Experiences of School Managers with the Management of Production Units: A case of selected Secondary Schools in Lusaka province, Zambia

By

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AUTHOR'S DECLARATION

I, Kazawala Chikondano, F.M., do at this moment solemnly declare that this dissertation represents my work, and it has not been previously submitted for a degree at this or any other University. All the work of other people has been duly acknowledged.

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CERTIFICATE OF APPROVAL

This dissertation of Kazawala Chikondano, F.M. has been approved for partial fulfilment of the requirements for the degree of Education in Education Administration and Management by the University of Zambia.

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ABSTRACT

Globally, there has been an increase in the realization of the need for introducing a Production Unit (PU) in schools. In Zambia, PU in schools was introduced around the mid-nineteen seventies following a presidential directive in 1975. Nevertheless, the program has had little success linking vocational theory and practice, including desirable attitudes to manual work, training management, and marketing skills or producing school income-this impetus to understand educational managers' experiences managing PU in secondary schools. Using a hermeneutic phenomenology, the current study examined educational manager's experiences in the management of PU in 3 secondary schools in Lusaka Province among 45 systematically easy accessed purposively selected school managers, 3 Head teachers, 3 deputy Head teachers, 30 heads of Departments, 3 PU coordinators, and 6 PTC members. Data was collected using semi-structured interview guides and analysed using thematic analysis. The study findings revealed that most educational managers in selected secondary schools effectively managed and implemented PU despite experiencing some notable challenges. Contrary to other studies that were done on PU, this study's findings indicate that managers had some negative experiences such as lack of permanent labor as pupils core business is class work. It also revealed that the positive experiences were as a result of effective implementation and management of PU. There was also an extra income for the schools, skills training for both members of staff and teachers and improved on partnership with other schools. The study findings also revealed that various stakeholders were involved in the management of PU, including school administrators (i.e., Head teacher, deputy head teacher, Head of Department), PU coordinators, PTC committee members, and the pupils, among many others. The study findings further revealed that the many factors that were experienced that contributed to the challenges met in the management of PU were lack of adequate funding/ start-up capital, market for the produce, partnership and skilled workforce, land for PU, and machinery. Based on the study findings, there is an urgent need for training educational managers in managing various PU activities and providing consistent and adequate funding for PU. There is also need for the School Management team to involve all stakeholder in the entire PU process.

Keywords: *Educational Manager, Experiences, Management, Production Unit, Stakeholder, Zambia*

DEDICATION

This study is dedicated to the people and family members who helped me continue the investigation even when things seemed not to yield good results amidst COVID-19. It is also committed to all educationalists and citizens who want to see every Zambian access quality education.

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LIST OF ABBREVIATIONS

DEBS..... District Education Board Secretary

EFA ..... Education for All

ERIC ..... Education Resources Information Centre Report

MoGE ..... Ministry of General Education

NGO ..... Non-Governmental organization

PTC ..... Parents and Teachers Committee

PU ..... Production Unit

SNDP..... Seventh National Development Plan

UNESCO..... United Nations Educational, Scientific and Cultural Organization

WFP..... World Food Programme

ZNFU..... Zambia National Farmers Union

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CHAPTER ONE

INTRODUCTION

1.0 Overview

This chapter introduces the concept of Production Units (PU) in schools at different levels. The problem statement, the study's purpose, objectives, research questions, the significance of the study, delimitation, theoretical framework, and operational definitions are also presented.

1.1 Background

Historical roots of production unite in schools in Zambia can be traced to the mid nineteen seventies. Kaluba and Achola (1989), in the Education Resources Information Centre, (ERIC) report said that they were established in 1975 following the presidential directive. Schools were told to teach useful occupational skills by then. According to Kaluba and Achola's evaluation, the program, "... had little success in meeting the objectives linking vocational theory and practice, including desirable attitudes to manual work, teaching management and marketing skills, or producing income for schools." According to the National Academy and Sciences in Washington report (1999:134), "Sorting out what is known about educational productivity is crucial for its own sake, but also because of its implications for achieving educational equity. How readily this concept can be translated into effective school finance systems depends on how well financial resources are used to produce the desired educational outcomes."

It must be understood that the concept of production unites and its prominence, including emphasis differs according to the administration in a particular school or institution. The government's view backs the whole idea in providing free education to its citizens. To achieve this, for example, Education reforms of 1977, pointed out on the need to include manual work in the education curriculum. Focus on Learning of 1992 focused on the need for resource mobilization for running and development of schools. The third national development plan in Kelly (1996) emphasized on production activities to be undertaken by all institutions in order to bring out the educational values, productive skills, as well as developing correct attitudes for the citizens in the society. Educating our Future policy (1996), highlights on the significance of strengthening and enlarging of the financial resource base of educational institutions/ schools. This was to promote educational

development and provision. Therefore, it cannot be over emphasized on the need for school / institutional administration to engage in some form of production unit activities in order to supplement on the resources for the running of schools.

In recent years, there has been massive investment in the need to provide quality education following the realisation of the importance of education on socio-economic development of a country. Provision of quality education is influenced by several factors such as quality infrastructure, human resource and above all financial resources. Globally, studies show that most schools have gotten involved in entrepreneurial activities in an attempt to make themselves financially stable especially through the introduction of Production Units (PUs) (Chisha & Muzata, 2022; Food & Agriculture Organization, 2010). The re- introduction of PU in most schools started following the thirty-eighth Session of the International Conference on Education in 1981 which adopted the need for interaction between education and production work (Chisha & Muzata, 2022). The UNESCO's (1989) International Symposium on Innovative Methods in Technical and Vocational Education held in Hamburg called for the need to promote interest in production-oriented learning and teaching in schools. Plausibly, these campaigns foresaw the need to introduce and/or re-introduce and renovation of PU in schools. According to FAO (2010), there was urgent need to introduce PU because of the numerous benefits associated with it such as income generating, food security and imparting of survival skills in the pupils among many others. The major PU activities as noted by (FAO, 2010) included gardening, fish farming and animal rearing as these activities are primary in agricultural training, raising income levels and better nutrition.

In the United States of America, a study by Burros (2009) showed that children from Bancroft Elementary School initiated the White House food garden in Washington D. C. to provide food for the President and the family as well as to educate children across the country on the importance of health garden produce and through this to educate other families to promote gardening at home. Whereas in China, most of the schools combine classroom teaching with production work (Chisha & Muzata, 2022). In China, production works started as simple work-study school programmes comprising of factories, farms, construction companies and a wide range of service businesses. Like many other sub-Saharan countries, Zambia also saw the need to introduce and reinforce the need for the education curriculum to combine learning with production work through the introduction of PUs in schools the mid-nineteen seventies.

According to the National Academy and Sciences in Washington report (1999:134), “Sorting out what is known about educational productivity is crucial for its own sake and implications for achieving educational equity. How readily this concept can be translated into effective school finance systems depends on how well financial resources are used to produce the desired educational outcomes.” The government's view backs the idea of providing free education to its citizens which plausibly can be fostered by the implementation and management of PU in schools.

Looking at Policy on PU, the education reforms of 1977 highlighted the need to include manual work in the education curriculum, and the Focus on Learning of 1992 focused on resource mobilization for running and developing schools. In addition, the Third National Development Plan (Kelly, 1996) emphasized that institutions undertake production activities to bring out the educational values and productive skills and develop correct attitudes for the citizens in the society. Furthermore, the Educating our Future Policy of 1996 highlights the significance of strengthening and enlarging the financial resource base of educational institutions and schools. This was to promote academic development and provision for all learners. Therefore, the need for school and institutional management to engage in PU activities to supplement the resources for running educational institutions cannot be over-emphasized.

The Zambian government received further motivation to offer free education during the 2011 Education for All (EFA) summit. They were applauded for successfully meeting the target of providing compulsory, good quality, and complete free primary education. By 2018, the government wanted to scale up schools' feeding program programs and offer affordable or accessible education to secondary schools. According to the Permanent Secretary, Mr. Tukombe urged schools to engage in income-generating activities rather than government grants. (Ministry of General Education (MoGE, 2018)

In July 2019, the Permanent Secretary in the Zambian Ministry of General Education, Dr. Kalumba, challenged private and public schools to engage in PUs, run their institutions without difficulties, and improve pupils' diets (MoGE, 2019). He further said that the production unit would help achieve the government's vision of free education at both primary and secondary school levels (MoGE, 2019). In 2020, the World Food Programme (WFP) in Zambia launched a project on the Hydroponics system under the Ministry of General Education to enhance a sustainable feeding

program in four provinces. The project targeted smallholder farming communities and selected government institutions (schools) for growing diversified crops (WFP, 2020).

Madhu (1998) explains that budget allocations to technical and vocational education had decreased because of the high costs associated with the latter. He said that the time had come for both developed and developing countries to increase their consideration and possibilities of generating alternative resource mobilization to finance their educational institutions with minimum possible financial support from their governments. In many developing nations, priority was given to enhanced investment in rural development, income-generating activities, and skills development.

Additionally, the Education Resources Information Centre Report (ERIC) report states that such programs as using water resources and upgrading the environment, including social forestry and application of technology to farming, are allied occupations to food processing and preservation (Bouffard & Weiss, 2008). Diversifying in the promotion of horticulture and floriculture would require vocationally specialized skills that school enterprises can provide. The linkage of education and production is critical in meeting the rural economy's existing skill requirements and helping diversify the economy.

The running of PUs in schools depends on the institution type. For example, if it is fishing: the institution needs a fishpond, water, and a place to discharge the water when changing the water in the fishpond. After the fish is sold, the institution would receive the much-needed income, while the community would improve their diet.

Finally, Loxlex and Psacharopoulos (1985), in a study done in Tanzania, found that pre-vocational education versus general educational programs on subsequent jobs, including income, have failed to meet an extra cost incurred. While Hall and Mambo (2015), focusing on Malawi, publicized that funds are needed to keep school effectiveness on course and implement coordination systems. In all, the above concerns are embedded in the management of schools.

The budget for the education sector has been declining from 16.1% in 2018 - 15.3% in 2019 - to 12.4% in 2020. (2019 social sector Budget report). While the nation's population in 2000 was 9,885,591, and in 2010 it was 13,092,666, the report showed that the population increased by 2.8%. (2010 census report). This highlights an increase in the number of pupils in schools amidst reduced

resources. If properly used, the revenue realized from the sales will enable the school to meet the cost of paying its utility bills. Thus, the government of the Republic of Zambia opted to initiate and foster the need to incorporate learning with production work in schools through the re-introduction of PU in all the schools across the country (Chisha & Muzala, 2022).

In Zambia, evidence shows that PU in schools has the possibility through several profitable activities to supplement on the financial deficits that schools maybe experiencing thereby making schools to become self-reliant. This realisation is likely the plausible explanation as to the reason many schools are heavily investing in PU through ventures such as gardening, aquaculture, and poultry and may others. Despite many studies indicating that there is implementation of PU in schools (Chisha & Muzata, 2022; Jere, 2019), there seems to be paucity of studies revealing the experiences that school managers in secondary schools have in management of PU in schools. It is against this background that this study attempted to examine educational managers' experiences in managing PU in selected secondary schools in Lusaka Province.

1.2 Statement of the Problem

The Ministry of General Education (MoGE) gave a directive to all schools in Zambia to engage in production unit activities. Introducing production units in schools aims to ensure that schools become self-reliant by raising the much-needed resources for managing school programs (Jere, 2019). However, according to Ndambo (2002), there was a problem with making the turn-around and making the youth see agriculture as a source of income. The Zambia National Farmers Union (ZNFU) efforts were too minimal to impact. Achola (1990) also observed that the situation was further worsened by poor harvests from inadequate and insufficient rainfall distribution. Despite the notable benefits of agricultural practices through PU and the many challenges that have affected its management, there seems to be a paucity of scientific studies that examined and publicized the experiences of school managers in the direction of PU. Against this background, this study attempted to explore the experiences that school managers have in the management of PU in Lusaka District, Lusaka Province.

1.3 Purpose of the Study

The study examined educational managers' experiences in managing PU in selected secondary schools in Lusaka Province.

1.4 Research Objectives

The objectives of the study were to;

i. Establish school managers' experiences in managing PUs in secondary schools.

ii. Determine the participation of the pupils, the community, and the management team in managing PUs in secondary schools.

iii. Establish the challenges school managers experience in managing PUs in secondary schools.

iv. Establish measures school managers can use to improve the management of PU in secondary schools.

