to vacate their teaching position in the Rukwa region for different reasons.

Therefore, an important follow-up to the research would be to interview a group of teachers who left or moved away from the region in an attempt to identify the variables and themes that influenced these teachers.

Additionally, I did not attempt to balance the demographic factors of participants. Many teachers were participating at national census activity at the time of the study. Because of this, I interviewed both RCSFF cohort teachers and few education officers (see table 1) who were available at that time.

As with most mixed methods research studies, this study is designed to go in-depth on perceptions, beliefs, and lived “teaching and working experiences” of teachers within the context of Rukwa. Except for Kigoma, the region having similar situational context with Rukwa, these research results are not designed to be generalized to a larger population, nor should the sampled subjects in this study be viewed as necessarily representatives of all expected participants in the study. Rather, the views that emerged from the participants’ interviews are meant to be descriptive of the types of phenomena that exist in the lives of some teachers who work out of Rukwa areas.

The non-generalized situation can also be due to the small sample size of the study that was previously not expected. A larger sample size might have yielded statistically significant results. However, the research findings from this study can also be utilized to help in designing the larger-scale research regarding effective mechanisms to motivate, attract and retain teachers in remote areas. Perhaps through a country wide survey one could design an appropriate model for motivating teachers to work in highly remote, low-resourced, less developed and less desirable areas in Tanzania.



## **CHAPTER V: FINDINGS AND DISCUSSION**

### **Introduction**

This study examines the effects of the Rukwa Region Civil Service Facilitation Fund (RCSFF) incentive program in attracting and retaining secondary school teachers in the Rukwa region, particularly to high-need and remote Rukwa areas. The RCSFF impact on teacher retention is compared with teacher retention status in the Kigoma region. Kigoma shares common characteristics with the Rukwa region and is the region with similar teacher shortage and retention challenges. However, Kigoma does not offer incentives to teachers. Teachers working in public schools in these comparison regions served as the sample population for this study. I gathered only quantitative data from the Kigoma region but I gathered both quantitative and qualitative data from Rukwa. I used the Rukwa region as a case study area because it is the only known region in Tanzania that offers one-time incentives to government employees as a strategy to tackle teacher shortage challenges. Through this study I explored the effects of RCSFF program in retaining potential teachers in Rukwa.

The following three questions below guided the entire research: First, what motivates secondary school teachers to accept the teaching posts in Rukwa and stay in the region, secondly, what are teachers' perceptions of incentives and how they can play a role to attract more secondary school teachers to accept teaching positions as well as stay and work in the Rukwa region, and lastly, to what extent does incentive initiative influence teacher retention in the region?

Many empirical studies have not only shown that there are a number of factors for teachers to accept and stay in the teaching field, but also the significant contribution of incentive programs in retaining teachers in rural, less desirable and highly remote areas (Reed, 1985; Steele et al., 2010; Hughes, 2012). Considering the diversity of factors that influence

teachers’ decision in this matter, the study was organized into two main themes: first, the influencing factors to attract teachers to the region and second, influential factors to retain them. Based on these two major themes, I describe different sub-themes under each major theme. While qualitative data collected tended to answer the first<sup>7</sup> and the second<sup>8</sup> research questions, which are explicitly addressed by the first theme, most of quantitative data responded to the third<sup>9</sup> question that aligns with the second major theme. The themes are the “RCSFF and its effects in attracting teachers” and the “RCSFF and its effectiveness in retaining teachers.” Based on this arrangement, I organized and present the research findings as described below.

### **RCSFF and Its Effectiveness in Attracting Teachers**

Question one and two examine the factors that motivate teachers to accept the teaching positions in Rukwa and to remain in the region. From the 13 teachers who I either interviewed individually or through focus group discussions, I received the following responses (see the far right column):

**Table 3: Teachers’ responses regarding influential factors for them to work in Rukwa**

<b>Categories</b>	<b>Influential factors</b>	<b>Teachers responses (n=13) (% of response)</b>
<b>1</b>	<b>RCSFF program components</b> Cash incentive packages Promised accommodations Other incentives-bicycles, beds, mattresses, kitchen utensils	9 (69%) 10 (77%) 9 (69%)
<b>2</b>	<b>Government Employment</b> No alternative choices.	3 (23%)
<b>3</b>	<b>Geography</b> Exposure to new environment and new	1 (8%)

<sup>7</sup> What motivates teachers to accept the teaching posts in Rukwa and stay in the region?

<sup>8</sup> What are teachers’ perceptions on valid and relevant incentives that can play a role of attracting more secondary school teachers to accept teaching positions, stay and work in Rukwa region?

<sup>9</sup> To what extent does an RCSFF incentive influence teacher retention in Rukwa region?

	experiences in this region.	
<b>4</b>	<b>Available opportunities</b> Agricultural activities	1 (8%)

NB: Each interviewed teacher responded to more than one factor

The cash incentives, promised accommodation, and availability of other items such as bicycles, furniture, bed, and mattresses highly influenced teachers' decisions to accept teaching positions in Rukwa. Some teachers mentioned other factors than those listed under category 1 (see table 3 above). Increased exposure and access to more private lucrative activities after school are some of the motives teachers perceived in taking the Rukwa teaching positions. Moreover, convincingly, some teachers said they did not have alternative choices and they really needed a job. Nevertheless, they had to take the available opportunity no matter how bad and remote the region was situated.

### **Cash Incentives**

Based on the data (see table 3 above) - responses from research participants, most interviewed participants indicated that the incentive packages from RCSFF program positively influenced their decisions. Of the interviewed teachers (n=13) in Rukwa, 69 percent identified that cash incentives convinced them to take Rukwa teaching positions. Again, referring to the table 3 above, on average, 9 of the 13 interviewed teachers in Rukwa said that the RCSFF had a positive effect in attracting teachers. This finding mirrors the findings of Steele et al. (2010) and Kolbe and Strunk (2012). Steele et al report that, the Governor's Teacher Funds (GTF) had strong impacts on attracting teachers to low-performing schools. Exploring incentive typologies, Kolbe and Strunk (2012) also identified a wide use of financial incentives applied by various schools in California and Florida for teacher recruitment purposes. As an inducement tool, monetary incentives, including RCSFF program seem to effectively attract teachers to less-desirable working areas.

In 2009, RCSFF program provided Tshs 600,000 signing bonus (\$357) for degree holders and Tshs 300,000 signing bonus (\$179) for diploma teachers. For instance, one District Educational Officer (DEO) reported during an interview that, 53 new degree-holder teachers and 23 diploma teachers employed in 2009/2010 financial year were each given this amount of money when they reported to Rukwa (URT, 2009). From my experience, this money which is non-refundable and is equivalent or even more than one-month take-home salary is a lot for any Tanzanian teacher. The money was sufficient to enable a person to equip him/herself with all basic assets ready to start new life.

When asked what motivated a teacher to accept Rukwa teaching position which leads to a more than three year tenure, one teacher passionately responded that,

*The amount of money we were promised by RCSFF was big enough to convince me. To me, one million (\$595) is a lot of money that I can use to buy all what I needed to start my life. Considering that I am coming from a low income family and that nobody — parents or relatives — could be able to finance me in starting life, I valued this as a golden chance for me to take an employment that embeds all these benefits that I could not get if I decided otherwise. Although the situation was different when we reported in Rukwa, I initially did not want to delay; after finishing my study at Kunambi Teacher Training College (TTC) without going back home, I directly came to Rukwa to start working. We were given half the required amount of money few weeks after reporting to schools. The money given out was substantially important to blastoff my new life.*

When interviewed, another teacher who is a 2006 RCSFF cohort was enthusiastically positive regarding cash incentives.