1.5 Research Questions

The research questions were as follows;

i. What are the school managers' experiences in managing PUs in secondary schools?

ii. What are the levels of participation of the pupils, community, and management team towards the PU in secondary schools?

iii. What challenges do school managers' experience in managing PU in secondary schools?

iv. How can school managers improve the management of PU in secondary schools?

1.6 Significance of the Study

The study findings highlighted educational managers' experiences in the management of Production Units in secondary schools. These findings may help in policy formulation in the education sector concerning PU. It may also help the policy-makers choose the right type of PU

by thoroughly assessing the school's market forces and locality. For example, one (1) Secondary School ‘A’ and the other Secondary School ‘B’ cannot engage in the same PU as the locality, and the competitive advantages of the two schools are different. Therefore, the main objective of this study was to focus on the general education institutional management with the introduction of a PU in secondary schools and if it had any effect on the control of schools.

1.7 Delimitation of the study

The research study was limited to three (3) secondary schools in the Lusaka district. The schools included were ‘A’, ‘B’, and ‘C’ secondary schools.

1.8 Limitations of Study

Like many qualitative research studies, this study also has had its notable limitations. It should be pointed out that, this study findings are specific to the selected schools in Lusaka district and not generalizable because of the research design used. However, given the relatively large quantity of data, this study provides an indicative insight of what could be obtaining in urban and/or sub-urban areas in Zambia.

The other limitation of the study was the collection of data from school managers only from secondary schools. It is important to note that the study would have benefitted more from describing the experiences of school managers from primary schools as well. However, the methodological delimitation made it invalid to include them.

It must further be noted that it was quiet challenging to reach out to some of the stakeholders that had assisted the schools in the study with various resources to make the management of PU a success.

1.9 Theoretical Framework

The study adopted theories that postulate management's role (s) in organizational productivity activities: ' Human Capital’ and ‘Systems’ theories. Human capital theory (Fugar et al 2013), increase in productivity and profitability through investment in human capital The Systems theory by Ludwing Von Bertalanffy (1973) theorizes that corporate management systems consist of many internal subsystems that must be continually connected for efficiency and effectiveness (Cornell

& Jude, 2015). This entails that school management needs to collaboratively work with other stakeholders in implementing school programs, particularly PU, and the school management needs to consider PU as part of the school system. Thus, this theory was helpful in this study as it helped describe school management's commitment to implementing PU as part of secondary school activities and problems.

On the other hand, the human capital theory, which was recently propounded by Baker (Fugar, Ashiboe-Mensah, & Adinyira, 2013), postulates that the increase in productivity and profitability of production units is associated with an investment in human capital. In the current study, the leading human capital included the head teacher, deputy head teachers, HODs, teachers, PTC members, and pupils that the school management needs to invest in to manage PU successfully. These stakeholders need to be empowered with necessary knowledge and value of the best practices and techniques that can be used to ensure that PU activities and programs prosper. Further investment is needed in finding the best strategies that would be used to ensure that they are motivated to efficiently and effectively implement PU.

1.10 Operational Definition of Terms

Challenges: Huddles experienced during the management of PU.

Experiences: what individuals (school managers) encounter in the management of PU.

Managing: Refers to effort in ensuring that PU activities are well done.

School managers: Substantively appointed government officials with the responsibility to manage schools. These include Head teachers (HT), Deputy Head Teachers (HDT), Head of Department HODs, senior teachers, and other essential sections.

Team: Group of people that work together to achieve set targets or rather goals.

Participation: Active involvement in the running of PU.

PU: Refers to the school's section where school management's activities are undertaken to generate income for the school.

PU management: Refers to the way school managers deal or handle PU activities.

Strategies: Ways of improving PU management.

1.1 Summary

This chapter focused on the background of PU in schools in Zambia, regional and global levels, the problem statement, and the significance of the study, which highlights the administrative experiences with the introduction or re-enforcement of a PU in secondary schools. The findings would help identify the schools' proximities and competitive advantages, helping in policy formulation in the Education sector. It would also help policymakers and stakeholders choose the right type of PU to assess market forces and the school's locality thoroughly. The study's objectives focused on the general education institutional management with the introduction of a PU in secondary schools and if it affected the control of schools in Lusaka Province. The next chapter reviews related studies and literature to management of PU in schools.

CHAPTER TWO

LITERATURE REVIEW

2.0 Overview

This chapter reviews the literature on managing PU in secondary schools. Studies on PU in schools will be examined to give insight into gaps. This review addresses the experiences of school managers in the management of PU and how PU in schools can be improved globally, continental, and national, including district level.

2.1 Production Unit in schools

Globally, evidence shows that there has been massive investment and reinforcement in the implementation of production activities in several countries and particularly in PU in schools (Marniati, Kharnolis & Irianti, 2018; Nyamwega, 2016; Cunningham, Dawes & Bennett, 2012). According to Suprapto (2001) PU is a program in educational institutions that aims at producing goods and services using locally available resources within the school. Additionally, a study by Sriyanto (1982), postulated that PU are activities undertaken in schools involving several potential business and entrepreneurial outcomes that can be marketed including goods and services. These earlier definitions of PU entail that PU in schools in a program or rather an activity that is undertaken provide income to the school by providing goods and services to the general public. It can also be claimed that PU implementation in the process enables pupils to acquire and develop skills through a variety of learning activities and experiences that may not necessarily be counted as part of the manifest functions of education.

Simaambo, Muleya and Simui (2022) postulated that PU can be considered as an entrepreneurship unit that has elements of both academic and commercial tenets. Thus, the practice of PU in schools serves as a school program for implementation of several entrepreneurship activities that benefit the school (Simaambo, Muleya & Simui, 2022). On the other hand, a study by Cunningham and colleagues (2012) revealed that PU is an activity undertaken in schools to support the financing of school operations and to increase the welfare of teachers and learners.

Several studies postulate that PU in schools has a significant role in fostering effective and efficient management of schools including development of survival skills in the pupils (Simaambo, Muleya & Simui, 2022; Marniati, Kharnolis & Irianti, 2018; Herry & Hendro, 2016).

Literature by FAO (1990) shows that in the past decades, PU schools served varying goals which have evolved over the years. The varying goals in the implementation of PU was observed because countries across the globe have different educational policies and priorities which change overtime (FAO, 1990). Historically, PU in schools began to acquire universal recognition early 1980s. It has been observed that the 38th Session of the International Conference on Education organized by UNESCO that was held in 1981 called for the need for schools to adopt Recommendation No. 37 which aimed at advocating for interaction between education and productive work (Singh, 1998). The aim of the conference was to promote and reinforce member states to adopt strategies that were appropriate for schools to operationalise productive work. This entails that from inception, the main aim of PU in schools has been to promote productive works.

A past study by Zachariah and Hoffman (1984) in China, publicised that there was massive evolution in several school enterprises which then served vocational needs of the learners and providing much finance to the schools. Evidence showed that through PU, much of the production programs in China transformed into farms, factories and commercial businesses. Zachariah and Hoffman's (1984) study at Guanzhou School in China indicated that under PU, the school was able to manage its own printing factories and chemical factories and was able to export some of its products to other countries such as the Republic of Korea. The findings further revealed that the school was able to make profits of about 1,000,000 Yuan and 50 % of the school operating funds and which was equal to the amount provided by the government to run schools. The money earned from the production activities were used to facilitate various school activities which included benefits, salaries, facility repairs and upgrades, educational equipment, and reinvestment in the enterprise (Zachariah and Hoffman, 1984). This implies that effective implementation and management of PU activities in schools has the potential to influence the general management of a school through the income generated from the unit.

A report by FAO (2010) also indicated that implementation of PU in schools has several benefits. According to FAO (2010) PU helps to promote good diets in schools especially through school

feeding programs as well as an initiative to sensitize pupils on nutrition education, development of livelihood skills and in the long process it contributes to national food security. This assertion by FAO (2010) is an affirmation that implementation of PU in schools is a global development as many countries have adopted the concept across the globe.

An Indonesian study in East Java among 40 subject teachers by Marniati, Kharnolis and Irianti (2018) showed that PU is useful in schools to impart relevant knowledge, values and entrepreneurship practices in pupils. This implies that if PU in schools is effectively and efficiently implemented it can be used by schools to empower pupils with entrepreneurship competences in production activities. The study further showed that practice-based activities at production unit in schools were more effective than the same activity in modest industries (Marniati, Kharnolis & Irianti, 2018).

In Production Units in Africa, Kenyan study among 11 schools in Nairobi, it was shown that PU in school was being implemented in the schools and served various reasons (Nyamwega, 2016). For example, the study (Nyamwega, 2016) found that through PU the schools were able to realise a lot of income and profit. In fact, the study showed that the 11 schools included in their study were able to raise approximately KShs 680000 to KShs 6000000 annually from income entrepreneurial activities. These funds have been key in raising extra financial resources to meet the financing of education and unlike waiting for government funding. However, the study findings in Kenya did not reveal how the earning from entrepreneurial activities were used by school manager. Therefore, this study will endeavour to establish how school managers have been using income from PU activities to improve management of PU.

In Uganda just like in Kenya, it was established that schools were implementing PU and they were performing exceedingly (FAO, 2010). The plausible reason for Uganda doing very well in PU was because agriculture science is part of the education, hence, the school fairing very well. The main benefits of the implementation included acquisition of agricultural skills for the future, selling of surplus produce to the community, reduction of cost of school meals, improvement in teachers and pupils' nutrition as well as pupils acquiring practicing certificates in agriculture (FAO, 2010).

The implementation of PU in Zambian schools is traced back from the late 1970s from the UNIP National Policies for the Decade, 1985-1995 that looked at the aims and objectives of the Third

Phase of the UNIP Part programme (Achola, 1990). The policies were influenced by the 1975 presidential declaration on the need to introduce PU in the Zambian schools. It has been recorded that on 20th July 1975, Dr. Kenneth Kaunda of the Republic of Zambia and in his capacity as President issued a decree directing all educational institutions at different levels of learning to introduce PUs (Bwalya, 1983). This policy document for 1985-1995 reveals that the introduction of PUs in schools and subsequent combining of study with productive work was to ensure that pupils learnt the necessary skills that enabled them to be productive after completing their school. The initial aim of the implementation of PU schools was to promote learners respect and love for manual work and make educational institutions self-sufficient in terms of food provisions (Achola, 1990).

Additionally, a study by Bwalya (1983) revealed that before PUs were made to become compulsory in all educational institutions, schools had what were called Young Farmers Club (YFCs). However, it should be noted that these did not exist compulsorily in all schools. Also, these clubs were largely voluntary and to larger extent the clubs were essentially extra-curricular and mostly focusing on just agriculture. But according to the publication by Bwalya (1983), the Presidential directive on the creation of PUs in schools decreed that, with immediate effect, all villages, primary and secondary schools, colleges and the University of Zambia, were to become food PUs in an attempt to make the country self-sufficient in food production.

In Zambia, evidence show that PU is primarily focused on agricultural production such as gardening and crop farming, aquaculture and livestock rearing among many others (Simaambo, et al, 2022). Study findings by Simaambo, et al (2022) revealed that the aforementioned PU activities could help increase employment opportunities for pupils who graduate from educational and vocational training establishments, as it shortens the period of transition between school and labour market preparation. This means that if necessary skills have been acquired by the pupils, then, pupils can become self-employed by engaging into PU activities instead of waiting for formal employment. However, the study by Simaambo, et al (2022) did not indicate how the school managers had engaged the pupils in the implementation and management of PU activities. It is for this reason that this study had intended to establish PU activities being managed by school managers and how they had been engaging the pupils in the identified activities.

In order to foster implementation of PU in schools, a study by Herry and Hendro (2016) commended the establishment of the position of production unit managers who can do planning, implementation guides, supervision and monitoring the activities and roles of teachers and pupils. Thus, school management in coordination with the stakeholders need to collaboratively plan and allocate time for pupils to participate in the activities of the production unit. Indeed, effective management of PU activities in schools requires for school managers with knowledge and experience in the management of varying PU activities and programs.