*I am from the first group who benefited from the RCSFF program. I came here in 2006 before I was officially employed by the government. I received allowances of Tshs 50,000 (\$30) per month from RCSFF until I was enrolled in government payroll. While waiting for the government salary, the RCSFF payments were suddenly cut-off. RCSFF had no enough money to give us, so I had to go back home and wait until the Commission of Public Service enters my name in the government system ready for getting the monthly-basis salaries. Although the RCSFF payment situation changed after few months of staying in Rukwa, I real appreciate the financial support I got from RCSFF for the whole time I was in. Among many reasons—to expand my Tanzanian geographical experiences, to witness superstitious practices and beliefs— the cash package was the first motivator to attract me to this region.*

Additionally, another interviewed teacher said he just received his money from RCSFF in May 2012.

*After being confirmed as a permanently employed teacher, I waited to receive my incentive package for more than three years. It's just two months ago I was paid, he said.*

Initially RCSFF planned to pay teachers once they reported in order to buy the necessary and basic needs to start life in Rukwa, but due to some unknown reasons, some teachers were not paid on time. Although this teacher struggled in starting his new life, he recognizes that incentive packages enticed him to the region.

Shen (1997), Prince (2003), and Vegas (2007) argue that targeted financial incentives can increase the relative attractiveness of teaching jobs and reduce teacher reluctance to work in remote areas. Although there are many incentive initiatives, both Prince (2003) and Vegas (2007) argue that relatively few of these are expressly designed to channel teachers to the schools where they are needed most. The issue of prior planning and well-designed incentive programs matters a lot. As reported by some interviewed teachers, the RCSFF program was implemented before it was systematically and methodologically planned. Additionally, all teachers who were convinced by RCSFF received the full incentive packages. No specific criteria such as subject specialization, work experience in needy areas (remote and not urban), and so on were used to identify teachers to attract and retain. Vegas (2007) emphasizes that the incentives should be offered to teachers who are ready to work in more challenging areas and not in any school.

In an informal conversation with the Rukwa District Executive Director, he lamented that the RCSFF was not supposed to pay all teachers; he stressed that it has to be specific to only those who go to really remote, challenging areas and where teachers are needed most.

Targeting/ concentrating on a small group will improve the incentive packages per individual teacher and thus, increase the level of teachers' motivation to stay, he added. These ideas conform to Shen's(1997) and Prince's (2003) arguments that teacher incentives should be target-specific and large enough to matter. Through strategic plans that target specific groups of teachers who are willing to take extra responsibilities in remotely located schools, it is obvious that their packages will be large enough to have a profound impact.

For instance one teacher said that RCSFF program was a strong stimulus that attracted several new teachers from his TTC where he attended his training program. The teacher claimed that, 75 percent of his cohort whom were employed together in Rukwa did not stay. He explained how some of his college mates (out of this 75 percent) who were employed in Kala, Wampembe, and Minde secondary schools left their jobs immediately after receiving their incentive packages. Before leaving the region, these teachers complained about hard working and hard living environments. According to this teacher, the unattractive working environment was the key reason for them to leave their assigned jobs and seek employment in urban private schools. A similar situation is presented by Tanzanian national statistics. Teacher employment opportunity elsewhere contributes to 52.6 percent of teacher attrition rate in Tanzania secondary schools (see appendix A, Table 1). The question is why teachers leave their profession and seek employment elsewhere? What does the government teaching profession miss? And what should be done to curb the situation before it becomes worse?

In comparing the relationship of teacher retention rates between districts for Rukwa and the Kigoma regions, research findings indicate that, on average, the teacher retention rate is higher in non-municipal districts (rural) than in municipal (urban) in the Rukwa region (see

figure below). Kigoma depicts the general known trend of teacher retention, where teachers in urban areas tend to stay longer than those in remote areas (Cobbold, 2006).

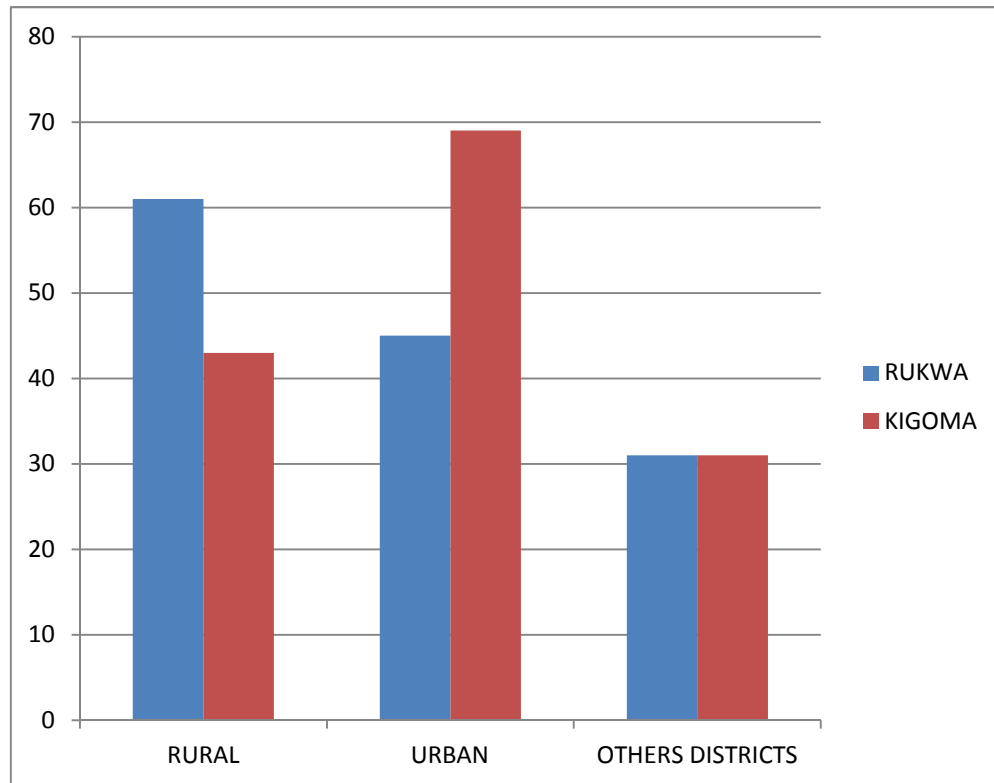


Figure 3: The comparison of teacher retention rates between Rukwa and Kigoma regions across districts.

Source: Author's calculation using teacher data collected from TSS forms.

In Tanzanian context, many regions have one district located in municipal (urban) areas and several districts in rural areas. Take an example of the Kigoma region; there is the Kigoma Ujiji Municipal, the Rural Kigoma, the Kasulu and the Kibondo districts. The last three districts are all in rural areas but only one district is named as the rural Kigoma. In this case, we have one urban, one rural and “other two rural districts” given different names. Rukwa has three districts the Sumbawanga urban, the rural Sumbawanga and the Nkasi district. For the purpose of clarity, the “other districts” in the figure above represents Kasulu and Kibondo in Kigoma and Nkasi in the Rukwa region.

To make an insightful comparison of retention of Rukwa and Kigoma, I used the calculated average of teacher retention rates from each district in both regions and found their retention differences based on their sites. The figure above depicts the mixed results of teacher retention between regions. Although the teacher retention rate seems to be the same in “other districts,” the findings are mixed between “urban” and “rural” districts. As it can be noticed in the figure 3 above, urban Rukwa district has less retention rate than rural Rukwa district compared to respective Kigoma districts. This is interesting and future research could find out what causes this situation.

These findings contradict those of other previous studies. Various studies on teacher retention show that it is harder to retain teachers in rural than in urban areas (Sher, 1983; Reed, 1985; Cooper, J. M., Alvarado, 2006 ). In his study Sher (1983) reports teacher reluctance to take rural teaching positions and those employed do not stay long. Again, Cooper and Alvarado (2006) claim that due to poor or difficult working conditions, teacher turnover rates are so high in remote areas where we generally experience adversity conditions. However, Reed (1985) mentions that considering the value of incentives, regardless of how bad the working condition is, most teachers tend to be convinced to take the teaching position where incentives are offered than elsewhere without any incentive. Besides, considering the lower cost for improving working conditions than that of increasing teacher salaries or offer incentives, both Ingersoll and Smith (2003) and Mulkeen (2007) proposed the idea of investing in improvement of working conditions that has a higher promise in recruitment, teacher distribution and teacher retention. As the major factor that hinders teachers from staying at rural schools is unattractive working environment, based on Mulkeen argument, improvement of rural environment and infrastructure will possibly increase teacher retention.



Many studies reveal that, there is positive correlation between financial incentives and teacher retention (Prince, 2003; Ingersoll & Smith, 2003; Cobbold, 2006; Duflo et al., 2012) and many teachers have been captured through the use of competitive incentive packages. However, due to high cost and limited budgets to offer financial incentives to teachers, different countries are now offering numerous alternative incentives to retain teachers in schools (Mulkeen et al., 2007; Duflo et al., 2012; Kolbe & Strunk, 2012). Houses subsidies, recognitions, tuition assistance, low-interest loans, praises, bonuses tax credits and other non-monetary incentives are used to lure more teachers to remote and hard-to-staff areas.

For this discussion, addressing the teacher shortage challenge whether incentives are available or not, the need for improved working environment, improved infrastructure, offering non-financial incentives and reasonable salary packages is inevitable to address the issue of teacher retention in hard-to-staff areas.

### **Accommodation**

Generally speaking, in Tanzania, to get decent and adequate houses for educational officers (teachers) in most rural areas is very difficult. For instance, the Rukwa region needs 1780 houses to accommodate 1598 Secondary school teachers. The regional housing data might include 182 houses for non-teaching staffs on top of those required for teachers only (1598), thus makes a sum of 1780 as the required number of houses for the region. Currently, the region has 406 (23 percent) houses where it accommodates very small proportion of teachers out of all who need accommodations (URT, 2012a). The region has a shortage of 1374 houses (p. 105) and most of the teachers either rent or stay in their own houses. Housing is one of the promises given out by RCSFF representatives during their visits in TTCs and it appears to be a strong motivator for my sample.

Though the issue of getting those promises was a riddle, 10 out of 13 (77 percent)<sup>10</sup> of teachers interviewed pointed-out that the assurances of getting accommodations once they report to the region influenced their decisions to take Rukwa teaching positions. These results were expected as most of schools in remote areas have inadequate accommodation and teachers tend to run towards where there are free houses perceiving that there will be a relief from house rents from their salaries.

In Tanzania, it's just in recent years when the government started to build houses for government employees in rural areas. Most of government schools built during colonial time had enough teacher houses. From early 2000's when there was massive enrollment of students and increased number of teachers, the available houses were not sufficiently enough to accommodate all teachers. Furthermore, during phase I of SEDP program, newly built community schools—traditionally called ward schools—had no plan or had limited budgets to build enough teacher houses to meet the current demands. In Kigoma for example, based on the current number of secondary school teachers, 1686 houses are needed to accommodate all teachers in the region but only 389 (23 percent) houses are available for 1845 teachers (URT, 2012, p. 105). Surprising enough, the number of houses presented here also includes incomplete houses, signifying that the situation is worse than what accessible documents offers. So being assured to get a house seems to have really convinced teachers to take teaching positions in Rukwa.

Housing as an incentive has many advantages in recruitment and retention of teachers. Apart from attracting and retaining teachers in remote areas, housing establishes good relationships between the teachers and the community and enables teachers to teach in schools close to their homes. Additionally, housing grants or allowances can help to decrease teacher

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<sup>10</sup> Refer to the table 3 above.

turnovers, because teachers who build their own houses near schools/community are less likely to leave those schools. So to provide free housing or housing loans and grants to teachers is central in teacher retention particularly to remote areas where most of competent and experienced teachers do not prefer to work.

This described situation supports the literature. Prince (2003) demonstrates that many states in America have successfully used a range of housing incentives to attract and retain teachers. Prince (2003) mentions how relocation assistance, reduced or free rent and utilities, teacher housing, housing loans and grants, reduced price homes, low interest mortgages, assistance with down payments and tax credits to be most effective to retain teachers in highly teacher need schools in America. Although for this study I had no enough data to explore this situation in Rukwa, generally Tanzania uses some of these incentives as one of the means to retain teachers. In Tanzania, any government employee—including teachers—is eligible for low interest mortgages and reduced or free rent housing (if available at school). However, getting these incentives does not necessarily control teachers from moving from one school to another. As the salary is controlled by the government and not districts or schools, then teachers can still pay their loans from wherever they will be within the country. So in this context, unless teachers build or buy houses in the community they work, otherwise they might take house mortgages build in other preferred areas and can still leave the remote schools move to their preferable schools of their choices. Probably the government of Tanzania through its Ministry of Education has to further decentralize the decision and managerial power to councils. It's better to devolve teacher management issue to district level and if possible to school level where councils can take over and be the overall in-charge to manage all teachers including salary control within the districts. From my experience, certain councils might have

ghost teachers but councils might have limited power to control these teachers. Despite the fact that ghost teachers exist in schools and they do not work, due to centralized system these teachers continue getting salaries in monthly basis. Consecutively, this challenge has to be fixed. If all teachers reports to DED and be managed at the district level, the previous lost money could be redirected to incentive programs to teachers in really hard-to-work areas.

Prince (2003) argues that changing the way teachers are paid and offering targeted financial incentives to educators willing to take on more difficult assignments is a crucial part of a strategy to attract and retain highly qualified teachers in the most challenging schools. As Prince (2003) puts it, “Pay them, or they will take a flight.” Teachers are taking different flights to search for green pastures. From my experience, although some teachers acquire school houses, most of these houses are of low quality. Teachers accept to take the houses because they do not have alternatives, but once they get an open space somewhere else, they seem to quickly run away from these unpromising life situations in education careers. This is evidenced by the high attrition rate of teachers (see appendix A, Table 1) who leave the teaching profession and get employed elsewhere where there is more pay, more incentives, and other fringe benefits.

Research evidences suggest that offering free houses to teachers can increase the relative attractiveness of teaching career and overcome teacher reluctance to work in hard-to-staff schools (Prince, 2003; Mulkeen et al., 2007; Vegas, 2007). Recalling teachers’ responses presented in table 3 in chapter V above, availability of accommodation for this cadre is one among the factors that determines teacher retention in schools particularly to those who serve remote schools where houses to rent are almost unavailable. The incentives work! Let’s try it. Tanzania has to borrow this idea, with good planning and well-designed incentive programs we

can strategically implement it in areas such as Rukwa, Kigoma, Lindi, and Mtwara—the most difficult regions to recruit and retain teachers in the country.

### **Other Incentives - Bicycles, Beds, Mattresses, Kitchen Utensils**

Although Tanzanians claim to have an increased rate of investments in infrastructure such as roads and telecommunications, the issue of transportation and road constructions in the southwestern part of Tanzania has received little attention for years, up until last year (2012) when the construction of the first across-regions road started. Among many reasons, poor road systems to reach Rukwa seem to affect teachers' decision to work in these areas. The participants' responses from this study reveal that, many teachers left the schools due to experiences of walking long distances to get to schools or to district headquarters for administrative and personal issues. Referring to the Table 3 above, 9 of 13 interviewed teachers were convinced to accept the Rukwa teaching positions because RCSFF promised them to give bicycles that could help in moving around. For instance, teachers in Kate<sup>11</sup> secondary school use two days to get to the town to get basic needs. Apart from high costs teachers incur in transportation, it is annoying for teachers to wake-up at midnight to catch a bus that goes to Rukwa city and then connect with another bus to Namanyele (the Nkasi district headquarters) where all administrative issues are piloted. The provision of free bicycles was absolutely a way of reducing the difficulty of getting somewhere and it is not surprising to find 69 percent of teachers being influenced by this factor. However, the quantitative research results show that, there is positive correlation between the distances from schools to district headquarters and the number of years teachers stay in those regions ( $\chi^2(1) = .521, p = 0.01$ ). Although interviewed teachers mentioned that were tired by long

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<sup>11</sup> One of the remotest schools in Nkasi District in Rukwa region-see Table 2

walking distances and high moving costs from schools to towns, the quantitative results contradict those results. Rather, they indicate that the longer the distance teachers were living from the headquarters, the more they were likely to stay in those schools.