2.2 Experiences of educational managers in the management of PU in schools

Several studies indicate that most public schools implemented PU through collaborative efforts among various stakeholders, including school management, pupils and PTC members (Chisha & Muzata, 2022; Shagira, Sutopo & Syamwil, 2021; Daryanto, Panjaitan & Muslim, 2015).

Education was regarded as a universal right that every child of school-going age must access. According to the report of the committee on education, science and technology for the second session of the twelfth national assembly appointed (2017:2), "The universal access to education is achievable when several factors are put in place, and such factors include:
(i) Quality education infrastructure put in place, which includes both classroom facilities and teachers" houses;
(ii) Trained teachers to offer quality teaching;
(iii) Responsive management processes that would monitor and coordinate programmes; and
(iv)The political will that would put in place favourable policies to achieve universal access to education." To achieve the above-stated factors, there was need for a viable and stable source of revenue. This meant that production unit that would be under taken in schools should be profit-making oriented in order to supplement government efforts.

Kreitner and Kinicky (2010) pointed out that law and regulations formulated by the government become an external pressure on the management and general organisation education. They went on to say that internal forces come from inside the organisation and in this case the management team to encourage organisational change. These constitute of human resources and administrative structures found in schools. As far as education was a human right of every child, the question that

needed to be answered was that, did it have the organisational muscle to stand the pressure around it to produce the much needed quality education by using quality teaching.

A descriptive study by Daryanto, Panjaitan, and Muslim (2015) in six (6) Simalungun's District of Northern Sumatra Vocational High Schools in Indonesia among 30 proportionally random sampled production unit caretakers (teachers) aimed at examining the implementation of a production unit in vocational high school. The study findings collected through questionnaires revealed the performance of PU in schools (Daryanto, Panjaitan & Muslim, 2015). The study findings further indicated that the planning of the production unit at SMK in Kabupaten Simalungun managed to achieve the school goals by effectively and efficiently attaining the function of the production unit as they do industry working practice (Daryanto, Panjaitan & Muslim, 2015).

In Zambia, Chisha and Muzata (2022) looked at the management of production units in selected schools in the Lusaka district among eighteen (18) purposively selected participants (i.e., three (03) Head teachers, 3 Heads of Departments (HOD), six (06) Science teachers & 6 General Workers). They adopted a qualitative descriptive design. Their study, using in-depth interviews, found that the school had established a structure that guided the implementation and management of production unit activities and programs. The successful performance of the PUs was solely dependent on the democratic participation of members of the PU committee and the non-interference by the top school management.

However, the reviewed studies did not indicate the specific experiences that each of the members of the school management had and, ultimately, the PU members had in implementing the activities. Therefore, this study attempted to describe the actual experiences that school managers have in managing PU in selected secondary schools.

2.3 Management of production unit activities and programs in schools

An Indonesian study among 30 propositionally random sampled teachers in Kabupaten Simalungun schools indicated that students participated in managing PU. However, their involvement was still minimal as they acted as complements, which just helped the operation of the production unit (Daryanto, Panjaitan & Muslim, 2015). This implied that students were

involved in the production unit as compensation for task completion. Hence, it can be concluded that despite the students participating in the activities, they were not considered to be of the management team, nor could they get involved in accounting for income realized or operation result benefit of the production unit.

Participation is rooted in the theory of liberation, as it is an act of free will. It is a vote against exploitation and determinism of all types. In dealing with the indispensable ingredient in preparing teachers in Agricultural Education and other skills, the mechanism of getting suitable people in the profession should be devised. Vosniadou (2007), talks of two kinds of people who do not support change and these are Closed – mindedness and Belief perseverance. Closed-minded people always think of how to refute other people's thoughts rather than understanding what they might be missing out. In contrast, Belief perseverance people try to maintain a belief despite new information that firmly contradicts it. Teachers' work has always been known at ending in class. With the latest development of having PU in schools, they needed to go an extra mile of including production unit on their additional extra - curricular activity list.

Similarly, the study findings by Chisha and Muzata (2022) revealed that a committee managed PU in Lusaka schools with membership from within the school ranks, demonstrating a democratic divide in the successful implementation of production units. The study findings further revealed that the committee in charge of the management of the production unit included agricultural science teachers, HODs, Deputy Head teacher, PTC chairperson, support staff, and Production Unit pupil representatives (prefects). It is important to note that committee members had the freedom to make decisions on some aspects without interference from management but within their role description. Thus, it was anticipated that various PU stakeholders in the current study would be collaboratively working together while exercising some level of autonomy in decision making.

2.4 Challenges educational manager's experience in the management of PUs in schools.

Globally, studies show that despite evidence indicating that there is the2 successful implementation of PU in schools, several challenges have been observed, including both internal and external factors such as lack of adequate finances, materials, workforce, and time, among

many others (Shagira, Sutopo & Syamwil, 2021; Daryanto, Panjaitan & Muslim, 2015). However, challenges are likely to vary according to contexts and regions.

In Indonesia, a study by Shakira and others (2021) deployed qualitative research in evaluating the PU program in SMK Ibu Kartini Semarang. Using questionnaires, observation, and interviews among principals, PU staff, teachers, and PU partners, the study found that several respondents considered that the vision, mission, and objectives of the PU had not been achieved optimally as it required hard work from every element of the school to achieve the predetermined target (Shagira, Sutopo & Syamwil, 2021). The study findings further revealed that several weaknesses in planning, curriculum, facilities and infrastructure, participation, and financing of PU affected its implementation and management (Shagira, Sutopo & Syamwil, 2021). According to the study findings by Shakira and colleagues (2021), the PU had not planned in detail, and the infrastructure did not have adequate equipment at the planning stage. In addition, not all teachers were involved in program implementation, and schools had not been able to collaborate optimally with the industry, so they could not cooperate on certain specific projects (Shagira, Sutopo & Syamwil, 2021). This study findings shows that challenges experienced in the management of PU was due to lack of proficient commitment by the key stakeholder, however, the study findings didn't reveal the exact personal experiences that could have contributed to ineffective management of PU. Thus, this study will endeavour to examine in detail how individual experiences contribute to ineffective management of PU in secondary schools.

Vosniadou (2007), quoting Sinatra and Pintrich (2003), points out that, instruction – induced conceptual change requires not only the restructuring of students' naive theories embedded in their minds, rather restructuring of their modes of learning. It should be noted that the creation of meta-conceptual awareness and intentionality was important. Most of the learners in the homes where they come from did not have any back yard garden and most of the household chores were done by maids. Looking at the original concept of introducing PU in schools was to impart relevant knowledge and skills to the learners. The question that needed to be solved was how the pupils perceived and participated in PU activities. Currently, in Zambian schools and the entire nation was being driven by the philosophy of "Keep Zambia Clean and green" and for schools there was an addition of Production Unit activities which should have been a source of income to help in financing school activities.

A qualitative descriptive Zambian study by Chisha and Muzata (2022) in selected secondary schools in Lusaka revealed that several challenges were noted that affected the management of PU, and this included lack of materials, an inadequate workforce, inadequate water supply, and poor timing in terms of activities sequencing immediately after winding up a project. The study findings further classified insufficient workforce and water supply as the main challenges since some members of the PU committee were teachers and pupils. Hence, it was difficult for them to dedicate adequate time to support the efficient management of PU in schools, while the success of the PU activities, such as gardening and aquaculture, e dependent on a reliable water supply system. Similarly, literature by FAO (2010) shows that school managers experience several challenges in the management of PU. The major challenges observed by FAO (2010) included lack of expertise and training in PU management, lack of curriculum integration and motivation stakeholders at the core managing PU activities and programs.

Although these studies reveal that several challenges affect the management of PU in schools at the beginning, from the planning to the implementation stage, there is a paucity of literature writing down directly how several factors affect school managers in the management of PU in schools. Thus, this study tried to establish the challenges that school managers were experiencing in the direction of PU in secondary schools.

2.5 Best practices in managing Production Unit

Worldwide, Plans to foster parental involvement had scaled up to the national level and included in some respects the 'No child left Behind', Act (2001) for the US (Bouffard and Weiss (2008), and the 'Every child matters' Green paper (2003) for the UK. But even before Federal or national funding become available, there had been a huge development of local initiatives to enhance the dialogue between local communities and schools. Thereby, the economic literacy of the family also mattered in supporting the learners' education hence the support of the educational administrators.

According to Rosenblatt (2004), education organizations change overtime because of external pressures by the volatile environment around them. Hence, it was vital to contribute continuously to the improvement of practices with varying conditions to promote community relations with the school. Therefore, there was need for flexibility of the management team to propose organizational

strategies in education that would encourage community participation. Ryan et al, (2007) explained that there was a hypocritical smothering of human rights concerns by a democratic government in favor of economic gains, of a democratic public spheres which reduced- to television talk shows and negative commercials and opinion polls. This was done in the quest to attain a change of attitudes for the general public. However, it was not clear what was really obtaining on the ground, hence the need to explore on the general education institutional management with the introduction of production unit in secondary schools.

Several studies revealed that management of PU in schools experiences several challenges that hinder schools from expanding the unit's activities (Chisha & Muzala, 2022; Shagira, Sutopo & Syamwil, 2021; Jere, 2019). It is important to acknowledge that effective and efficient management is cardinal in ensuring that there is sustainability and profitability emanating from PU activities and programs. Therefore, school manager's need to make sure that they deploy strategies as well as practices that target at improving PU in secondary schools. An earlier study by Bwalya (1983) established that schools ought to employ vocational skills in the curriculum to enhance production units. In fact, it is important for school managers to ensure that teachers with proficient training and experience in PU are attached to the management of the unit so as to improve productivity (Chisha & Muzala, 2022). The study findings by Bwalya (1983) further suggested that schools needed to invest more in equipment acquisition and tools that could be used to improve the performance of PU.

Similarly, a study by Fugar, Ashiboe- Mensah and Adinyira (2013) also publicized that one of the measures that schools could use to improve PU was by employing people who are adequately and appropriately trained to manage and supervise the operations of PU in schools. Preferably, those with Agricultural Science and Business studies background may be more appropriate. According to Fugar, Ashiboe- Mensah, and Adinyira (2013), human capital is generally accepted as the most valuable asset of nations and organizations. Consequently, lack of adequately skilled or trained human capital would result into compromised PU outcomes because several activities especially animal husbandly and gardening requires employees that have the experiences and knowledge to manage various challenges that might be experienced at any stage of implementing PU activities.

According to the ERIC report, (1998) during the past 40 years in China, the work - study programs in Chinese schools have been making a transition to a variety of school enterprises which

now serve the vocational needs of the students primarily, while at the same time providing much - needed financing for Chinese schools. The burgeoning economic opportunities in China, coupled with increased school autonomy to develop new programs, provide schools with the opportunities to expand the work-study element significantly. Today, they consist of factories, farms, construction companies, and a wide range of service businesses. For example, among others Xianyang machine Tool, Technical School has a factory. It should be noted that these schools also have full-time employees who work in these factories, workshops and farms.

In India, ERIC Report (1998: 13), "In the design and organization of the program, many parties are given responsibilities. These include the PSS central institution of Vocational Education, responsible for providing guidelines on the establishment of school enterprises and overall design and co-ordination, the State Ministries of Education responsible for implementation and academic support, the District Vocational Education Committee (DVEC) including officials from government departments dealing with health, electricity, Dural development backward classes, finance, employment and human resources: finally, employers' organisations and community organisations involved in providing essential services." It should be noted that DVEC puts in measures to promote school – industry relationship. It also evaluates the strengths and weaknesses of the programme and proposes solutions, while no significant concern is put on profit-making.

For Cuba and Costa Rica, according to the ERIC report (1998), the type of equipment to be provided and skills training to be offered in schools is decided by each workshop according to the local labour demands and qualifications needs. These are identified by the National Institute of Apprenticeship (INA). For these schools, a needs assessment is done centrally. This means that the type of programmes to be offered for production unit is decided for by the Institute in Charge.

In addition, a study by Nwamwega (2016) revealed that implementation of PU in schools could probably be improved by school managers adopting and using participatory approaches in the management of PU and other income generating activities. It is important to note that the utilization of participatory approaches would empower school managers to assimilate participatory planning and innovative technologies that are essential in addressing some of the notable challenges that school experience in the management of PU. This study finding by Nwanwega (2016) is very important to this study in ascertain some of the variables that are key in the school managers

reinforcing the operation of schools PU so as to enhance the management of the units in the schools for higher productivity.