The nature of these results might be attributed to the fact that other factors such as personal interests/characteristics and opportunities for other activities in those remote areas are influential aspects for teachers to stay. Most of the teachers interviewed were teaching social subjects, and it is not easy for them to get private tutoring in cities—the job that many teachers depend on while working in government schools in urban cities. Probably teachers in remote areas set their mind and decide to settle in these areas to engage themselves in either agricultural activity in Rukwa or other related activities that might add substantial amount of money to their monthly earnings. As it can be observed from national statistics, Rukwa is among the country's most food-producing resources for Tanzanians (URT, 2008). The weather and land allows for agricultural activities and the further you go away from cities, the more land one can get in agricultural activities.

If the region provides bicycles, beds, mattresses and other necessary living items, why should a teacher reject this opportunity irrespective of whether s/he will stay or leave? To get all these items at once at no cost is a unique opportunity for teachers who could not get it if they decide otherwise

### **RSCFF and its Effectiveness in Retaining Teachers**

Although the program worked as an effective way to attract many teachers to go to the Rukwa region, retention is still very uncertain because teachers will still face hardship conditions that are related to the remoteness of this region. The main issue here is how to

maintain the level of motivation teachers had and raise it to the level that can satisfy them to stay in the region.

Despite the fact that many interviewed teachers mentioned cash incentive as a motivator for them to work in Rukwa, by comparing teacher retention rates of Rukwa and Kigoma, this study shows that there is no significance difference regarding the time teachers stay in regions between teachers who received incentives and those who do not receive incentives in Rukwa and Kigoma respectively.

**Table 4: A comparison of teacher retention rates between Rukwa and Kigoma regions**

		stay		Total	
		more 3 years	less 3 years		
region1	Rukwa	Count	148	142	290
		Expected Count	153.9	136.1	290.0
		% of Total	26.6%	25.5%	52.2%
	Kigoma	Count	147	119	266
		Expected Count	141.1	124.9	266.0
		% of Total	26.4%	21.4%	47.8%
		% of Total	53.1%	46.9%	100.0%

Source: Rukwa and Kigoma (2012) TSS forms

To measure the teacher retention between the Rukwa and the Kigoma regions, I used SPSS software to analyze the teacher data that I extracted from 40 TSS forms. The testing results show that 26.6 percent (n=148) of teachers in Rukwa stay more than three years, and 26.4 percent (n=147) in Kigoma stay for the same time period. Furthermore, results shows that 25.5 percent of teachers in Rukwa (n=142) and 21.4 percent of teachers in Kigoma (n=119) stay less than three years in their working positions. While the average of 47 percent of teachers from both regions leaves their schools within their first three years in teaching job, 53 percent stayed for longer periods ( $\chi^2(1) = .996, p > 0.005$ ). Rukwa has a slightly higher retention rate than Kigoma by 4points. Rukwa is ahead Kigoma leading in both retention and

attrition rates by higher than that in the Kigoma region. This minor difference is insufficient to express the significant impact of RCSFF program. If I compare the Duflo et al. (2012) work that had positive impact in motivating teachers to work in rural India, these results are surprising, we could possibly expect the same situation in Rukwa. I initially hypothesize a substantial higher teacher retention rate in the Rukwa region than in Kigoma, unfortunately, this is not the case in Rukwa. Again, comparing the retention rates between RCSFF recipients and non-recipients in Rukwa, I observed the same trend as the one described above.

**Table 5: A comparison of teacher retention rates between RCSFF recipients and non-recipients**

		stay		Total
		More than 3 years	Less than 3 years	
RCSFF	Count	77	66	143
	Expected Count	74.2	68.8	143.0
	% of Total funding	26.1%	22.4%	48.5%
No RCSFF	Count	76	76	152
	Expected Count	78.8	73.2	152.0
	% of Total	25.8%	25.8%	51.5%
Total	% of Total	51.9%	48.1%	100.0%

As mentioned earlier Rukwa provides incentives to teachers who decide to teach in the region for the stated purpose. A cross tabulation to compare the retention rates between teachers who were attracted by RCSFF and those who were employed under traditional government teacher employment procedures shows that there is no significance difference between the RCSFF recipients and non-recipients groups. Of all RCSFF recipients, 26.1 percent of teachers (n=77) who were employed through RCSFF program stayed for more than three years and 25.8 percent of RCSFF non-recipient teachers (n=76) under traditional employment stayed for the same period time ( $\chi^2(1) = .437$ ,  $p > 0.005$ ). The comparison reveals the insignificant difference on number of years teachers stay in schools between teachers



employed under RCSFF program and those employed under regular government employment settings. This implies that the impact of RCSFF program is substantially small to show the differences; therefore the effectiveness of the program is still questionable. It appears that other factors than RCSFF incentives forces teachers either to stay or leave the Rukwa region.

Although the numbers of teachers sampled under this comparison seem to have small variation (n=77, n=76, n=76, n=66), there are chances that the sampled schools had more teachers than the no RCSFF group, thus affecting the overall research results. On the other hand, these results could be due to inadequate planning and improper designing of the program that contributed to this inconsistency. As evidenced by interviewed teachers, after a few months of stay in Rukwa, some teachers were forced to go back to their families until the RCSFF got funds to pay them. Another teacher who was employed in 2009 reported that, he just received his funds in May 2012 from the RCSFF management. Why he did not get his money on time? From his narrations, it seems the RCSFF management database shows he was already paid while he was not. Inadequate planning of who (and why this person) will do what, at what time (timelines), disorganization, corruption, may be, and inadequate technologies might contribute to affect the program effectiveness.

Although teachers under RCSFF received cash, some furniture and bicycles, this study shows that teachers in both groups (RCSFF recipients and non-recipients) had almost the same probability of leaving their schools within their first three years in teaching profession. These results might suggest that the RSCFF incentive program was able to attract teachers, but probably little or no strategies were set up to retain these teachers. Implied in this, is that other strategies other than RCSFF are crucial for guaranteed teacher retention in this region. Teachers working in highly remote schools have different preferences to those who work in

urbanized and sub-urbanized schools. Recalling from teachers' perception on incentives they most value, when interviewed, teachers in Rukwa claimed for teaching, hardship, and convenience allowances. The RCSFF offered one-time incentive packages but based on teachers' perceptions, recurrent incentives could motivate them to tolerate the toughness situation they encounter in their daily working environment. At least for the case of Rukwa, teachers seem to be satisfied with continuous non-stop incentives packages. This implies that, teacher involvement in conceptualization and designing stage of incentive programs is critical. This can help to identify what incentive packages will elicit teachers to work in highly remote and less desirable areas.

Although it is a strong influential factor, stakeholders' involvement in program designing is usually neglected or ignored. Referring to the case of Zambia described in section III above, the MOE employees were given some financial and non-financial incentives to motivate them to their job (Masaiti & Naluyele, 2011). Of all respondents, 70.6 percent perceived their employments to be tedious and never satisfying them. Masaiti and Naluyele (2011) reports that, for their efficiency and effectiveness, the incentive programs should apply the bottom up approach to consult employees before designing and implementation stages to take over. Involving targeted people from initial stages of needs assessment could also help to identify what kind of incentive package could work well for specific group of employees.

### **Fear of losing an employment opportunity**

From these findings, it seems that RCSFF was not the only source of motivation. Of the total 13 interviewed teachers, 46 percent indicated that, they accepted the Rukwa teaching positions because they feared being unemployed once they lose the first opportunity. This is really expected because once a teacher does not report in initially/prior deployed school; it is

very hard to be repositioned in the upcoming years. Due to hard life experience he had before getting the teaching job, one teacher in Nkasi District said, no matter how poor the conditions in Rukwa were, he had to come and start working.

*I am coming from a very poor family and my households are living in extreme poverty and I am the only educated person in my family. As the only scholar in the family, I was expected to economically support my family from the abyss of poverty by starting to educate my siblings. Although before I heard about challenges of working in the Rukwa region, I had no choice; for the prosperity of my youngsters/young brothers and my family I had to come. Although I was deployed directly by the government, to me, whether the incentives were there or not did not matter at all. The necessity/need for a job is what drives me to come in this region.*

This excerpt shows how this teacher's hardship life experiences most influenced his decision to come to Rukwa regardless of the availability of the incentives. From these findings, it is obvious that the social economic background of the new teachers influence their decision to accept and stay in the respective positioned schools, no matter how remote they might be. From my working experience as an educational officer, teachers from low income families who normally have at least one dependent are more likely to accept and stay to a work station because doing otherwise has a lot of implication to themselves as well as to their dependents.

As described above, some interviewed teachers reported to Rukwa for working because that was the only chance for them to get the government employment, so if they lose; it will be too hard to get re-employed.

### **Teacher Characteristics**

In most cases efforts to reduce the gap of teacher shortage between remote and non-remote areas overlook or ignore the issues of individual teacher characteristics. Teacher characteristics such as age, marital status, teaching experience, the status or experiences of remote-areas related life, subject specialization, and level of education have relationship with

teacher retention. From the estimate of cumulative attrition of beginning teachers, Ingersoll and Smith (2003) found that, approximately 40-50 percent of all new teachers leave teaching within their first five years in the career. Most young female teachers leave the career for family responsibilities (pregnancy, child rearing, accompany the husband). However there are contradictory reports that might be due to teachers' characteristics and the sense of satisfaction they have in their work. Although during my study I had limited access to teacher characteristics information (age, teaching experience, experiences of teaching in remote-areas, subject specialization, and level of education) previous studies show that teachers with middle and old ages, teachers with lower levels of education stay longer in less desirable areas (Ingersoll & Smith, 2003; Hughes, 2012). Teachers who have previously experienced isolated-kind of life are more likely to stay in such areas rather than that Sher (1983) termed them as "urban-breed" teachers (p. 261).

The main challenge of retaining teachers and their uneven distribution is caused by many factors. Teacher characteristics (level of education, area of specialization, marital status, gender and personal characteristics) can determine where the teacher might be positioned. From my work experience, several times we decided to position certain teachers in better schools in fear that if we assigned them to remote areas they would not stay. Generally speaking, degree and masters holders, and science and mathematics teachers, have more opportunities of being hired elsewhere in different careers than other teachers. So for the sake of retaining them, regardless of how many teachers are already in a particular school and how many schools really need this cadre of teachers, we just positioned them where they were more likely to stay. For sure, if there are differences in salary packages for teachers working in remote and those in non-remote areas, this highly needed group of teachers might accept to

stay in hard-to-staff areas. Previous studies reveal that, most teachers of this group do not choose to work in the most difficult schools voluntarily. Prince (2003) and Ingersoll and Smith (2003) work suggests that changing the way teachers are paid is a critical part of an overall strategy to attract and retain potential teachers in the schools. Many indicators shows that well planned and well-designed incentive programs (Vegas, 2007; Duflo et al., 2012 ) raised salary ( Ingersoll & Smith, 2003; Masaiti & Naluyele, 2011 ) and provision of continuous incentives packages (Kolbe & Strunk, 2012) to teachers who are ready to work in remote areas is a substantially central factor to consider prior program planning.

There are mixed reports from research studies describing what groups of teachers are more likely to stay in particular regions (Renzulli et al., 2011; Hughes, 2012). Are those originally from the same working region or those from neighbor and adjacent region to where they are working or those who comes from regions that are geographically far from where they are working. Some teachers who are unmarried do not prefer to work where their families live. The assumption is that due to extended families and poverty, in one way or the other, teachers will automatically be forced to financially support their families. This will prevent them from accomplishing their personal life goals, so they like to be employed further away.

The results from my study contradict the situation described above. A comparison between teachers who originally come from within, neighboring, and distant and from regions indicates that there is significance difference concerning the time they stay in regions under study.

**Table 6: The region versus place of origin Cross-tabulation**

		origin			Total
		Within	Neighbor	Far	
Rukwa	Count	50	45	53	148
	% within region	33.8%	30.4%	35.8%	100.0%
	% within origin	31.8%	75.0%	67.9%	50.2%
	% of Total region	16.9%	15.3%	18.0%	50.2%
Kigoma	Count	107	15	25	147
	% within region	72.8%	10.2%	17.0%	100.0%
	% within origin	68.2%	25.0%	32.1%	49.8%
	% of Total	36.3%	5.1%	8.5%	49.8%
Total	Count	157	60	78	295
	Expected Count	157.0	60.0	78.0	295.0
	% within region	53.2%	20.3%	26.4%	100.0%
	% of Total	53.2%	20.3%	26.4%	100.0%

Regionally wise, there is higher percentage of teachers (n=107) who originally came from within Kigoma than for teachers (n=50) from within Rukwa region. Again, there is overall higher percentage of teachers (n=157) from within the regions than that of teachers (n=60 and n=78) from other places (neighbor and far). Based on the study sample, this research results basically shows that if teachers can be employed based on their regions of domiciles—where they were born and raised—there is higher likelihood of these teachers to stay in these regions. Their life experiences and familiarity of environmental and climatic conditions, culture, infrastructures systems, and community activities can easily support them in adjusting to working areas within the same context.

Furthermore, as reported by one of the educational officers, there are evidences that positioning new teachers who share common characteristics—college-mate, same sex, from the same region, age-mates—increases teachers' probability to continue working in assigned schools. He said that, he was using this strategy and it worked very well. He comments that

*Single teachers of different sex who comes from the same regional background are more likely to marry and forget about moving to another area.” The officer added that,*

*“in my district, if I position two teachers who attended the same teacher training colleges they stay longer than those who do not have a single college mates.*

The officer’s report mirrors the report provided by another interviewed teacher who said that,

*If it was not this (he mentioned the name of his college mate), I could not be here! The environment is too hard to stay, but we keep encouraging each other each day, and that’s why we are still teaching in our first assigned schools. We have stayed for three and half years and we do not plan to leave no more but to stay in these remote areas needs nonstop positive encouragement, he added.*

Although this strategy works well in Rukwa, it should not be generalized, as the Rukwa and Kigoma context differs from other country’s areas. So this might successfully work in certain areas only.

Gender is another factor that determines who is likely to stay in hard-to-staff areas. Some previous research reports higher likelihood for males to tolerate the hardship and stay in remote areas (World Bank, 2005; Hughes, 2012).

**Table 7: A Cross-tabulation of gender versus number of years teachers stay for Rukwa and the Kigoma regions**

		stay3		Total
		More 3 years	Less 3 years	
Female	Count	108	110	218
	% within gender	49.5%	50.5%	100.0%
Male	Count	456	456	912
	% within gender	50.0%	50.0%	100.0%
	Count	564	566	1130
Total	% of Total	49.9%	50.1%	100.0%

The sample included in my study for all teachers from both Rukwa and Kigoma regions. The analysis shows that both men and women are likely to leave the region before they complete a mandatory period of three years  $\chi^2(1) = .015, p > 0.05$ . Additionally, the analysis of the data for the Rukwa region where the RCSFF program was implemented shows

that females are more likely to stay longer than men. From my perception, women are easier to cope with difficulty situations than men, so, women being that talented it helps them to settle and work in Rukwa.

**Table 8: A Cross-tabulation of gender versus number of years teachers stay for the Rukwa region**

		stay3		Total
		More 3 years	Less 3 years	
Female	Count	30	20	50
	Expected Count	24.2	25.8	50.0
	% within gender	60.0%	40.0%	100.0%
	% within stay3	21.4%	13.4%	17.3%
	% of Total	10.4%	6.9%	17.3%
Male	Count	110	129	239
	Expected Count	115.8	123.2	239.0
	% within gender	46.0%	54.0%	100.0%
	% of Total	38.1%	44.6%	82.7%
Total	Count	140	149	289
	Expected Count	140.0	149.0	289.0
	% within gender	48.4%	51.6%	100.0%
	% of Total	48.4%	51.6%	100.0%

The results of the chi-square test show that, in the Rukwa region, there is a significant association between gender and the time teachers stay in the region. Overall more women stayed in the region for more than 3 years ( $n=30$ ) compared to women ( $n=20$ ) who leave the region before three years. On the other hand men are more likely to leave the region before they complete 3 years ( $\chi^2(1) = 3.233, p < 0.05$ ).