Improving of PU in schools for school managers to ensure that all stakeholders are involved through the implementation of PU in schools. Pratama and Triyono (2018) revealed that school management needed to refrain from perceiving pupils as a source of cheap labour but as a way of producing graduates who would be competent in PUs activities in order to improve the management of the production unit in Zambia and add value to national development. The study findings by Pratama and Triyono (2018) further revealed that the management of PU in schools required incorporating stakeholders throughout the management cycle which included planning, organizing, implementation and supervision. This is key in promoting clarity and sharing the objectives as well as ownership of the activities under PUs as well as addressing challenges experienced in the management of PU (Pratama & Triyono, 2018).

A study by Caria and Andrade (2016) also emphasizes the need for democratic management of school enterprises. The duo argues that participation in school activities should even involve communities that surrounds the schools by engaging them not only in execution of activities but also the decision-making process. According to Luck (2008), democratic participative management concept presupposes the involvement of teachers, employees, parents and any other community representative who cares about the institution and improvement of pedagogical processes

Waithera (2013) in a study conducted in Kenya on how to enhance agricultural activities in schools affirmed that there was need for schools to secure more land if schools were to increase their agricultural activities. It is important to note that acquisition of more agricultural land needs to be accompanied by availability of adequate water in order to have better yields or rather harvest. Consistent with the study findings by Waithera (2013), a study in the National Academy and Sciences in Washington report, by Cohen and Hill (1998:134), points out those empirical studies seek to determine the best ways to direct resources to improve school performance have often not produced consistent findings. This is due to conceptual difficulties and data limitations.

These studies revealed that there was need to expand the activities under the production unit section so as to increase the profit margins. It seems that schools were still operating at subsistence

level. Therefore, there was need to commercialize production units so as to cater for wider markets and make them more lucrative. This calls for expansion of the activities under production units and diversification through land acquisition. Undeniably, having adequate land is important amidst massive investments in PU if schools are to diversity in varying PU activities.

2.6 Gaps Identified

The literature reviewed showed that most of the studies are from Europe and other African countries, with few from Zambia. Some of the studies similar to this study only generally examined factors affecting PU in schools and academic performance in PU as part of Agriculture science. Chisha and Muzata explored on the implementation, they did not examine school managers' experiences and there was a methodological limitation. Furthermore, different contextual backgrounds in other countries imply that their findings cannot be generalized to the Zambian setting, precisely Lusaka, and the reviewed studies did not examine the experiences that school managers have had in the management of the unit in secondary schools. Therefore, the current research examined school managers' experiences managing PU in selected secondary schools in the Lusaka district, Zambia.

2.7 Summary

The literature review showed that all schools in the reviewed studies successfully implemented PU. The literature also showed that school managers had positive and negative experiences in managing PU in school influenced by factors such as finances, human resources, water articulation, and time, among many others. Furthermore, the literature review revealed that the management of PU in schools depended on collective efforts from the PU committee members.

CHAPTER THREE

METHODOLOGY

3.0 Overview

This chapter outlines the methodology and procedures used to conduct the study. It includes the research design, study area, study population, study sample, sampling techniques, data collection instruments, ethical clearance, and data analysis procedure.

3.1 Research Design

The study used a qualitative method design to explore the experiences of educational managers in managing production. Specifically, 'Hermeneutic phenomenology' by Van Manen (2016) was used in the current study. This approach helps describe and interpret the essence of lived experiences and recognizes the meaning and importance of pedagogy according to the experience of the study participants (Gillian & Joy, 2020; Guillen, 2019; Van Manen, 2016). According to Philipsen and others (2019), hermeneutic phenomenology can be used to illuminate aspects of professional development experienced more positively or negatively by study participants, which can guide further efforts for qualitative improvement. Hermeneutic phenomenology is therefore perceived to be the most practical philosophy and methodology in the current study to gain a thorough understanding of lived experiences (van Manen, 2016) of the educational managers in the management of PU activities in schools in an attempt to improve the quality of PU based on their past experiences as well as interpretation of what they perceive would be the best way to improve the practice.

3.2 Study Area

The study was conducted in Lusaka District in Lusaka Province of Zambia, specifically in 3 secondary schools: School 'A' which is a boarding, School 'B' which is a semi boarding, and School 'C' which is a day secondary schools. These schools were chosen as they were day and boarding schools. They were also among the schools that are implementing and managing of PU in the province. Furthermore, they are convenient for application of the study findings and recommendations.

3.3 Study Population

The study population consisted of the Head teachers, Deputy Head teachers, HODs, PU coordinators, and PTC members. Lusaka province has an estimated population of 72000 teachers and sixty (60) PTC members (Education Statistical Bulleting, 2017). However, the estimated population from this study was 30 Head teachers, 30 Deputy Head teachers, 150 HODs, 30 PU coordinators, and sixty (60) PTC committee members.

3.4 Study Sample

The sample consisted of forty-five (45) participants; three (3) Head teachers, 3 deputy Head teachers, twenty-one (21) HODs, 3 PU coordinators, and six (6) PTC members. The Head teachers were selected to be part of the sample because they oversee the overall management of the school. In contrast, the deputy Head teachers were included in the study as they are to control the PU in schools and overall control of the finances. Likewise, the HODs were selected to be part of the study sample as they participate in most school management planning and implementation as part of the school management; thus, they were perceived to have experience and vital knowledge associated with the management of PU. On the other hand, PU coordinators were perceived to be the appropriate participant in the current study as they are directly involved in implementing and managing PU in secondary schools in Zambia. Whereas the PTC members are the main stakeholder in the management of several programs in schools, hence, they are considered to have vital information associated with the management of PU in schools.

The study sample was determined using methodological considerations and experience with similar studies (Dworkin, 2012). For example, a survey by Chisha and Muzata (2022) used a sample of 18, while a study by Daryanto, Panjaitan and Muslim (2015) had 30 participants. This study opted for a sample size of 45 because it enabled collection of quality and in-depth data, and analysis wasn't compromised as the case would have been if the sample was large.

3.5 Sampling techniques

This study adopted a purposive sampling technique to recruit the study participants. Only teachers and PTC members actively participating in PU activities from the respective schools were sampled through this technique. This inclusion criterion increased the likelihood that only HODs and PTC

members with vast experiences in the management of PU and some of the constant variables that might have had affected its effectiveness in the study areas included in the study. Systematic, easy access Purposive sampling was appropriate for this study because it enabled the gathering of data from a sample that had and provided detailed and valid information based on their knowledge and experiences in the implementation and management of the unit in the three schools.

Since the researcher did not know the possible participants who meet the inclusion criterion, recruiting the Deputy Head teacher, HODs, PU coordinators, and PTC members was done through the Head teachers. A list of the participants was obtained from the school Head teachers of each school.

Purposive sampling was further used to select the three secondary schools in the current study. Through purposive sampling, three secondary schools that have been prominent in implementing PU in the Lusaka district and recommended by the DEBS were included in the study. Thus, this technique increased the possibility of collecting data from schools with professional and vast experiences and knowledge in managing PU activities and policies.

3.6 Data Collection Instruments

In-depth interviews were conducted using a semi-structured interview guide. The semi-structured interview guide was administered through face-to-face interviews with the Head teachers, deputy Head teachers, HODs, PU coordinators, and PTC members. The semi-structured interview guide eased obtaining comprehensive, systematic, and in-depth information about the management of PU in secondary schools included in the current study. The interviews allowed participants to freely express their experiences, feelings, and opinions and supply justifiable explanations for their narrations.

The instrument had two parts; the first part aimed at obtaining participants' demographic data, which included variables such as participant's '*sex, age, years at current school, and qualifications'* while the second part had questions eliciting the experiences that participants had in the management of PU such as *'In which year did your school start production unit/ activities?, State the type of production units/ activities being done in school and the sponsors? Does your school allocate any time .for production units/ activities?'* and *'In your view, what are the main*

factors that support or hinder the participation of staff, pupils, and community members in production units and activities?'.

3.7 Trustworthiness

Establishing 'Trustworthiness' in qualitative research is very important as it helps to ascertain the validity and reliability of a study and study protocols. Trustworthiness in qualitative research consists of four major elements, which are, credibility, dependability, transferability and confirmability (Forero, Nahidi, De Costa, Mohsin, Fitzgerald, Gibson, McCarthy & Aboagye-Sarfo, 2018).

According to Forero and others (2018), credibility is important in research as it guarantees the confidence that the results are reliable and authentic. To ensure credibility in this study, the researcher ensured that adequate time (i.e., approximately two months) was allocated to the research process in order to collect valid data from the respondents. Furthermore, the research protocols were reviewed by the supervisor and co-supervisor with the aim of addressing the possible instrument item errors, biases and inconsistency. In addition, the researcher had adequate knowledge and skills associated with the entire study and data collection tools thereby making the study more credible.

Dependability on the other hand ensures that study findings in a qualitative research are repeatable if another study was to be conducted within the same cohort of respondents and context (Forero, et al., 2018). The research protocols and data collection were strictly focused on the 4 objectives of the study when collecting data from the respondents.

Studies indicate that transferability is concerned with the extent to which the study findings can be transferred to other contexts or settings in qualitative research (Forero, et al., 2018; Lincoln & Guba, 1986). To attain transferability, responses of the respondents were compared so as to check the extent to which their responses were consistent in relation to the study objectives. Thus, through thematic analysis the responses were coded and grouped into corresponding themes.

Lastly, confirmability refers to the ability and extent to which the study findings can be confirmed and/or substantiated by other studies (Forero, et al., 2018). The researcher proficiently worked in collaboration with the two supervisors throughout the research process making the data analysis,

discussions and conclusions more accurate. Triangulation of this study findings was further done to establish the similarities and differences between the prior studies and this study. These two major processes ensured that there was confirmability in this study's findings.

3.8 Data Collection Procedure

Data collection took approximately two months. Before the commencement of data collection, permission from the Ministry of General Education was obtained through the Provincial Education Officer (PEO) and the DEBS to conduct the study. Subsequently, the participants were given the information sheets. The information regarding the research and their rights to voluntarily participate in the study or withdraw at any time, among many others were explained and reemphasized. The researcher ensured that all participants' questions and concerns were answered. Following participants' awareness of the aim of the study and their rights, written informed consent was obtained from the participants.

After obtaining informed consent, the researcher proceeded with data collection. The interviews were conducted within the administrator's offices (i.e., Head teachers and school premises in spaces that ensured privacy and were preferred by the study participants (i.e., HODs, PU teachers, and PTC members). The duration of each interview took approximately an hour.

The interviews, the researcher conducted face-to-face interviews with all the participants in the study. The steps in achieving the discussions involved the researcher asking questions and writing down the interviewee's answers. The digital voice recorder was also used to record the interview conversations with the participants who had consented to its use. The primary role of the researcher during interviews was asking questions, moderating the discourses, and taking notes throughout the deliberations while allowing participants to narrate their experiences, perceptions, and opinions freely.

3.9 Data Analysis

Data were analysed using thematic analysis. Thematic analysis is a qualitative data analysis procedure used to categorize verbal or behavioural data with the intent to classify, summarize and tabulate data using themes (Creswell, 2014). Therefore, thematic analysis was used to describe and interpret the collected data by categorizing, summarizing, and tabulating the participant

feedback about the management of PU in selected secondary schools in the Lusaka district into appropriate themes.

3.10 Ethical Considerations

Before carrying out the research, ethical clearance was obtained from the University of Zambia, School of Humanities and Social Sciences Research Ethics Committee; IORG No. 0005376, HSSREC IRB No. 00006464. In addition, an introductory letter was obtained from the Assistant Dean, Postgraduate, as evidence of permission to carry out the research. Further research clearance was obtained from the PEO and DEBS to carry out the study. Informed consent was obtained from the participants, who were assured of total privacy, anonymity, and confidentiality of the information they would give the researcher. Furthermore, the study ensured that participants were voluntarily included in the research, and their right to withdraw at any study stage was explained.

3.11 Summary

This chapter outlined the methodology which was used in the data collection. A qualitative paradigm employed hermeneutic phenomenology, and semi-structured interview guides were used to collect relevant information concerning PU from 3 selected Lusaka district secondary schools. Thematic analysis was used for data analysis. Ethical considerations were also outlined. The next chapter presents the research findings.