Combining the two results above, I can say that, in general, approximately 50 percent of teachers leave those two regions before completing 3 years. However, in the Rukwa region, men are more likely to leave before they complete 3 years than women. So we can conclude



that, for this case study the averages are the same, but they conceal different patterns that are related to gender and need to be taken into account.

Based on teacher responses, teacher characteristics other than those mentioned above were recognized. Teachers perceived collegial support, part-time private job opportunities, and professional development opportunities. Although they might be seen as not commonly known teacher characteristics, but these responses reflect the differences in teacher perceptions, thus their characteristics.

**Table 9: Teachers’ responses reflecting individual interests thus identify teachers’ characteristics differences.**

Categories	Perceived factors	The proportion of teachers’ responses out of 13 interviewed teachers mentioned a single factor.
1	Collegial support	8 (62%)
2	Part-time job opportunities	11 (84%)
3	Professional development opportunities	12 (92%)

Regardless of the amount of salary they get, as they get collective support at school, some teachers aspire to work in remote areas even if there is no incentive offered there. Of the interviewed teachers, 8 (62 percent) perceived that they have limited access to collegial support. They explained that, most professional and experienced teachers are usually more concentrated in non-remote areas than in remote areas. The interviewed teachers perceived that, in their presence, experienced teachers could guarantee for professional support to them and loosen the difficulties new teachers face in adjusting to new environments.

Additionally, the absorption of teachers in non-remote areas favors teachers with little work to do as they will have fewer classes to attend and teach. In Tanzanian context, secondary school teachers can have the maximum of 30 and minimum of 24 class teaching periods in a week. Generally speaking, Ordinary (“O” level) Secondary schools have four classes at least

with two streams each; this is categorized as a medium-size school. As described at the background section, nine subjects are taught at this level and each teacher specializes in two different subjects<sup>12</sup>. Usually the teaching load is determined by the number of teachers available in a school for each subject. It very common to have limited number of or no teachers at all for certain subjects (particularly science and mathematics subjects). In this case, apart from the workload for his/her second specialty, this single mathematics teacher in a medium-size school has to teach eight classes in 40<sup>13</sup> different sessions in a week. Non-remote schools tend to have many teachers for all subjects than remote schools. The situation creates teaching-load disparities among teachers within regions.

The interviewed teachers perceived that, the low workload in non-remote schools motivates their college-mates to take teaching positions in those schools. Also, 11 of 13 (84 percent) teachers mentioned the freedom to engage in part-time jobs (tuitions, businesses), easy access to basic services (hospitals, food, financial services) and professional development opportunities were the priority factors to determine the regions to work. For non-remote school a teacher, having few classes to teach provides extra time for part-time job opportunities something which is difficulty for a teacher with 40+ teaching sessions in a week. Despite these realities, when recruitment embeds incentives, teachers are easily influenced and change their minds to work at any areas. As revealed by one interviewed teacher, before the RCSFF program representatives came in our TTCs and during the process of filling the government forms for teaching positions, we used favorable factors to select the most preferred regions to work. But when RCSFF program representatives came, they changed our minds and strongly convinced us to take Rukwa positions.

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<sup>12</sup> PM=Physics and Mathematics, PG=Physics and Geography, HL=History and Language, CB=Chemistry and Biology, HK=History and Kiswahili, HC=History and Civics etc.

<sup>13</sup> The schedule for mathematics class is 5 sessions with 35 to 40minutes for each class in a week.

From the above discussion it implies that, there are other factors pointed out by interviewed teachers, but when incentives factor comes in, it plays a big role to attract teachers who could decide otherwise regarding the place to work. Low salaries and lack of relevant incentive programs seem to be the chief determinants for teachers to become and stay in teaching. Tanzania has to prioritize and provide incentives as one of the recruitment and retention strategies. One interviewed teacher connects the issue of how Western countries support development projects in developing countries with what education system has to do. The way western countries financially and technically support our countries, the same should be done by the education system. The focus should be to support and pay more attention to remote schools that really need help. More resources (human, physical resources) should be directed to these areas. If the so called “hard-to-staff” schools are well equipped with necessary and quality resources, then teachers will be enthusiastic to accept teaching positions to these areas.

Probing to get a response from an administrative officer at one of the districts in Rukwa, I asked a question; “why do you think teachers are deployed in schools with enough teaching staff each year? With deep feelings about how they unconditionally torture teachers in hard-to-staff schools, that office from one of the case regions claimed to receive several “notes” from her senior officers requesting her to position certain new teachers to particular schools.

*This is unfair and we are forced to do this! “Before teachers report in our office we normally assign them the working stations based on schools’ needs. We try our level best to distribute all teachers evenly throughout the whole district. It is discouraging to see that top government leaders pull our efforts back by forcing us to re-allocate these teachers according to their desires. This is not only chaos to us but it is also unfair to treat teachers unequally while they are all same human beings! Let the government increase the salary and offer incentives to those minority teachers with no “forefathers” to speak before them so that those located at “good” and favorable*

*schools receive none, he added. It does not click in my mind why urban and rural school teachers are equally paid while they experience different workloads and working challenges, he questioned herself. The Ministry should take deliberate actions to reduce the gap between these two groups otherwise, teacher shortage in hard-to-staff schools will persist forever.*

Many research studies (Masaiti & Naluyele, 2011; Sher, 1983; Ingersoll & Smith, 2003) even the interviewed teachers argue for different salary scales for teachers who work in remote areas.

As cited by Prince 2003(p.16), Podgursky argues that, the rigidity of the single-salary schedule yields perverse, unintentional concerns. Rather than allowing earnings to adjust and compensate for different working conditions, teachers must adjust instead. Qualified secondary school teachers are becoming a precious commodity all-over the world. Generally speaking teachers tend to be the hardest segment for the teaching profession to attract and most difficult to retain. Teacher “burn out” is increasing so rapidly and because the training costs is so high—while we are uncertain sure if continuous investment in it is worthwhile—the education systems have to fix teacher salary payment scales to rescue the current high teacher attrition. Many remote schools end up with the least experienced teachers with very few science teachers as more of these groups use their superiority to select where they prefer to work. As Prince puts it, dis-equalization of pay will equalize teacher distribution thus ensuring practical number of teachers in remote areas that will possibly enhance equity in student learning. Through increasing pay and compensations, we might loosen teachers’ mobility from less desirable to desirable areas. Quoting Podgursky Prince puts it this way;

*If schools differ in terms of non-pecuniary conditions (e.g. safety, and student rowdiness) then, equalizing teacher pay will dis-equalize teacher quality. On the other hand, if districts wish to equalize quality they will need to dis-equalize pay. Collective bargaining agreements in large urban school districts, which impose the same salary schedule over hundreds of schools, suppress pay differentials and induce teachers to leave the most troubled schools (Podgursky as cited in Prince 2003 p. 16)*

This is not only valid in Western countries but also there are evidences in developing countries that shows how pay matters when it comes to stay in harsh and hard teaching environment(Hughes, 2012; Kolbe & Strunk, 2012).

Despite the fact that the challenge of retaining teachers might still be there, in most cases, these kinds of incentive initiatives are likely to attract many teachers to any designated area. Unlike the developing countries, the use of incentives as a mechanism to attract and retain qualified teachers is reported to be higher in Western countries than in developing countries (Cobbold, 2006). Various States in America use incentive programs for the same purpose (Reed, 1985; Ingersoll & Smith, 2003; Steele et al., 2010). There are more cash incentive opportunities in non-remote than in remote areas that's why even the retention seems to be high in urban areas.

The same findings were evidenced from this study and these findings conform to Mulkeen (2007), Prince (2003) and Sher (1983) arguments on the potential influence of financial incentives in attracting teachers particularly in the neediest areas. Not only it attracts new teachers in the profession, but also financial incentives can reduce attrition among those already in the teaching pool by enhancing compensations thus keep the teaching force with experienced and more quality teachers to foster students' learning.

## CHAPTER VI: CHALLENGES AND RECOMMENDATIONS

### Infrastructure

Despite the recognized impact of the RCSFF program, the program seems to lack the best conceptualized framework that could enhance and maximize functionalities. The RCSFF has existed for years without an office where teachers could get proper and appropriate services. As one teacher was emotionally lamenting, stacked stranded

*I got stranded/stuck when I was making a follow-up of my payment of Tshs 300,000 (\$187). This was their (RCSFF) promise to us when they came to my college. I am wondering how and where I can find them; DEO and other district officers are unaware of where the RCSFF office is located. This is ridiculous, how comes the RCSFF program does not have the office? It was not getting into my mind, I just wanted my money because I tolerated to the maximum that I could not be able to wait no more.. You will see RCSFF members come with motorcycles to schools to pay teachers and promise to come back few months later; where were they coming from, nobody knows, she added.*

Provided they met with the right teacher to pay, it was conceivable to do payments even under a tree. Although the payment was done to right people, under the tree payment was done because there was no specific place identified as an RCSFF office for this purpose. Limited infrastructure, inadequate funds at its beginning, inadequate prior planning, and inappropriate designing of operational mechanisms of the RCSFF scheme might be the main causes of this situation.

Consequently, transportation to reach teachers in their working stations was another challenge faced by the main RCSFF program actors, who were just volunteering for the job. Although it was not clear whose motorcycles were used to go around all schools to pay teachers, at that time (2008-2010) the initiative had no vehicle or motorcycle to take volunteers to pay and distribute other assets (bicycles, beds, mattresses, kitchen utensils) to teachers. It is suggested that, before the program takes-off, there should be proper and full planning, well-designed operational mechanisms, and well-structured working system of the initiative

programs. In order to design and effectively implement any financial incentives, Prince (2003) suggests that, system leaders need answers to the basic question: “under what conditions are the incentives most likely to work?” (P. 5). Understanding the working conditions and setting the working logistics beforehand is crucial for promising results of any program. A well designed and well-structured organizational system, and clearly identification of favorable conditions for better system effects will always facilitate more positive effects and success of the program to its stakeholders and to the country at large. Building from Masaiti & Naluyele (2011), Kolbe & Strunk (2012), and Shen’s (2010) arguments I can say that, with prior and relevant planning, well and appropriately designed teacher incentive initiatives might bring a more profound and reflective impact in retaining teachers in hard-to-staff areas.

Furthermore, lack of transparency and a poor financial management system led to inappropriate recording systems. The management officials were not accountable for financial reports and their dissemination to stakeholders. Based on formal interview reports, it seems that the program did not hire anyone with expertise in this critical area. The use of the collected funds was not open to the public. This shadow led to queries from many stakeholders. As teachers put it as the distrust arose, public contributions started to cease, and the effectiveness of the program started to decline. Apart from its decline efficiency, this situation created inconveniences to teachers who did not receive payments on time. While some teachers were overpaid, others were either underpaid or not paid at all. The financial management structure was not well organized to serve all teachers under the program.

### **Coordination between the management councils and RCSFF core actors**

As described in previous sections, Rukwa has three administrative councils and RCSFF had to serve teachers who were posted to all of these councils. There was little coordination

between the District Human Resource Officers and the RCSFF committee members. With proper management in place, these two sides could set-up the basic council's needs for teacher and logistics to pay them. Through RCSFF representatives, many student teachers were convinced and agreed to work in Rukwa, but the councils did not budget adequately for all teachers who showed up. From an informal interview with the Principal Human Resource Officer in Rukwa municipal, it shows that for the 2009/2010 financial year the municipal council budgeted to hire 164 teachers in 2010 but more teachers were brought by RCSFF (URT, 2009). For any project program to be more efficient there should be strong coordination and consultation between jointly working parts, in this case, the employer (councils) and the RCSFF actors. There should be a correlation between the school demands, and the actual number of teachers needs to be recruited. The specification of the needs should start at school level where teachers are needed and will work there.

### **Selection criteria lacking specificity**

Despite the general characteristics of remoteness, less desirability, poor infrastructures, cultural beliefs, and teachers' negative attitudes common throughout Rukwa, there is also great disparity within the region itself. Everyone will agree with me that it is impossible to compare the situation of a teacher who serves in Kala Secondary school living in Nkasi (see table 2 in chapter IV above) away from district headquarters with a teacher in Mapinduzi Secondary school 1km from headquarters in Rukwa municipal. In order for the program to have a noticeable effect, there should be specific criteria established that takes into account these disparities when decided who receives incentives. As he was pointing out, the District Executive Director (DED) in Rukwa municipal emphasized to me that the program should be sticky on specific criteria and provides incentives to those who work in remote and the most



difficult areas to staff teachers and those in high-risk schools with high population of economically disadvantaged children. Not all new teachers deserve to get incentives, he added. This is also supported by the literature. Prince (2003) states that, although many American States use financial incentives to increase their number of teachers, lacking defined criteria to base on, relatively few of these programs are designed to channel teachers to the neediest school. With different approaches but equal emphasis, both Kolbe (2012) and Prince (2003) highlighted that targeted incentives are crucial and has to be used specifically to attract teachers to the most difficult to staff schools.

Though some teachers were not employed under RCSFF program but were experiencing the same hardships in remote areas, they wanted to be equally treated with those under RCSFF. According to DED , these claims are based on the fact that some of the teachers under RCSFF were positioned in well-furnished working environments, with reliable communication and better transportation systems, and more notably they all had chances to get part-time jobs and professional development opportunities and still get incentive packages. There is no need for incentives for such kind of teachers he added. As cited by Prince (2003), Kirby, Naftel, and Berends (1990) argues that, given that teachers are working under what are likely to be more difficult and under-resourced conditions, they deserve to receive more valuable incentives than those in resourced areas. Accordingly, the RCSFF board has to identify specific criteria for one to qualify for incentive packages. The aim should be to retain teachers in hard-to-staff areas. Some areas are naturally attractive, and employees voluntarily stay there, so it is more cost-effective to invest specifically in the less attractive and most needy areas.

## **Resources for Running the RCSFF Program/Strategies for Collecting Funds**

Collection, management and control of funds in the RCSFF scheme is another challenge. Since there were no specific and recognized committee for managing and controlling all financial activities in the program, most of the councils (the main source of RCSFF funds), which were supposed to contribute 30 million (\$17,857) Tshs per year, did not contribute. Statistics shows that, out of 749,440,000 Tshs (\$446,100) that councils were required to contribute within five years (2007/08-2011/12), only 166,000,000Tshs (\$98,800) equivalent to 22 percent were collected (RCSFF 2012). As it can be observed, no single council paid for 2011/12 share (see appendix, A Table 2). As councils are the main source of funds to finance the smooth running of the program, and because the debts exceed the available cash, RCSFF was unable to finance teacher incentive packages for two consecutive years (2010-2012). Although during his time in power Hon. MP Mzindakaya the former Rukwa governor, pressured council directors to pay their contributions, in recent years there has been less pressure and DEDs are reluctant to pay the money. This situation should be rectified and strategic mechanisms of collecting the money should be put in place to ensure the sustainability of the RCSFF program.

Furthermore, RCSFF should pay more attention to transparency. The statistics regarding funds collection, expenditures, and other relevant information in the form of annual reports, or special reports on a specific topic or agenda should definitely be disseminated to respected stakeholders. Based on the information dissemination and communication criteria in stakeholders' participation in their respective levels, RCSFF has to make sure all stakeholders get the right information at the right time. As illustration, one interviewed teacher explained with great feeling that, a lot of money is collected from the community members and public

employees, but few people benefits from that. We really do not know where the money goes, she complained, probably the project was established to benefit top leaders of the scheme, she added.

By actively sharing information, the RCSFF management team can clear such doubts and bring the real meaning of the scheme closer to their main stakeholders and local communities. Informing people is likely to increase understanding, participation, and it becomes easier to mobilize support for the initiative and encourage a communal sense of program ownership.