CHAPTER FOUR

PRESENTATION OF FINDINGS

4.0 Overview

This chapter presents the research findings on school managers' experiences in managing PU in selected secondary schools in Lusaka province. In-depth interviews were a qualitative approach to gathering information associated with school manager's experiences in the management of PU in the selected secondary schools included in this study. The presentation of the findings addresses the three research questions that looked at school managers' experiences in the management of PU in secondary schools. The objectives of the study were:

i. Establish school managers' experiences in managing PUs in secondary schools.

ii. Determine the participation of the pupils, the community, and the management team in managing PUs in secondary schools.

iii. Establish the challenges school managers experience in managing PUs in secondary schools.

iv. Establish measures school managers can use to improve the management of PU in secondary schools.

The themes of the study findings are related to the purpose of the study and objectives of the study. The following Codes (KEY) were used in the presentation of the verbatim under each theme;

i. HT= Head teacher
ii. DHT= Deputy Head teacher
iii. HD= Head of Department
iv. PUC= Production Unit Coordinator
v. PTC= Parent Teachers Committee Member

Demographic Characteristics of the Respondents.

Demographic Characteristics	**Number of Respondents**					
Gender	Male			Female		
	29			16		
Length of Service at a particular School	1 – 4 years	5–10 years	11 and more years	1 – 4 years	5–10 years	11 and more years
	11	13	05	05	07	04
Highest Qualification	Diploma	Degree	Master's Degree	Diploma	Degree	Master's Degree
	00	24	05	00	14	02

4.1 Experiences of school managers in the management of PUs in secondary schools

The first objective aimed at establishing school managers' experiences in managing PUs in secondary schools. The study findings revealed that school managers had varying experiences, leading to two main themes: 'Positive experiences in the management of PU in secondary school' and 'Negative experiences in the management of PU in secondary school.'

4.1.1 Positive experiences in the management of PU in secondary school

The study established that most of the school managers had positive experiences associated with the management of PU. For instance, one of the respondents (HT 2) narrated,

> *...so far, so good I cannot say that I have had any bad encounters managing the PU programs and projects we have as a school. My experience has been excellent as our school is among the best in terms of PU produce as the school generates about K80 000 to K94 000 per month.*

HT1 also narrated, “I have had a good experience in running production unit.”

HT 1 revealed that,

> *The primary activities the school is engaged in are gardening, and we grow cabbages, tomatoes, onions, and sweet corn. We also have two (2) fishponds stocked with six thousand (6000) fingerings, a tuck shop being run as a cooperative where teachers would buy shares… the orchard with trees like oranges, guavas, and divine Nonie, among others. We also have poultry which is stocked with birds for the boarding department. The school also has a herd of cattle. It should be noted that the production unit section supplied most of its products to the boarding section. Money was transferred from the boarding account to the production unit account for whatever was provided to the school to feed the pupils.*

As for HT2, indicated that,

> *The school has several production unit activities that are being undertaken. The school has a twenty (20) by thirty (30) meters fish pond, which accommodates six thousand five hundred (6500) figurines. The school has a garden where the main activity is tomato growing, and the onions are grown in circles in front of the administration from the school gate. The school also has a running piggery and chicken run, which has also helped feed the pupils in boarding. In addition, we are keeping goats using our sister school… in Chirundu.*

Furthermore, HT 2 narrated that

> *…our school is among the best in terms of PU produce as the school generates about K80 000 to K94 000 per month from the sales of various products under the production unit. The money is channeled towards the school's running costs or operational costs such as paying water and electricity bills… the funds realized from the production unit are more than the school fees collected from pupils and grants received from the government.*

Similarly, HT 3 also narrated that,

> *The PU projects I am manning were set up to empower the pupils with skills and hence their involvement. For example, pupils buy nuts, roast, grind, and package the peanut butter. The school has a fish pond managed by the deputy Head teacher and one male teacher. In addition, … worked the school garden, where there were tomatoes, onions, rape, eggplants, and okra in the school garden. The school also has a fishpond… In 2020, the school represented Zambia in Africa's Junior Entrepreneurship competition program, where we came out third.*

The Head teacher additionally narrated,

> *The school also has a Tuck shop run as a cooperative shop. Teachers and other supporting staff at the school are allowed to get things on credit and pay later when they have money...*

4.1.2 Negative experiences in the management of PU in secondary school

Despite most of the school managers showing that they had positive experiences in the direction of PU in schools, some said they had negative experiences. For example, HD3 narrated that,

> *As a school, we have had several bad experiences running production unit activities, especially with the garden section, because we do not have permanent people managing the gardens. So, the harvest is often poor because the crops are not well cared for.*

In addition, HT3 indicated that,

> *As part of management, I can confirm that as a school, we have also had negative experiences financially because there is no funding for PU activities, so at times, it becomes a challenge to manage production unit activities, e.g., there would be a need to buy fertilizer and chemicals, but the school will have no money.*

The study findings indicate that the negative experiences in managing PU activities were because by factors that threaten optimal control of PU in schools, mainly a lack of workforce and adequate funding.

4.2 Involvement of the pupils, the community, and the management team in the PU in secondary schools

School managers and PTC committee members provided the data on the involvement of the pupils, the community, and the management team in the PU in secondary schools. It was analyzed using thematic analysis by classifying, summarizing, and tabulating their statements or narrations. The participants were asked to specify PU stakeholders' involvement in managing the unit's activities. The study findings revealed that several stakeholders were involved in managing PU programs and projects. The study findings further revealed that the major stakeholders were Head teachers, Deputy Head teachers, HODs, PTC members, donors, and pupils. The results led to three themes: management, supervisor, and implementers.

Respondents indicated that school administrators were active members in the management of the PU. For example, one of the respondents said,

> *The Production Unit management is mainly done by a committee which is made up of the deputy Head teacher, HODs, and the Production Unit coordinator.*

Other respondents mentioned that the different stakeholders of the management team performed the roles of supervising the implementation of the PU activities, including the teachers and PTC members. For example, one of the Head teachers said,

> *"The PTA comes in school to check and give ideas." Another respondent (PU coordinator) mentioned that some stakeholders took part in the management of PU as supervisors said, "…The school teachers are in charge of their crops."*

Study findings further revealed that some of the PU management committee members were members whose primary role was implementing the PU programs and activities. One of the school head of department (HOD3) from school 'A', affirmed that pupils were not directly involved in

the entire management as they only took to the role of undertaking the PU programs and activities such as planting crops, watering, weeding, and harvesting, for example,

> *"The afternoon pupils were in charge of the carrots, one day they did not learn several subjects, harvested them including the fresh maize which was not yet ready." Additionally, one of the deputy Head teachers said, "The people involved in the production unit activities is everyone, including the members of staff, the pupils, and the community." Consistent with the deputy Head teacher's narration, PUC 2 also narrated,*

Another HOD1 from school 'C', said that, *"The garden has three owners, that is, the general workers, the teachers, and the school."*

Despite the Ministry of Education call for skills training to learners, some schools still use PU activities as a form of punishment to the learners hence defeating the purpose. In a narration by HOD 5 from school 'B' reviewed that PU activities were used as a form of punishment for in-disciplined pupils;

> *"Pupils who come to school late, we send them to the school garden for work. This includes other offenders in the school who commit various offences."*

Despite the immediate stakeholders, which are, school administrators, PTC executive members and the pupils themselves, the narrations from the respondents revealed that the successful implementation and management of the PU was also influenced by the donations from the cooperative world. HT2 in his narration stated,

> *"For the past years we have been receiving some financial assistance as well as donations of varying fruits and seedling for our gardens."* Similarly, HT1 also indicated that, *"The general cooperative world are also involved in the management of the PU projects, for example, the ECO bank donated two hundred and fifty (250) fruit trees for the orchard..."*

This study findings shows that the management of PU in some of the schools is influenced by the involvement of the Cooperate society and the general community that have interest in foreseeing that schools are involved in sustainable entrepreneurship activities that would greatly contribute and/or supplement on the school's financials or revenue.

These study findings show that the stakeholder's involvement in the management of PU in the selected secondary schools was based on one's description of status in the school's structures. There were three levels of participation among the stakeholders: management if one was an administrator, supervisor if a person was either a teacher or PTC member, and implementers, which comprised mainly of the pupils as they were only involved in carrying out the PU programs and activities.

4.3 Challenges to school manager's experience in the direction of PUs in secondary schools

The data collected through interviews with school managers revealed that they experienced several challenges that affected the output of the PU projects. The findings lead to the emergence of three main themes: Lack of PU funding, lack of workforce, and lack of PU experts.

4.4 Lack of adequate start-up capital PU funding

The study findings show that one of the significant challenges that school managers were experiencing was lack of funding. HT2 said,

> *... is lack of funding from the government meant for implementing the production unit activities. The activities being undertaken are fishing, tomato growing, and orchard, so all these needs adequate funding if we are to produce a quality harvest.*

In addition, HT3 acknowledged that the lack of adequate financial support from the government and other partners hindered the effective management of PU. The manager said,

> *...of late; we have not received sufficient financial support from the ministry to help boost agriculture activities in the school despite the pronouncement to make it compulsory. To add, the other government partners have not shown interest in helping schools with money to maximize these projects in schools, particularly at this school...*

4.4.1 Lack of workforce and PU experts

The study findings further revealed that the management of PU in the selected schools was due to a lack of workforce and experts to take care of the PU programs and activities. For example, HOD7

narrated that one of the challenges experienced by school managers included a lack of "…partnership as well as lack of skilled manpower which directly reduce the school's productivity because the school cannot produce quality products."

Similarly, HT1, in his narration, revealed that a lack of ability in some of the PU activities was a challenge for his PU management team. This was clear in his statement that at some point, "The fish was stunted, and the school did not know what happened to the fish."

Consistent with the narrations by HOD7 and HT1, HOD4 also said, *"The afternoon pupils are in charge of the carrots, one day they did not learn several subjects, harvested them including the fresh maize which was not yet ready."*

This finding indicates that some secondary schools rely on pupils as the primary source of labor to manage PU activities due to an inadequate workforce.

4.4.2 Lack of adequate land for PU activities

Most of the study respondents showed that the significant PU activities the school administration managed were gardening, orchard, and aquaculture. However, the school had inadequate land support for the implementation. For instance, HT 2 indicated, "The challenges that we have experienced as school management include lack of land…which directly reduce the school's productivity because the school cannot produce quality products."

4.5 Measures for improving PU in secondary schools

Following the notable challenges experienced by school managers in the implementation of PU in school and the need to maximize PU activities and production, the fourth objective concentrated at establishing measures that school managers could use to improve PU in the selected secondary schools included in the study. Improving of PU in secondary school is mainly correlated to improvement in the production or rather output from PU activities and programs. The data collected from various PU stakeholders through interviews and analyzed using thematic analysis revealed that measures to improve PU management in schools required collective initiatives by all the stakeholder which included, the MOE, school management, corporate world and the

community. The responses from the school managers lead to the emergence of three (3) major theme as presented below.

4.5.1 Provision of adequate and reliable PU funding

In correlation to the third objective that had determined that lack of adequate and consistent funding from the government specifically for PU was a variable that affected school managers experiences in the management of PU in the schools included in this study, this study established that PU management in secondary schools could improve if the government through MOE could be timely, adequately and consistently releasing funds meant for implementation of PU. This was evident in the response from HT1 and HT3 who affirmed that schools were not receiving adequate financial support from the government to help improve and expand the activities. Therefore, HT1 in his narration said, "There is urgent need for the government through the ministry to be allocating enough funds that can help us and other schools to expand the current activities being done under production unit." Similarly, HT3 also stated that,

> *...the PU has the capacity to grow bigger than its current state but the challenge as earlier mentioned is limited school resources... government to come on board and start funding these activities extensively... we would also want to see other organizations like AB bank helping the school with various donations and programs that can help improve and grow our PU.*

This study finding indicates that PU activities have not been extensively implemented and managed in the selected secondary schools in this study because they lack adequate and reliable financial support from the government and other stakeholders.

These findings reveal that the schools included in the study were involved in diverse PU activities that supplemented most schools' finances. Thus, the school manager's positive experiences were correlated to the successful implementation of PU programs and activities that contributed to the school's income making the school's general management easier as they were not solely dependent on government funding.

4.5.2 Employing qualified and skilled PU staff

The study findings related to lack of adequate manpower and experts revealed that effective and efficient management of PU in secondary school was dependent on the government's commitment to ensure that all school were staffed with agricultural science teachers and experts in PU activities. For example, HT2 in his statement indicated,

> *In order to improve the management of production unit in this not that we are failing no, need guidance from trained personnel such as agricultural teachers who have vast knowledge on how to manage various crops and other PU ventures especially if there is a disease… we at times spend a lot of money for someone to come treat our crops but if we have an expert then all these would be a story of the past.*

Furthermore, one of the PTC executive members suggested that improving of PU activities in secondary school required the school management and PTC members in employing extra PTC workers with vast experience and knowledge in the management of agricultural activities;

> *I think the best way to improve these activities is by the school and us the parent teachers committee members to sit down and give work to some people not necessarily teachers but from the communities around who know most of the activities to be in-charge of taking care production unit activities because for now we mainly depend on the pupils who knows nothing.*

4.5.3 Training and capacity building employees responsible for management of PU

Besides the study findings indicating that the study participants suggested that management of PU in secondary schools among school managers could be improved by employing qualified and skilled PU staff, the study also showed that implementation and management of PU could be improved by establishing programs aimed at either training or providing capacity building to the human resource in-charge of management of PU in the respective schools. One of the PUC in his narration suggested that;

> *I think improving and expansion of agriculture activities in the school can be made better or let me say improved in the school if administration took some of the*

teachers and general workers to go and do some short courses that may equip us with necessary skills needed to make these activities in the school more successful…

Similarly, other participants like DHT3 suggested that management of PU in secondary schools could be enhanced through various initiative of which among them was through school-based capacity building workshops. DHT3 in his statement stated that;

The running of production unit activities for some many years has been entrusted in either teachers of agriculture and just people of have interest in production unit without measuring their knowledge and skills in agriculture… it is important that the Ministry in collaboration with the school administration come up with trainings such as the school-based training workshops with the people in-charge of production unit so they can be given the necessary skills and knowledge on to effectively and efficiently management PU in schools.

Overall, this study findings showed that in-service training activities particularly aimed at improving school PU in secondary schools through school-based training and capacity building workshops were primary in improving PU management skills, knowledge and attitudes in the school managers.

4.5.4 Community involvement in PU management

According to HT 3, there was need for more involvement of the community and donors if the secondary schools were to expand the activities under PU in order to ensure maximized profits and sustainability of the current activities. This was evident in his verbatim excerpt below:

For now, I can confirm that there is little input from the community and other well-wishers. So, our plan as management is to try and see as we move forward the most appropriate strategies that we can use to try and engage the PTC executive in ensuring that we have the community intensively involved in the management of PU because this for their own benefit… like Bank AB we are hopeful that more donors and people of good will would come to our aid with various donations or programs that would help us improve the current practices…

4.5.5 Acquisition of PU farm land

The study findings further revealed that improving implementation of PU in secondary schools was largely dependent in improving agricultural activities that depended on the availability of land. It is important to note that one of the notable challenges experienced by schools was lack of adequate land for PU activities and program. Thus, acquisition of land is cardinal if schools were to diversify in the activities and expand the already existing activities and programs. This was evident in the narration from one of the schools Head teacher (HT 2) who indicated that,

> *As earlier indicated, one of the biggest challenges that we face as a school in the implementation of production unit in this school is lack of land which has been affecting the school's yields because the school cannot produce a lot due to limited space around the school. What this entails is that agricultural activities may only improve if the Ministry can allocate us and other schools' interest in production unit with land that can be used do a lot of activities.*

Similarly, one of the PUC 2 also affirmed that improving the implementation of PU in schools required access and/or allocation of adequate land to schools;

> *The only way PU activities can be improved and increased is by ensuring that they are allocated with land and were possible with farms so that the current activities could be done in large numbers so that we can make more profit than what we are currently making using the limited space around the school surrounding which I feel is not enough no wonder we are even failing to keep our own goats here*.

In confirming that secondary schools needed more land for PU, one of the deputy head teachers in a narration revealed that schools were making profits as evident in the narration below;

> *A truck from Zambeef, has come to 'B' secondary school. Today we are offloading seventy pigs that we are selling to Zambeef. This is our piggery. These are part of the pigs that are going, they have already identified them… we are selling them… Now this one has piglets, it's not going… here are selecting a few because others are still small. All of these in the next also going... At least we will have space for others that are still growing*.

Overall, this study finding revealed that secondary school managers experiences in the management of PU was mainly associated with one's success in PU outputs which was heavily affected by lack of adequate startup capital, trained human resource, climatic changes, land, market forces, pests and diseases in PU.

4.6 Summary

This chapter presented the study findings according to the three study objectives. The study findings through the interviews showed that the secondary school managers in the selected schools effectively managed and implemented PU despite experiencing some notable challenges. The study findings also revealed that various stakeholders were involved in the management of PU, including school administrators, PU teachers, PTC members, and the pupils, among many others. The study findings further revealed that the many factors that were experienced that contributed to the challenges met in the management of PU were lack of adequate funding, partnership and skilled workforce, land for PU, and machinery. The study findings associated with the fourth objective suggested that PU in the selected secondary schools included in the study could be improved by government consistently and adequately funding PUs, employing qualified and skilled PU staff, campaigning for more community and donor participation in the management of PU as well as acquiring adequate farming land.

CHAPTER FIVE

DISCUSSION OF FINDINGS

5.0 Overview

This chapter discusses the findings following the four study objectives that examined the experiences of school managers in the management of PU in selected secondary schools in the Lusaka district.

5.1 Experiences of school managers in the management of PUs in secondary schools

The first objective was to explore educational managers' experiences in managing PU in secondary schools. The adventures of school managers in the direction of PU in the selected secondary schools were established according to the narrations and descriptions of school administrators: Head teachers, deputy Head teachers, HODs, and PU coordinators' experiences. The experiences of the school managers included in this study varied from positive and negative in a few instances.

The current study findings showed that most of the school manager's positive experiences were associated with effectively implementing and managing PU programs and projects in schools. The study findings revealed that the main PU activities organized in the selected secondary schools were aquaculture, gardening, orchard, and livestock rearing. Furthermore, positive experiences were further correlated with the PU income; for instance, one of the Head teachers indicated that school management had positive experiences as the PU section raised an average income of K80 000 to K94 000 per month.

Undeniably, positive experiences for school managers in the implementation of PU was correlated with schools being capable of sustainably generating a lot of income. The income generated from the PU activities were used to supplement on the management of the school welfare especially on financing some of the school programs and settling some of the school bills. This study finding entails that effective management of PU is associated with sustainable income generating activities that ensure financial stability of educational institutions. Thus, it can be affirmed that school managers develop a sense of contentment and success in the implementation in PU if the unit is able to supplement on the financial base of a school.

Contrary to these earlier study findings and reviewed studies (Chisha & Muzata, 2022; Daryanto, Panjaitan & Muslim, 2015), it was noted that the study also proved that some of the respondents indicated that they had negative experiences with the management of PU. The negative experiences were plausibly influenced by an inadequate permanent skilled workforce managing PU activities, especially aquaculture and gardening. This study finding implies that some schools relied on pupils as the primary source of labor, which is likely to affect their learning and study time and in turn affect the effective implementation and management of PU in Zambian secondary schools.

The study findings further revealed that school managers' positive experiences were associated with their success in managing varying PU programs and activities that contributed to general school management. The PU programs and activities included gardening, orchard, animal husbandry, and aquaculture.

Furthermore, the study reviewed that the schools were not/ directly adequately funded to implement the PU in secondary schools. However, the school management team went a mile stone a source for startup capital and for running PU activities. The study findings also showed that managers had negative experiences as they did not have the startup capital. This includes adequate funds or rather money to manage the implementation of all the planned PU programs and activities.

5.2 Involvement of the pupils, the community, and the management team in the PU in secondary schools

The second objective was to decide the levels of participation of the pupils, the community, and the management team in the production unit in secondary schools. The study findings showed that all the stakeholders, which were the school administrators, PTC members, the community, and pupils, were involved in the management of PU in the secondary schools included in the current study. As revealed in this study, effective management of PUs in schools is influenced by appropriate management structures mostly consisting of the Head Teacher, Deputy Head Teacher; the PU Committee, PU Coordinator and a teacher of Agricultural Science or Business Studies in most of the cases (Simaambo, et al, 2022). A study by Simmambo, Muleya and Simui (2022) found that the Deputy Head Teacher and PU Chairpersons were actively involved in the operations of the PU with the Head Teachers taking up more strategic roles. Unlike the study Simaambo, et al

(2022) which did not indicate community members' participation in the management of PU, the current study revealed that community member's involvement in PU though their involvement was mainly influenced by one's interest and/or appointment by the school management. Furthermore, the most common element in all the schools included in the study was that the community was not physically involved in the activities as they perceived it to be the responsibility of the school management team. The study findings further revealed that the community only took part in PU management through the PTC members, whose primary role was to monitor the implementation and management of the PU activities.

The study findings further revealed that teachers and pupils were actively involved in managing the PU in all the schools. One of the school's teachers was holding their pieces of land and engaging in gardening at the household level. Unfortunately, most teacher, like pupils, was not involved during the planning phase. Both were only interested in the implementation as supervisors of PU activities (i.e., teachers) and implementers of the plans or laborers (i.e., pupils). These study findings are consistent with the findings by Daryanto and others (2015), which showed that pupils' participation in the management of PU was minimal as they only acted as complements, which is just helping the operation of PU. It is worth noting that pupils in all the schools, including in the current study, were only involved as a source of labor. In this way, it was hoped that the pupils could learn the necessary skills and knowledge, as one of the significant aims of introducing PU in schools. Teachers probably were not actively involved in the planning phase because various HODs and PU coordinators represented them. However, it was expected that teachers and pupils should have been engaged throughout the PU management cycle as they were key stakeholders. The implication of not involving teachers and pupils in planning PU activities is that they are likely to develop apathy towards implementing PU as they would perceive themselves as not being recognized as indispensable.

Generally, this study's findings agreed with the earlier survey in Lusaka that revealed that management of PU in schools was done through a committee comprising of agricultural science teachers, HODs, Deputy Head teacher, PTC chairperson, support staff, and Production Unit pupil representatives (prefects). The study findings by Chisha and Muzata (2022) are significant with this study anticipation that effective management of PU in schools could only be effective through collective participation among all stakeholders. Thus, this findings reveal that the experiences of

school managers in the direction of PU in secondary schools are influenced by the stakeholders' level of involvement and commitment.

5.3 Challenges to school manager's experience in the management of PUs in secondary schools

The third objective aimed at establishing the challenges school managers experienced in managing PU in secondary schools. The challenges were resolved by describing school administrators (n = 30) experience (i.e., challenges) associated with the implementation of PU, and the study findings revealed that the school managers experienced several challenges. The significant challenges that were being shared were lack of financial support, land for PU, marketing of the products, seasonal climatic conditions that lead to proactive diseases, and attitude and interest of staff and pupils. Previous studies showed that school managers' effective management of PU in secondary schools was influenced by internal and external factors, including adequate finances, materials, skilled workforce, and time, among many others (Chisha & Muzata, 2022; Daryanto, Panjaitan & Muslim, 2015). These studies postulate that the unavailability of the above factors is most likely to pose a challenge to the school managers, as in the current study.

The current study showed that one of the significant challenges that school managers were experiencing was the lack of and inadequate funding for implementing PU activities in schools. Undeniably, the management of any program is usually solely dependent on the availability of funds to manage it effectively. This implies that school managers were stressed as they struggled to ensure the sustainability of existing PU activities in schools without funds to support ventures such as aquaculture, gardening, and poultry, among many others. Furthermore, the study findings revealed that the management of PU in the selected schools was due to a lack of workforce and experts to take care of the PU programs and activities. The plausible explanation for the lack of skilled workforce in the selected schools was that the secondary schools do not have an establishment for Agricultural specialists or experts specially intended to manage PU programs and activities.

Besides funding and a skilled workforce, the study findings also revealed that most of the study respondents showed that the schools had inadequate land to support the implementation of PU. Land is the core factor in the performance of PU; thus, without readily available land, school

managers are prone to encounter challenges as they try to find spaces that can be used for PU ventures. These study findings are supported by the study findings by Chisha and Muzata (2022), which also established that inadequate workforce and water supply were the main challenges in the management of PU because some members of the PU committee were teachers and pupils. Hence, it was difficult for them to dedicate adequate time to support the efficient management of PU in schools. The success of the PU activities such as gardening and aquaculture depended on a reliable water supply system. However, it is essential to note that in the current study, the use of pupils was dome at times at the expense of their academic performance. The continued lack of skilled workforce translates into compromised management of PU and the quality and quantity of its outcomes or harvest.

5.4 Measure for improving PU in secondary schools

The fourth objective concentrated at establishing measures school managers perceived could be useful in improving the implementation and management of PU in secondary schools. It is important to acknowledge that PU in secondary schools plays a lot in supplementing the running costs or rather budget of the school which largely influences school managers' effective and efficient management of the school. Therefore, the selected secondary schools in this study proficiently needed or rather need to ensure that there is effective and sustainable management of PU if it is become more productive and profitable. In fact, this study had anticipated that there was massive investment in the activities by all stakeholders especially the community and government to ensure diversification in the PU activities and programs. However, this study had established that several internal and external challenges affected management and implementation of PU in the selected secondary schools included in the study. Therefore, identifying measures to maximize PU activities in secondary school was very important in an effort to improve its management and sustainability.

This study's anticipation was that secondary schools were being adequately funded to implement and manage PU's activities following the practice is supposed to be compulsory in all the Zambian schools. However, this study findings revealed that that there was erratic or no funding related to management of the unit. Thus, respondents in this suggested and indicated that there was urgent need for the government through the MOE to be adequately and reliably funding secondary schools

so as to reinforce the already existing activities as well as diverse in other projects. It can be argued that improvement and/or expansion of PU in schools is mainly influenced by the ability of adequate funds that are needed to finance the expansion as well as improvement of PUs in secondary schools. The probable reason to this suggestion might be because some of the school managers in this study perceived that the funds realized from the sails of the PU yields were not sufficient to finance new projects and/or expand the already existing activities under PU. Furthermore, it is important to acknowledge, that improvement of PU management might have been solely being considered compromised by lack of funding from government because of the dependency syndrome because schools could have still lobbied for intervention from the corporate community or better still use part of their income to improve on the current activities and programs.

The current study had also established that management of PU was compromised by lack of adequate skilled manpower and experts which was probably influenced by over dependency on the governments deploy workers with agricultural science qualification or expertise. In association to this finding, this study suggested that management of PU in secondary schools could be enhanced and/or improved by employing personnel with proficient qualifications, knowledge, values and skills in managing diverse agricultural activities and programmers. Unlike previous studies reviewed in this study, it was suggested the personnel to be employed were not necessarily to have the academic qualification but basically having the necessary skills and attributes in the management of PU activities. It is important to note that it was further postulated that it was not entirely the responsibility of the government to deploy the skilled employees but the PTC as well. The probable explanation to this suggestion was because the schools included in this study had enough income from the agricultural produce hence having the capacity to employ workers instead of over dependency on the government.

Similar to this study finding, a study by Chisha and Muzata (2022) also suggested one of the measures that could be used to improve implementation of PU in schools was adequately and appropriately employing trained people to manage and supervise the operations of production units, with preference for those with Agricultural Science and Business studies. The findings in both studies were reflective of the human capital theory which stresses that the increase in productivity and profitability of PUs is associated with an investment in human capital (Fugar, Ashiboe- Mensah & Adinyira, 2013). Thus, the suggestion in the current study and study by Chisha

and Muzata (2022) were justifiable because productivity and profitability of PU can possibly only improve if the unit is staffed with people with valid knowledge, values, attitudes and skills in management of the unit's activities and programs. Furthermore, studies by Chisha and Muzata (2022), and Omukoba and Ayoda (2011) postulated that management of PU needed qualified personnel if the units where to attain the goals for which they were established. Inconsistent with this study, it was suggested that the government needed to get involved by employing well trained people to manage the PUs in schools (Chisha & Muzata, 2022).

Besides employing qualified personnel to manage PU in secondary school, the current study further established that one of the most proficient intervention for enhancing management of PU in the selected secondary school was through establishment and utilization of training programs designed for training and/or providing capacity building to the respective school managers responsible for implementation as well as overall management of PU in respective schools implementing PU. This suggestion was most likely made as there were no trained school managers in the secondary nor existing programs deliberately designed to impart relevant knowledge, skills, values and attitudes associated with management of PU. Certainly, if this suggestion was to be implemented in the secondary schools, plausibly the implementation and management of PU in secondary schools would improve thereby improving or rather increasing the current income being generated by schools.

This study finding and plausible insights were consistent responded to the study findings by Fugar, Ashiboe- Mensah and Adinyira (2013) who suggested that management of PU in schools could improve by ensuring that the personnel managing production activities were adequately and appropriately trained to manage and supervise the operations of production units in schools. The study further suggested personnel with Agricultural Science and Business studies background were more preferred because of them having undergone through training in productive activities relevant to the management of PU. According to Fugar, Ashiboe- Mensah, and Adinyira (2013), human capital is generally accepted as the most valuable asset of nations and organizations. This entails that human capital who in this study referred to school managers, needed appropriate training and capacity building so as to empower them with proficient PU management knowledge and skills.

Furthermore, this study findings suggested that there was need for more involvement of the community members and donors if schools were to diversify the activities under PU. This study suggestion correlated with a study finding by Odhiambo and Simatwa (2012) that suggested that for a school to effectively achieve its desired objectives in maximizing PU, the head teacher needed to collaboratively work with teachers, pupils and other relevant people within and outside the school community. Indeed, diversification in PU activities is inevitable if secondary schools are to maximize profits and sustainability of the current activities as noted by one of the respondents that there was need for more involvement of the community members in the management of PU in the selected schools at the realization that there was very minimal involvement of the community. This finding was inconsistent with the initial anticipation of this study as it had anticipated that the community was actively engaged in the management of PU. Involvement of the community members is important for sustainability of the unit's activities as they get to see the need of its importance to the internal management of the schools.

Evidence shows that implementation and management of PU is determined by the capability by the schools to expand the activities so as to increase the profit margins. A study by Chisha and Muzata (2022) found that most of the schools in their study where operating at subsistence level. The study findings further revealed that there was need to commercialize PU in order satisfy the markets demand and this was only attainable through expansion of the PU through land acquisition (Chisha & Muzata, 2022). A study by Waithera (2013) in Kenya also suggested that schools needed to secure farm land in order to expand in their agricultural activities. Consistent with the study findings by chisha and Muzata (2022) and Waithera (2013), the current study established that enhancement of PU in the selected secondary schools in this study was mainly influenced by the availability of PU land. This led to the proposal by some of the respondents that PU in schools could improve through acquisition of farm lands. Undeniably, acquisition of farm land is very important as it is one of the primary variables that can promote diversification as well as expansion of the already existing activities and programs. The implication of the secondary schools in Lusaka district not acquiring farm lands would be lack of expansion and diversification in PU or rather agricultural activities that are much needed to increase the income base, foster sustainability and reach the demands of the market. Without farm land school are likely to be restricted to managing the same limited activities over long periods of time, implying that the income remains almost the

same despite the cost of managing the activities having gone up. If this trend is not improved PUs are likely to experience losses and fail to satisfy the required market standards.

5.5 Summary

This chapter discussed the study's findings according to the four study objectives. The current and reviewed study findings showed that the secondary school managers effectively managed to implement PU in schools despite experiencing some notable challenges. The discussion of the study findings has shown that various stakeholders were involved in the management of PU, which included School administrators, PU teachers, PTC members, and the pupils. The study findings further revealed that the many factors that were experienced that contributed to the challenges met in the management of PU were lack of adequate funding, partnership and skilled workforce, land for PU, and machinery. The study findings associated with the fourth objective suggested that improvement of PU in the selected secondary schools in this study could be done through employing qualified and skilled PU staff, campaigning for more community and donor participation in the management of PU as well as acquiring adequate farming land. The next chapter presents the summary of research findings, conclusions and recommendation.

CHAPTER SIX

SUMMARY OF RESEARCH FINDINGS, CONCLUSION AND RECOMMENDATION

6.0 Overview

This chapter presents the conclusions drawn from the study findings and the recommendations, including further research. These are based on the research research objectives. The objectives were to:

i. Establish school managers' experiences in managing PUs in secondary schools.

ii. Determine the participation of the pupils, the community, and the management team in managing PUs in secondary schools.

iii. Establish the challenges school managers experience in managing PUs in secondary schools.

iv. Establish measures school managers can use to improve the management of PU in secondary schools.

6.1 Summary of research findings

The key findings on the experiences of school managers in the management of production unit among the systematic purposively selected school managers in selected secondary schools in Lusaka province were that;

i. Secondary school managers in the selected schools effectively managed and implemented PU despite experiencing some notable challenges. Positive experiences in the management of PU was associated with school PU being able to sustainably generate income and contributing to the welfare of the school.

ii. Various stakeholders were involved in the management of PU, including school administrators, PU teachers, PTC members, donors and the pupils, among many others. However, the various stakeholder were either actively or passively involved in the management of PU.

iii. The major factors that were experienced that contributed to the challenges experienced in the management of PU were lack of adequate funding, partnership and skilled workforce, land for PU, and machinery.

iv. The study findings for the fourth objective suggested that improvement of PU in the selected secondary schools in this study could be done through employing qualified and skilled PU staff, campaigning for more community and donor participation in the management of PU as well as acquiring adequate farming land.

6.2 Conclusions

The UNESCO (2004), argues that the demand for high quality and timely international data on Education systems had risen in the last decade. At a global level, the market had been driven by the need to monitor progress towards the global educational targets found in the Education for All goals (EFA) and the Millennium Development Goals (MDGs). Specifically, relating to access and completion of education, gender parity and good learning outcomes for all children. In most countries, we had several school-going children coming from middle and low-income families. Hence the need to promote free education at all levels to increase access and completion rate. To implement such polices, proper management and support was needed. According to this study's findings, PU can supplement some of the finances that are needed in running some of the school education programs and skills training.

This study's main objective was to examine educational managers' experiences in managing PU in selected secondary schools in the Lusaka district, Lusaka province of Zambia. Prior studies established the effective implementation of PU activities in schools despite the notable challenges. This study also demonstrated that there was a practical implementation of PU in the secondary schools included in the current research and that school managers had positive experiences in the management of PU as the unit was able to generate income to supplement the financial deficits likely to be experienced in the direction of the school. It was further seen that various stakeholders took part in the management of PU in secondary schools. However, their roles varied from being active members of the management committee, as the case was for the Head teacher, Deputy Head teacher, HODs, and PU coordinator, to supervisor being a supervisor (e.g., teachers and PTC executive members and finally, the implementer of the PU activities which included pupils and

the general and casual workers. Nonetheless, the positive outcomes were dependent on effective collaboration among the stakeholders.

Despite the successful experiences associated with the management of PU in secondary schools, several notable challenges affected the management of PU in the selected secondary included in the study. However, most of the obstacles were seemingly beyond the mandate of the school managers as, on their own, they could not manage to resolve issues such as lack of adequate PU funding, adequate PU farm land, lack of workforce, and PU experts. Therefore, this study suggested that PU in school could only improve if the government provided them with adequate and reliable PU startup capital, employed qualified and skilled PU staff. The other suggestion was for school management through collaboration with the PTC to maximize campaigns for more community and donor participation in the management of PU as well as acquiring adequate PU farm land.

The study findings also reviewed that there is need to conduct a needs assessment before implementing any PU activities. This would help in choosing the right kind of PU activities in relation to area and market forces for the services and goods that are produced. According to Alexander (1997), the emphasis on economic development on a broad front can be achieved by developing the 'modern' sector which would generate 'spread' effects ultimately benefiting the whole economy and population in terms of income and employment. The inadequacy of theories in terms of the needs and interests of the vast majority of the population is exposed by the Zambian experience and the fact that poverty is increasing. It is in this vain that the Ministry of Education in Zambia has taken the initiative for skills training through production unit in institutions of learning. The experience on the ground showed that it was not all the pupils and the members of staff that were involved in the PU activities in schools.

6.3 Recommendations

The study findings revealed the experiences of school managers associated with the management of PU in secondary schools in the Lusaka district. Thus, based on the study findings the following recommendations have been made to improve the management of PU in secondary schools:

i. School managers should ensure that teachers and pupils are involved throughout the entire process of PU implementation in schools, from the planning phase to the implementation.

ii. School management team to involve all stakeholders in the entire production unit process.

iii. The MoE, through collaboration with the school Head teachers and other cooperating partners, must consider training teachers in Agriculture or implementing and managing PU programs and activities in schools.

iv. Ministry of Education to train teachers in Agriculture and/ in the implementation and management of production unit activities in school.

v. The school management through the PTC need to collaboratively work together so as to improve community involvement in the management of PU in secondary schools in Lusaka district.

vi. There is need for further research to find out the sustainable strategies for maximizing PU implementation

vii. There is also need for another further research to be done, aiming at describing and establishing interventions that could be used to reduce the experiences that school managers experience in implementing PU in schools. This could be essential in establishing sustainable strategies for maximizing its implementation in all secondary schools, especially in Zambia.

6.4 Summary

This chapter presented the summary of the findings, conclusions and recommendations of the study. The findings and discussion of the study revealed that school managers in the secondary schools were able to manage PU programs and activities amidst notable challenges as they could generate sufficient income from the PU section. It was therefore recommended that school management needed to ensure that all the stakeholders were involved throughout the management cycle of PU and ensure that teachers got trained in respect to skill areas relevant to PU. Finally, extensive research needs to be conducted to foresee the maximization of PU in secondary schools.

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APPENDICES

Appendix I: Research Timeframe

DATE	ACTIVITIES
April - May, 2019	Proposal writing guidelines given by the DRGS/ Supervisor.
April - May, 2019	Research Topic identification and approval by the Department /Supervisor.
June, 2019	Research objectives and questions submitted for approval by the Department /Supervisor.
July – October, 2019	Literature Review concerning the topic
November, 2019 – July, 2020	Proposal writing, submission and approval by the Department /Supervisor.
August - September , 2020	Data collection
September – October , 2020	Data analysis
October, 2020	Draft Research report writing
August 2022	Final Research report writing
August, 2022	Submission of final Research report to the supervisor.

Appendix II: Research Budget

FROM: April 2019 **TO**: August 2022

S No	DESCRIPTION	QUANTITY	PRICE/ UNIT	TOTAL
1	Small book	1	K10	K10
2	Reams of paper	4	K70	K280
3	Rubber	2	K2	K4
4	Pencils	2	K1	K2
5	Pens	2	K2	K4
6	Mathematical set	1	K75	K75
7	Calculator	1	K150	K150
8	Staples	1 box	K10	K10
9	Typing and Printing	-	-	K700
10	Photocopying	-	-	K800
11	Binding cost	4	K250	K1000
12	Transport	-	-	K1000
13	Contingency @ 10%			K403.50
14	TOTAL			K4,438.50

Appendix III: Semi-Structured Interview Guide for Head Teachers, Deputy Head Teachers, and Head of Department

Introduction

Dear participant,

I am a student at the University of Zambia, currently pursuing a Master of Education in educational administration and management; I am researching general educational institutional management with the introduction of production units in selected secondary schools of Lusaka district, Lusaka, Zambia. The information that will be collected will be treated with the highest level of confidentiality as it will be used for Scholarly work only.

INSTRUCTIONS.

a) Your name is not required: hence your answer will be confidential and anonymous.

b) Kindly answer each question frankly and truthfully.

c) Where necessary, explain your answer.

Questions

1. Your sex: Male ☐ Female ☐

2. Your Age (Years): 11 – 20 ☐
21 – 30 ☐
31 – 40 ☐
41 and above ☐

3. Length of service in years:

0 – 5 ☐
6 – 11 ☐
12 – 17 ☐
18 – 23 ☐
24 – 29 ☐
30 – Over ☐

4. Several years at current school:

1 ☐

2 ☐

3 ☐

4 ☐

Other, please specify…….…….

5. Position in school management ……

6. In which year did your school start production units/ activities?

2020 ☐

2019 ☐

2018 ☐

Some time back ☐

Never ☐

7. State the type of production units/ activities being done in school and who the sponsors are

.....

8. Does your school allocate any time for production units/ activities?

Yes ☐ No ☐

9. If the answer to question 14 is yes, state the number of times and explain the benefits; if the answer is No, explain the reason.

.....

10. Do private institutions offer any support for Production Units/ activities in school?

Yes ☐ No ☐

11. If the answer to question 17 is yes, state the kind of support and explain the benefits; if the answer is No, explain the reason .....

12. Do you participate in the management of PU programs and activities?

If **YES**, probe for their role in the management of PU.

13. Kindly share your experiences in the management of PU in this school.

14. According to your experiences, do you have any challenges in managing PU programs and activities in this school?

If **YES**, probe for the challenges experienced, and if **NO**, probe how they have managed their PU effectively to avert the obstacles.

15. According to your experience, what are the main factors that support or hinder the effective management of PU in this school? .....

16. Who are the stakeholder's holders in the management of PU in this school?

Probe the central role of each stakeholder in the management of PU.

17. In your view, what should be done to enhance or improve the implementation and management of PU in secondary schools? .....

THANK YOU FOR YOUR PARTICIPATION

Appendix IV: Semi-Structured Interview Guide for PTC Executive Members

Introduction

Dear participant,

I am a student at the University of Zambia, currently pursuing a Master of Education in Educational Administration and Management; I am researching general educational institutional management with the introduction of production units in selected secondary schools of Lusaka district, Lusaka, Zambia. The information that will be collected will be treated with the highest level of confidentiality as it will be used for Scholarly work only.

INSTRUCTIONS.

a) Your name is not required: hence your answer will be confidential and anonymous.

b) Kindly answer each question frankly and truthfully.

c) Where necessary, explain your answer.

Questions

1. Your sex: Male ☐ Female ☐

2. Your Age (Years):
- 11 – 20 ☐
- 22 – 30 ☐
- 31 – 40 ☐
- 42 and above ☐

3. Length of service (as PTC executive member) in years at current school:

0 – 5 ☐
6 – 11 ☐
12 – 17 ☐
18 – 23 ☐
24 – 29 ☐
30 – Over ☐

4. Position in school management ……

5. State the type of production units/ activities being done in this school…….

.....

6. Are there institutions that offer any support for PU in this school?

Yes ☐ No ☐

If **YES**, state the kind of support and explain the benefits; if the answer is No, explain the reason.

.....

7. Do you participate in the management of PU programs and activities?

If **YES**, probe for their role in the management of PU.

8. Kindly share your experiences in the management of PU in this school.

9. According to your experiences and observations, do you have or think there are any challenges in the management of PU programs and activities in this school?

If **YES**, probe for the challenges experienced, and if **NO**, probe how they have managed their PU effectively to avert the obstacles.

10. According to your experience and observations, what factors support or hinder the effective management of PU in this school? .....

11. Who are the stakeholder's holders in the management of PU in this school?

Probe the central role of each stakeholder in the management of PU.

12. In your view, what should be done to enhance or improve the implementation and management of PU in secondary schools? ……

.....

THANK YOU FOR YOUR PARTICIPATION

Appendix V: Approval Letter

THE UNIVERSITY OF ZAMBIA
DIRECTORATE OF RESEARCH AND GRADUATE STUDIES

Great East Road Campus | P.O. Box 32379 | Lusaka 10101 | **Tel:** +260-290 258/291 777
Fax: (+260) 211 290 258/253 952 | **Email:** director.drgs@unza.zm | **Website:** www.unza.zm

APPROVAL OF STUDY

IORG No. 0005376
HSSREC IRB No. 00006464

9th May, 2023

REF NO. HSSREC:-2023- MAY- 012

Ms. Kazawala F. M. Chikondano
University of Zambia,
School of Education,
Lusaka.

Dear, Ms. .Kazawala,

RE: EXPERIENCES OF SCHOOL MANAGERS WITH THE MANAGEMENT OF PRODUCTION UNIT: A CASE OF SELECTED SECONDARY SCHOOLS IN LUSAKA DISTRICT IN ZAMBIA"

Reference is made to your submission of the protocol captioned above. The HSSREC resolved to approve this study and your participation as Principal Investigator for a period of one year.

REVIEW TYPE	ORDINARY REVIEW	APPROVAL NO. HSSREC:-2023- MAY- 012
Approval and Expiry Date	Approval Date: 9th May, 2023	Expiry Date: 8th May, 2024
Protocol Version and Date	Version - Nil.	8th May, 2024
Information Sheet, Consent Forms and Dates	☐ English.	To be provided
Consent form ID and Date	Version - Nil	To be provided
Recruitment Materials	Nil	Nil
Other Study Documents	Questionnaire.	

Number of Participants Approved for Study		

Specific conditions will apply to this approval. As Principal Investigator it is your responsibility to ensure that the contents of this letter are adhered to. If these are not adhered to, the approval may be suspended. Should the study be suspended, study sponsors and other regulatory authorities will be informed.

CONDITIONS OF APPROVAL

- No participant may be involved in any study procedure prior to the study approval or after the expiration date.
- All unanticipated or Serious Adverse Events (SAEs) must be reported to HSSREC within 5 days.
- All protocol modifications must be approved by HSSREC prior to implementation unless they are intended to reduce risk (but must still be reported for approval). Modifications will include any change of investigator/s or site address.
- All protocol deviations must be reported to HSSREC within 5 working days.
- All recruitment materials must be approved by HSSREC prior to being used.
- Principal investigators are responsible for initiating Continuing Review proceedings. HSSREC will only approve a study for a period of 12 months.
- It is the responsibility of the PI to renew his/her ethics approval through a renewal application to HSSREC.
- Where the PI desires to extend the study after expiry of the study period, documents for study extension must be received by HSSREC at least 30 days before the expiry date. This is for the purpose of facilitating the review process. Documents received within 30 days after expiry will be labelled "late submissions" and will incur a penalty fee of K500.00. No study shall be renewed whose documents are submitted for renewal 30 days after expiry of the certificate.
- Every 6 (six) months a progress report form supplied by The University of Zambia Humanities and Social Sciences Research Ethics Committee as an IRB must be filled in and submitted to us. There is a penalty of K500.00 for failure to submit the report.
- When closing a project, the PI is responsible for notifying, in writing or using the Research Ethics and Management Online (REMO), both HSSREC and the National Health Research Authority (NHRA) when ethics certification is no longer required for a project.
- In order to close an approved study, a Closing Report must be submitted in writing or through the REMO system. A Closing Report should be filed when data collection has ended and the study team will no longer be using human participants or animals or secondary data or have any direct or indirect contact with the research participants or animals for the study.

- Filing a closing report (rather than just letting your approval lapse) is important as it assists HSSREC in efficiently tracking and reporting on projects. Note that some funding agencies and sponsors require a notice of closure from the IRB which had approved the study and can only be generated after the Closing Report has been filed.

- A reprint of this letter shall be done at a fee.

- All protocol modifications must be approved by HSSREC by way of an application for an amendment prior to implementation unless they are intended to reduce risk (but must still be reported for approval). Modifications will include any change of investigator/s or site address or methodology and methods. Many modifications entail minimal risk adjustments to a protocol and/or consent form and can be made on an Expedited basis (via the IRB Chair). Some examples are: format changes, correcting spelling errors, adding key personnel, minor changes to questionnaires, recruiting and changes, and so forth. Other, more substantive changes, especially those that may alter the risk-benefit ratio, may require Full Board review. In all cases, except where noted above regarding subject safety, any changes to any protocol document or procedure must first be approved by HSSREC before they can be implemented.

Should you have any questions regarding anything indicated in this letter, please do not hesitate to get in touch with us at the above indicated address.

On behalf of HSSREC, we would like to wish you all the success as you carry out your study.

Yours faithfully,

Dr. J. I. Ziwa

DR. J. I. Ziwa

ACTING CHAIRPERSON
THE UNIVERSITY OF ZAMBIA HUMANITIES AND
SOCIAL SCIENCES RESEARCH ETHICS COMMITTEE - IRB

cc: Director, Directorate of Research and Graduate Studies
Assistant Director (Research), Directorate of Research and Graduate Studies
Assistant Registrar (Research), Directorate of Research and Graduate Studies