### **Salary Scales**

Regardless of differences in workload and the heaviness of the subjects between science and art subjects, Tanzania continues to use the same salary scale for all teachers. Because of this traditional salary schedule that restricts councils from offering higher salaries to teachers who teach in more difficult situations such as remote areas and low performing schools, or who teach specific subjects or who may have more responsibilities than others, many teachers tend to leave the teaching job and look for green pastures somewhere else. Data from MOEVT in BEST document show that more than 82 percent of the teacher attrition rate is due to voluntary termination and searching for better opportunities and employment elsewhere. While termination accounts only for 29.7 percent of staff attrition, employment elsewhere accounts for 52.6 percent (URT, 2012). Considering the poor working conditions in most of remote Tanzanian schools and the lack of compensation packages, cash incentives, and convincing salary packages, it is understandable that this trend of attrition exists in our country.

Depending on working conditions and teacher salaries as well as on how salaries in the teacher labor market differ with other labor markets, teachers—particularly those specialized in

science, business and accounting subjects where there are greater opportunities to get jobs in other fields—they are more likely to move to other careers that offer higher salaries and better remuneration packages. One of the interviewed educational officers interviewed emphasized the importance of reasonable salary packages to teachers that can enable them to sustain their lives. As cited by Mulkeen 2007 p. 49), the World Bank (2002b) data shows that, by 2002, teachers in Tanzania received between Tshs 64,000 and Tshs 123,000 as their starting salary per month. Although teachers do not appear to be severely underpaid compared to similar workers in other occupations, many teachers do not regard their salary as a sufficient compensation for the amount of work they are expected to do and they feel limited to engage in “after school-work/jobs” activities that could increase some earnings to top-up their basic salaries to meet their monthly basic needs.

The government via MOEVT, policy makers, and decision makers has to rethink salaries for teachers who unenthusiastically decide to work in less desirable and remote areas. I suggest the difference of 40 to 50percent salary packages between teachers working in remote and luxurious schools. Because working conditions are poor in remote areas, by making salary distinctions, the government may be in a better position to demand teachers’ accountability for students’ performance. Although the government needs to weigh this option carefully before putting them it actions, I believe, for quality and the enhancement of equality in education, Tanzania needs to review its educational salary circular/policy and change issues concerning teacher salaries.

## **CONCLUSION**

Teacher shortages are becoming severe in many countries around the world, including Tanzania. Although educators recognize the high costs of investing in teacher training and

incentive packages for teachers, the importance of such an investment, that it contributes to individual earnings, economic growth, and poverty reduction, is associated with improved health and living standards, and contributes to primary and tertiary education, cannot be denied. The RCSFF program has revealed some potential recruitment effects, where in a long run these teachers will impact the life of students residing from remote areas.

The Tanzanian government, policy makers, and politicians have to make a solid decision on secondary school related issues particularly on retaining teachers in remote areas. Specifically, as it is stipulated at National Strategy for Growth and Reduction of Poverty document, Tanzania has to commit to incentives to secondary school teachers as the main concerned issues related to teacher retention in less desirable areas.

As stated in this paper, it is extremely difficult to recruit and convince teachers to stay somewhere to which they are not attracted or connected. To attain EFA and MDG goals and in order to attain the positive outcome that Tanzania intends to achieve through secondary education, government attention should shift from primary to secondary education. Strategically staffing secondary schools with adequate, qualified, competent, and able teachers who are ready to teach in less desirable schools and in the areas where they are mostly needed for better student's success. Through improving working conditions and through dis-equalizing teacher package benefits between teachers in remote and non-remote schools, we can motivate teachers to stay in peripheral areas to teach, thus enhance quality education equally for all Tanzanian children.

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## APPENDICES

### A: TABLES:

1. Teacher Attrition by Reason, Qualification and Sex 2010/11

Qualification	Death			Employed Elsewhere			Long Illness			Retired			Termination			TOTAL		
	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T	M	F	T
Certificate	0	0	0	1	5	6	1	0	1	0	0	0	5	1	6	7	6	13
Ordinary Diploma	0	0	0	2	2	4		0	0	1	0	1	4	3	7	7	5	12
Advanced Diploma	0	0	0	1	0	1	0	0	0	1	0	1	0	1	1	2	1	3
Bachelor	0	0	0	26	5	31	0	0	0	1	0	1	12	6	18	39	11	50
Post Graduate Diploma	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	1	0	1
Masters	7	0	7	34	9	43	1	0	1	7	1	8	14	5	19	63	15	78
Doctorate	6	1	7	14	2	16	1	0	1	4	1	5	4	2	6	29	6	35
<b>Grand Total</b>	<b>13</b>	<b>1</b>	<b>14</b>	<b>78</b>	<b>23</b>	<b>101</b>	<b>3</b>	<b>0</b>	<b>3</b>	<b>15</b>	<b>2</b>	<b>17</b>	<b>39</b>	<b>18</b>	<b>57</b>	<b>148</b>	<b>44</b>	<b>192</b>
<b>Percentage (%)</b>			<b>7.3</b>			<b>52.6</b>			<b>1.6</b>			<b>8.9</b>			<b>29.7</b>			<b>100</b>

**Source:** URT 2011- Ministry of education and Vocational Training (BEST 2011).

2. Rukwa Councils' Funds contributions for RCSFF program (2008-2012).

NA	COUNCIL'S NAME	AMOUNT PAID/DEPT	2007/2008	2008/2009	2009/2010	2010/2011	2011/2012	TOTAL
1	DED MPANDA	Amount paid (Tsh)	30,000,000	30,000,000	10,000,000	10,000,000	-	80,000,000
		Dept (Tshs.)	-	-	20,000,000	20,000,000	30,000,000	70,000,000
2	DED NKASI	Amount paid (Tsh)	20,000,000	10,000,000	-	-	-	30,000,000
		Dept (Tshs.)	10,000,000	20,000,000	30,000,000	30,000,000	30,000,000	120,000,000
3	DED SUMBAWANGA	Amount paid (Tsh)	15,000,000	-	-	-	-	15,000,000
		Dept (Tshs.)	15,000,000	30,000,000	30,000,000	30,000,000	30,000,000	135,000,000
4	MD SUMBAWANGA MANISPAA	Amount paid (Tsh)	10,000,000	5,000,000	2,000,000	-	-	
		Dept (Tshs.)	20,000,000	25,000,000	28,000,000	30,000,000	30,000,000	133,000,000
5	MPANDA	Amount paid (Tsh)	1,000,000	23,560,000	-	-	-	24,560,000
		Dept (Tshs.)	29,000,000	6,440,000	30,000,000	30,000,000	30,000,000	125,440,000
TOTAL		Amount paid (Tsh)	76,000,000	68,560,000	12,000,000	10,000,000	-	166,000,000
		Dept (Tshs.)	74,000,000	81,440,000	138,000,000	140,000,000	150,000,000	583,440,000

**Source:** Rukwa RCSFF scheme office, 2012

## B: FORMS

### 1. Consent Form for Participation in a Research Study SUBJECT STATEMENT OF VOLUNTARY CONSENT

I \_\_\_\_\_ (your name) agree to participate in the study entitled "The effective incentive initiatives: Issues of teacher retention in Tanzania; The case of Rukwa region."

Anna Swai has explained to me in a language which I use and clarify why she is doing this study and I understand what is being asked of me. If I have any questions, I know that I can contact Anna at any time and I understand that I can withdraw from the study at any time. A copy of this signed Informed Consent Form has been given to me I also understand that I can leave the study any time I want to.

\_\_\_\_\_  
Participant Signature:

\_\_\_\_\_  
Print Name:

\_\_\_\_\_  
Date:

By signing below I indicate that the participant has read and, to the best of my knowledge, understands the details contained in this document and has been given a copy.

\_\_\_\_\_  
Signature of Person  
Obtaining Consent

\_\_\_\_\_  
Print Name:

\_\_\_\_\_  
Date: