UNIVERSITEIT VAN PRETORIA
UNIVERSITY OF PRETORIA
YUNIBESITHI YA PRETORIA

A comparative study of two Development Assistance Partnership Programmes for science education in Ghana and South Africa

By

Bukari Zacchaeus

A dissertation submitted in fulfilment of the requirement for the degree

Magister Educationis

(Curriculum and Instructional Design and Development)

In the

DEPARTMENT OF CURRICULUM STUDIES

FACULTY OF EDUCATION

UNIVERSITY OF PRETORIA

SOUTH AFRICA

Supervisor: Prof. Loyiso C. Jita

August 2007

DECLARATION

I declare that the dissertation entitled "a comparative study of two development assistance partnership programmes for science education in Ghana and South Africa" is my own work and has not previously been submitted by me for any degree at another university, and that all sources used or quoted have been duly acknowledged and indicated by means of complete references.

……
Bukari Zacchaeus
August 2007

DEDICATION

I specially dedicate this work to my late father, Mr. Dinyabaya T. Bukari and my mother, Mrs. Bukari Y. Saanaba for the foundation they laid in my life and the emphasis that they placed on my educational achievement.

I also dedicate this work to my wife, Mrs Bukari W. T. Agatha and my daughter, Miss Joycelyn H. Bukari for their undying love, support and patience throughout my years of study.

ACKNOWLEDGEMENT

First and foremost, to the almighty GOD, who through His grace has been a source of my strength and wisdom, and who made me to believe that "I can do all things through Him (Phil. 4:13)".

Further, I express my sincere thanks and gratitude to the following persons and organisations for supporting me in many ways:

- **My supervisor, Prof. Loyiso C. Jita for his endless support, guidance and encouragement throughout the years of my study. Working under him was a privilege and inspiring, enriching me with an immerse knowledge and experience, I say 'may the good Lord bless him in return'.**

- **The Japan International Cooperation Agency (JICA) for the sponsorship of my studies in South Africa, without which my success today would not have been possible, to them I say *'Angato gozaimasu'*.**

- **My wonderful wife, Agatha T. W. Bukari and daughter, Joycelyn H. Bukari for their understanding and outstanding moral support given to me throughout all these years of my studies.**

- **My special friends, Dr. Thembi Ndlalane and Mr. Sipo Dlamini for their hospitality and expert advice both socially and academically during the course of my studies in South Africa.**

- **My colleagues and those I could not mention their names for their contributions and support during the difficult times in this study.**

TABLE OF CONTENTS

LIST OF TABLES AND FIGURES

LIST OF TABLES

LIST OF FIGURES

SUMMARY OF STUDY

Following the attention given by the Jomtien Declaration to the need for partnerships and collaboration in the promotion of educational improvement (World Declaration on Education for All, 1990), developing countries have initiated several partnership programmes with many international donor agencies. These partnerships for educational development in Africa vary in scale, character and context, and the institutional and policy frameworks are now more demanding. The conception and practice of partnership has been a challenge primarily because, how the policy/organisational framework, design and practice of partnerships influence the outcome of such collaborations remains poorly understood. In this study I examined the framework, construction and practice of partnerships using the Japan International Cooperation Agency's (JICA) educational partnership programmes in Ghana and South Africa as case studies. I studied these two examples of JICA funded programmes in order to determine the opportunities and constraints that such partnerships offer.

Data was collected through interviews with 12 key officials using semi-structured questions and the analysis of documents. Such documents as project proposals, monitoring and evaluation reports, minutes of stakeholders' meetings and newsletters of each of the two case studies were reviewed. Observations of some project activities such as stakeholders' meetings, training workshops and conferences were also conducted for the purpose of validation. Using the concept of 'surface and genuine partnership' proposed by Mkandawire (1996) and Odora Hoppers (2001), data were analysed focusing on the interactive effects of partners on the outcomes of the two partnership programmes.

Evidence gathered from this study suggests that while partnerships are key they are often narrowly conceptualised for two reasons: First, the common conception of partnerships as 'bringing resources together' with little or no recognition of the interactive effect of partners on their success is limiting. This is mainly because partnership engagement may go beyond the resource

agenda to issues of mutual respect, power relations, nature of dialogue and professional as well as interpersonal relationships. Second, partnerships normally focus on supply-driven opportunities rather than stimulating demand among immediate beneficiaries. The need of creating sustainable capacity building systems for teachers in the long-term is imperative however it requires stimulation of demand among teachers who are the potential users of the knowledge and skills offered by such partnership endeavours.

Third, I found that the initial model and construction of a partnership becomes less significant if actors practically engage in genuine partnership given that: (1) the principles of pure dialogue will lead to flexibility, which allows reconstruction as the partnership evolves and (2) the practice of shared culture and interest will permit creative use of challenges in devising innovative approaches.

The main lesson presented in this study is the revelation that no mater how well intended and designed a partnership arrangement is, its subsequent implementation can adversely be affected by the practices at both the individual and organisational levels. The characterisation of the implementation process of the partnership described in this dissertation is a mixed bag of stimulating and limiting factors. It therefore presents a crucial responsibility to collaborators to deliberately devise mechanisms that will maximise the former and at the same time minimise the later. The significance of this study is that both policymakers and donor agencies involved in partnership arrangements as well as researchers need to rethink the conceptualisation of the term partnership (Oyelaran-Oyeyinka, 2005) and re-examine the policy and institutional context (Azar, Harpring, Cohen & Leu, 2004; Hall, R. 2002) under which such educational development partnership ventures thrive.

Keywords:
Partnership, Educational development, Professional development, Dialogue, Sustainability and Science education.

CHAPTER ONE

INTRODUCTION

1.1 Introduction

Following the attention given by the Jomtien Declaration to the need for partnerships and collaboration in the promotion of educational improvement (Shaeffer, 1992), developing countries have initiated several partnership programmes with many international agencies. Educational development partnerships in Africa are not new (King, 2004), however, they vary in scale, character and context, and their institutional and policy frameworks are involving (Bray, 1999; Anzar, Harpring, Cohen & Leu, 2004). For example, The Working Party (1996: 3) on partnership for capacity building in Africa points out that misdirected donor initiatives and aid dependence have previously contributed to the dysfunction of African institutions and the erosion of capacity in many states of Africa (Odora Hoppers, 2001). Furthermore, defining partnership is a challenge (Bray, 1999), not least because how the development and practice of partnerships influence their outcomes is not clear (Plummer, 2002).

This study therefore explores the framework, construction and practice of two educational development partnerships in Africa using Japan International Cooperation Agency's (JICA) educational partnership programmes in Ghana and South Africa. I studied these two examples of JICA funded programmes in order to determine the opportunities and constraints that such partnerships offer in development of science and mathematics education. My objective is not to join the chorus of impact assessment scholars that churn out ever more complex data on how effective or ineffective partnerships are in achieving their set goals. I question the partnership enterprise itself, through a simple but crucially significant question; what opportunities and constraints are embedded in the very nature (framework, construction and practice) of partnerships?

In order to explore this research puzzle, I focused the research on the following research questions: (1) what is the framework (policy and/or

organisational) of the JICA funded partnerships in the Mpumalanga Secondary Science Initiative (MSSI) and the Science, Technology and Mathematics (STM) projects in South Africa and Ghana respectively?, (2) how are the partnerships constructed and practiced in the MSSI and STM projects? and (3) what are the consequences (opportunities and constraints) of the MSSI and STM for science teacher development in each country?

The World Bank (2000) recognising the growing importance of partnerships in the Bank's development strategies, pointed to partnership as an imperative for success. They further argue that the job of strengthening educational access and more recently quality improvement is too big for any single institution and too complex to be left to one perspective only (The World Bank, 2000). Progress in education therefore requires strong productive partnerships. Among the factors that are currently reshaping the changing perspectives of educational development partnerships is the major educational policy initiative towards higher quality education across the developing world (Chapman, 2001). According to the Asian Development Bank (1997), there are a growing number of developing countries, which have made significant progress in expanding enrolment in basic education. As enrolments shot up, the crisis of teacher inadequacy and quality began to rise, leading to a drop in instructional quality (UNESCO, 1997).

Consequently, a major education policy initiative across the developing world has been a push towards higher quality instruction (Chapman & Adams, 1998). To achieve this goal, the Australian Committee for the Review of Teaching and Teacher Education (2003) suggest that teachers being an integral part of the scientific knowledge economy need to update their subject knowledge and pedagogical practice through professional refreshment in their fields of expertise. In any solution to the problems currently facing science and technology education the need to initiate professional development programmes for teachers is critical (Loucks-Horsley, Hewson, Love & Stiles, 1998).

Convinced of this necessity but unable to fund it themselves, developing countries have turned to external agencies for assistance (Samoff, 1999). In line with this, there has been a certain conjuncture of renewed and growing interest in the quality of basic education among nations and donor agencies, in recent times (Shaeffer, 1992). This interest led to the “expanded vision’ of the World Conference on Education For All (WCEFA, 1990) in Jomtien, a declaration endorsed by most nations and many donor agencies and non-governmental organisations of the world. The final vision of the Jomtien conference consist of five points: the universalisation of educational access and equity, a focus on learning acquisition, broadening of the means and scope of basic education, enhancing the environment for learning and strengthening partnerships in the planning and implementation of educational programmes (WCEFA, 1990).

The last, strengthening partnerships in education, though no quantifiable and measurable outcomes to which much of the world, donors and governments alike will turn their attention, is equally important and must not be neglected. Quoting from the Declaration of Jomtien as below clarifies the issue:

> National, regional and local educational authorities have a unique obligation to provide basic education for all, but they cannot be expected to supply every human, financial or organisational requirement for this task. New and revitalised partnerships at all levels will be necessary; partnerships among all sub-sectors and forms of, recognising the special role of teachers and that of administrators and other educational personnel; partnership between education and other government departments, including planning, finance, labour, communications, and other social sectors; partnerships between government and non-governmental organisations, the private sector, local communities, religious groups and families. Genuine partnerships contribute to the planning, implementation, managing and evaluating of basic education programmes. When we speak of ‘an expanded vision and a renewed commitment; partnerships are at the heart of it (World Declaration on Education for All, 1990: 7).

In response to this call, a number of initiatives in the development and implementation of a wide range of donor supported projects and programmes have been undertaken (Bray, 1999). However, most gratifying are the mixed

views of their effectiveness. While many recent studies report the effectiveness of such interventions as remarkable, others reveal the contrary in achieving their wider objective of improving the quality of education (Powel, 2001). For example, Sifuna (2000) criticizes multilateral education agencies like UNESCO and The World Bank for their marginalisation and lack of coordination and serious handling of issues emerging from WCEFA. Yet, most studies focus on the impact and sustainability of educational development assistance programmes and more often than not, those studies report 'donor-pleasing' results to the credit of donor agencies while attributing pitfalls, such as lack of participation, poor attitudes, misallocation of funds and poor management among others, to the recipient parties (Odora Hoppers, 2002). Such evaluative processes that could enhance partnerships, instead foster frustration, reinforce suspicion and mistrust among partners.

Furthermore, studies on partnership in educational development assistance are scarce (Plummer, 2002) and even fewer capture the opportunities and constraints that the framework and practice of partnership generate in educational development assistance. The purpose of this study therefore is to investigate the strengths and weaknesses of such partnerships within professional development programmes in Africa, using the case of JICA funded MSSI and STM projects in South Africa and Ghana respectively. The goal of the study is not on establishing truth claims about such partnerships all over the world but to develop an understanding of the framework and practice of the Japan International Cooperation Agency (JICA) funded capacity building partnerships for science and mathematics educators. Specifically, the study seeks to identify the opportunities and constraints embedded in such educational development partnerships in Africa. Through this study, I hope to contribute to the so-called "body of knowledge", a better understanding of the operation and consequences of international development partnerships in the field of education, which will subsequently inform policy-makers, educational leaders and donor agencies about the design and practice of such partnerships for teacher development, especially in Africa.

1.2 Background of the study

Partnership is by no means a new or recent phenomenon in international development assistance in Africa's education. Indeed, international development in education has a very long history, Chapman (1992) traces this practice to the problem-oriented development assistance strategy between 1950s – 1970s, system-oriented and policy adjustment strategies in 1980s, the non-project assistance strategy in the 1990s and the most recent sector investment programs in which partnership in a wider scope is considered, involving multiple assistance agencies. One of such partnership efforts that constitute the focus of this study is the JICA technical assistance programme in developing countries.

JICA has the responsibility of implementing Japan's Official Development Assistance (ODA) to enhance the capacity of people in developing countries so that they can solve their problems and sustain their development (JICA, 2005) as outlined in the MDGs declaration. JICA assistance programs to the developing world is multi-faceted, covering different sectors including the strengthening of Primary and Secondary science and mathematics education, enhancing community development, improving safe water supply and poverty reduction/alleviation in Africa (JICA 2004). Others include development and utilisation of Information Technology (IT) in human resource development, strengthening of the social capacity of countries for environmental management in developing countries and formulation of NGO-JICA collaboration programs for joint project evaluation (JICA, 2004).

JICA provides assistance and implements support programs at all levels - national, regional, district and community levels (JICA, 2005). JICA cooperation modalities vary in scale, scope and character, comprising Technical cooperation projects, Training programs in Japan, Disaster relief and Grant aid programs, Dispatch of JICA Volunteers (JOCVs) and/or equipment supply programs (JICA, 2005), most of which are presently being undertaken in Africa (Figure 1). Recognising the fact that Science and mathematics education is indispensable for the development of science and

technology, which forms the basis of socio-economic development of every nation, one of JICA's cooperation programmes focused on strengthening primary and secondary science and mathematics education in Africa.

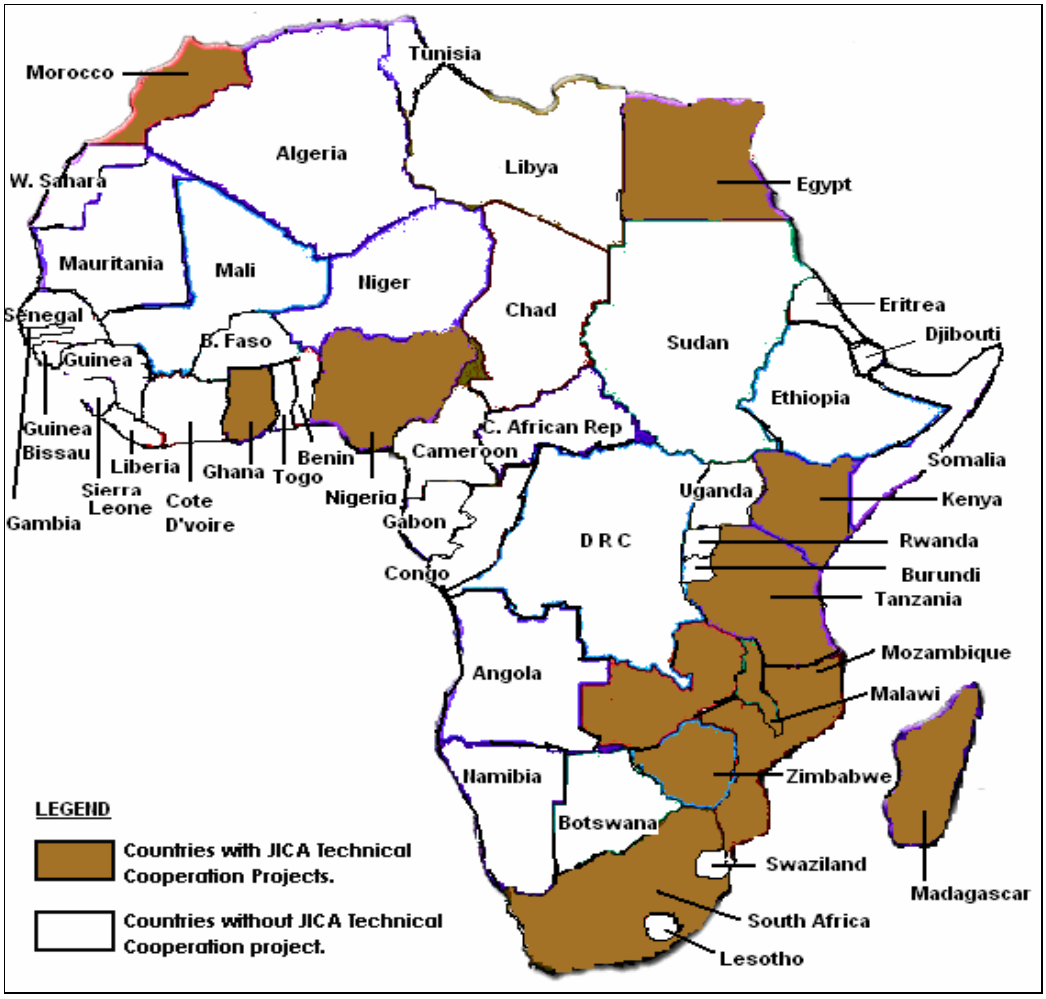

Figure 1: JICA Technical Cooperation operations in Africa (Source: JICA, 2004)

As part of the effort towards improvements in the quality of basic education in developing countries, JICA had so far implemented twelve (12) technical cooperation projects in the primary and secondary science and mathematics education sector at the end of April 2004 across the developing world (JICA, 2004). The first project in the primary and secondary science and mathematics education sector was the Package Cooperation launched in the Philippians in 1994. Since then, a series of projects in the sector were implemented in succession, an effort that expanded notably from the late

1990s to 2000s, resulting in four in Asia (Philippines, Indonesia and Cambodia), one in Latin America (Honduras) and seven in Africa (Egypt, Ghana, Kenya and South Africa) (JICA, 2004, see Appendix A).

The STM project in Ghana and MSSI project in South Africa form the focus of this investigation. In 1997, soon after South Africa's democracy, JICA established an office in South Africa after realising the country's potential in the further development of Southern Africa. Education in South Africa has been identified as one of the most important sectors in need of further development, particularly in the field of sciences, engineering and technology (Department of Education, 2004). It is remarkable to indicate that JICA has aligned its technical cooperation activities in South Africa with the government's policies in mind (JICA Newsletter, January 2004). Despite many donors concentrating on this sector, JICA's focus is mainly on the training and empowerment of Science, mathematics and technology teachers in the Mpumalanga province, hence the birth of the Mpumalanga Secondary Science Initiative (MSSI) project.

Similarly, JICA technical cooperation projects in Ghana focused on the Improvement of Educational Achievement in Science, Technology and Mathematics in basic Education (JICA, 2002). In its 1996 educational reform programme, Ghana committed itself to three goals viz; improving the quality of education and learning, expanding educational opportunities and reinforcing educational management (World Bank, 2005). Upgrading the quality of teachers was identified as one of the key task in pursuit of these objectives. In response, JICA launched the Ghana Education Service- GES/JICA STM partnership project in 2000 for the period of five years, which is directed towards basic 4 – 9 learners and focused on the training of basic school science and mathematics teachers to improve their classroom practices (JICA, 2002). These two JICA partnership projects (STM in Ghana and MSSI in South Africa) highlighted here constitute the focus of this study. Their policy /organisational frameworks, processes of construction and practice will be explored in order to identify the opportunities and constraints derived from these initiatives.

1.3 Statement of the problem

Post-colonial Africa has confronted what has to date proved to be a difficult tension. The challenges of developing countries today are not only different in kind but in degree, ranging from health, peace, democracy, economic instability, poverty, environmental degradation, persistent threat of natural disaster, war and diseases (Shaeffer, 1992). All these conditions people must not only know how to cope with and adapt to but also how to manage and control them. Education, as a change agent, has an indispensable role to play in the change process in this regard. However, in most countries, the pressure to expand access to and improve the quality of education has been enormous. Many developing countries have made significant progress in expanding enrolment in basic education, which has led to a reduced attention on expansion and access to a new interest of improving capacity and commitment to raise school quality (Chapman, 2001).

It follows that the quality of education will depend, to a very large measure, on the quality of teachers already in schools. I am convinced that the development and maintenance of a dynamic, highly motivated and skilled teaching force is directly dependent on recognition of the need for further training that will provide opportunities for serving teachers to learn (Williams, 1991). Teacher development, therefore, is critical in educational improvement, especially in the field of science and technology education. In attempt to resolve this insurmountable need, African governments have turn to partnership with donor agencies as the alternative. As a result of this trend, dozens of recent studies tell us, apparently confirming many earlier reports, that partnership have led to more effective and relevant education, greater equity, greater demand for and acceptability, and more resources for education, though under certain conditions (Shaeffer, 1992; Powell, 2001). Conversely, many other studies reveal minimal success of partnership in educational development assistance programmes in developing countries (Garet, Birman, Porter, Desimone, Herman & Yoon, 1999; Nocon, 2004; Odora Hoppers, 2001; Samoff, 1999).

While results of research are different and sometimes contradictory, the general impression however is that international partnership programmes designed for educational development assistance are minimally effective (Sifuna, 2000; Powell, 2001). Are partnerships for better or for worse? If for better, how does the framework and practice of partnership in educational development assistance promote the reshaping and development of science and technology instruction in Africa? The problem is that current research has very little to tell about how the dynamics and processes of partnerships privilege or constraint the effectiveness of educational development partnerships. This study therefore aims to explore the relationship between the structure of partnership process and the opportunities and constraints that such educational development partnerships generate for science education.

1.4 Rationale of the study

Numerous Africa education sector studies undertaken during the early 1990s indicated that African education was in crisis with quality deteriorating and yet governments cannot cope (Samoff, 1999). Even as the demand on public resources to support education grows, governments face compelling alternative demands to address issues of water, energy, diseases and infrastructural development. The resulting search for new sources of revenues and new efficiencies in education compels governments to engage in international donor partnerships (Bray, 1998). Over time, it has come to seem not only obvious but also unexceptional that new initiatives require external support and dependence (Shaeffer, 1992). Far too often, international partnerships have remained driven by the agendas and procedures of the funding and technical assistance agencies, with constrained national control and very limited sense of national ownership (Samoff, 1999). Consequently, the effectiveness of international partnerships is not only questionable but also controversial. Most importantly, what is required is genuine dialogue among partners who not only talk but also listen and hear, from conception through implementation to completion of projects. To date little is known about how the dynamics and processes of partnership privilege or constraint its effectiveness. It is this mixed complexity that has motivated this study.

Another dimension of this initiative is my personal experience as a facilitator of the GES-JICA STM and my involvement with the MSSI projects in Ghana and South Africa respectively. Prior to my joining the University of Pretoria, in 2005, I took part as a facilitator of the teacher training workshop component of the JICA STM partnership project in Ghana. During this period, my interaction with the implementation process of the project reveals a unique form of partnership vis-à-vis other projects I have experienced in my teaching career. Furthermore, upon my enrolment into the University of Pretoria, I had another privilege to participate in the JICA MSSI project in South Africa. This gave me an opportunity to be involved in some activities of the project such as research work, visiting and observing clusters activities and participating in workshops. My involvement in the two projects (STM in Ghana and MSSI in South Africa) motivated and endowed me with an in-depth knowledge and experience needed for this investigation.

General observation revealed that the impact and sustainability of the projects are the major concerns within and among partners and stakeholders. However, recent studies conducted by Hattingh et al (2005) and Joint Evaluation Team (JET) (2006) on the MSSI project for example, suggest minimal outcomes indicating probably a process dilemmas within the partnership. While there are observable differences from other partnerships, the opportunities and constraints that the nature (framework, construction and practice) of these partnerships offer remain unclear and therefore require rigorous further investigation.

These experiences excited my interest in this particular study. The existing literature points to the changing role of donor agencies (Chapman, 2001) and the ineffectiveness of international partnerships in educational improvement (Powell, 2001). However, there have been limited attempts to identify and understand how the framework, construction and practice of partnerships will privilege or constrain the resultant outcomes of such partnerships in educational development. An added depth and width to this gap is the scarcity or absolute lack of empirical literature on the subject that focus on the

dynamics of partnerships for professional development, particularly in the context of developing countries. The present study aims to fill this gap by investigating the opportunities and constraints that are embedded in the implementation process of educational development partnerships, particularly in the context of developing countries like in Africa.

1.5 Aim and objectives of the study

The aim of the study is to determine the opportunities and constraints offered by the framework, construction and implementation dynamics and approaches within the JICA funded educational partnership projects for science and mathematics teacher development in Ghana (STM project) and South Africa (MSSI project). To achieve this aim the following objectives are outlined to guide the investigation:

I. To examine the policy and/or organisational framework of the JICA funded partnerships in the MSSI and the GES-JICA STM projects in South Africa and Ghana respectively,
II. To explore how the partnerships are constructed and practiced in the MSSI and STM projects, and
III. To determine the consequences of the MSSI and STM projects for science teacher development in Ghana and South Africa.

1.6 The outline and organisation of research report

The research report is structured in six chapters. In chapter one, I provide a general background and orientation within which the research is conceptualised, focusing on the what, why and how of the research. In chapter two, I reviewed relevant literature to provide the theoretical background to the study with the aim of informing and establishing the conceptual framework for my study. Chapter three is devoted to the research design and methodology as applied to development of instruments, procedure in data collection and analysis of data generated. In chapters four and five, I present the findings and the interpretations of the data from the MSSI and STM case studies respectively. The report ends with a final chapter six, which summarises and discusses the key findings as well as drawing conclusions

and their implications for further research. The outline below describes the organisation and content of the research report (Figure 2).

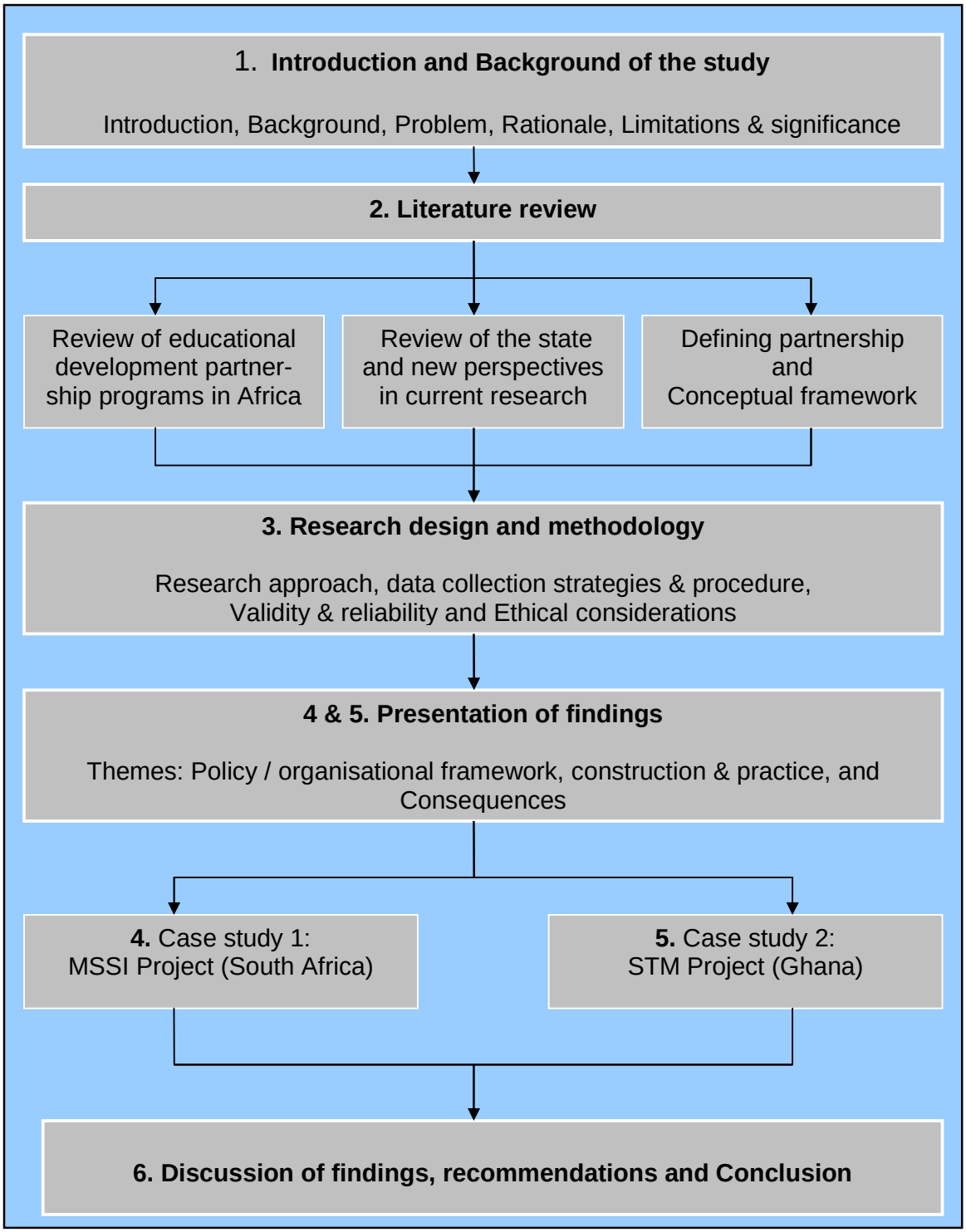

Figure 2: The organisation and content of the research report.

CHAPTER TWO

LITERATURE REVIEW

2.0 Introduction

This chapter aims to explore current perspectives on educational development partnerships (EDPs) from both international and local research in order to establish a scientific base for carrying out the present investigation. This review explores the question of whether existing theorisations and empirical evidence are adequate to understanding all dimensions (construction, practice and consequences) of education development partnerships in situations where there are substantial conflicts of interest between partners such as international development agencies and the developing countries in Africa. In this chapter, I provide a synthesis of relevant literature from both empirical and theoretical works and discuss key debates in current research on international education development partnerships, as a way to deepening understanding of the research questions and informing the subsequent procedure of data analysis.

Specifically, I focus in detail on the contemporary issues and the current state of research on EDPs in African under three key aspects of partnerships: the models, emergence (source and rationales), and the status of current research on educational development partnerships in Africa. Thus, the chapter is divided into four subsequent sections: (2.1) Review of EDPs, aimed at identifying the different models of partnerships, (2.2) The emergence of the partnership paradigm, focusing on the source (how) and rationale (why), (2.3) The status of current research: a synthesis, intended to assess the direction and provide the synergy in evidence, (2.4) Key observations emerging from the literature, and lastly (2.5) Defining the partnership framework, focusing on the new thinking and re-conceptualisation.

2.1 Review of international education partnership models in Africa

A major factor that is changing the face of educational policies and the agenda of international development agencies in developing countries following the significant progress in expanding enrolment (Chapman & Adams, 1998) is the shift in attention from educational access and expansion to quality improvement. As a result, education priorities for countries as well as international development agencies has changed from education infrastructure such as new schools, furniture and textbooks to teacher development with the vision of improving instructional quality (Chapman, 2001). It has earlier been argued that central to the vision of quality improvement is the demand that teachers acquire new knowledge and skills, behaviours and dispositions (Sparks, 1994). There is a great deal of importance and value placed on opportunities for teachers to learn what is needed to participate fully and effectively in the education reforms in countries. In the fields of science and technology especially, imperative to deliver this vision of improving quality of education through teacher development is particularly crucial in Africa (Loucks-Horsley et al, 1998). The task is huge and calls for the government, the private sector and other international agencies to work together in partnership (WCEFA, 1990: 7, The World Bank, 2000).

However, international assistance agencies have been repeatedly criticised for the limited impact and effectiveness of their development assistance (US News and World report, 1999; World Bank, 1999). The agencies, in turn point to the bureaucratic bottlenecks on the part of recipient governments that slows the delivery of services, and to corruption that siphons assistance funds to inappropriate personal or government use (Chapman, 2001). It is therefore not surprising that all major international assistance organisations (e.g. UNICEF, UNESCO, USAID, JICA, The World Bank,) are virtually using the turn of the century as a time to evaluate their overall effectiveness and to rethink their development assistance strategies (Asian Development Bank, 1997; UNESCO, 1997). Although they all seek to improve effectiveness, the

nature of such strategic restructuring will differ from agency to agency and country to country.

Indeed, the range of conceptions of international development partnership is complex and at times ambiguous (King, 1998). By examining these differing conceptions and their associated purposes and practices, I have been able to distinguish a number of patterns or models of international development partnerships in the education sector, which currently coexist within and between developing countries of Africa. Base on the composition and/or role played by parties in partnerships, Chapman (2001) for example, traced the evolution of development assistance strategies and identified among others the 'non-project assistance' (NPA) in which a donor agency provides only funds to a recipient government to spend in ways it chooses to, based on agreed goals between them. Chapman further identified the 'sector investment programs' where multiple assistance agencies collaborate with governments to pool funds and expertise together to support a single coordinated intervention.

Base on similar grounds, this review at a glance identifies three partnership models namely; Donor/Government partnership with the donor agency providing funding only (Model 1), Technical Cooperation partnership, occurring between donor and government with the donor providing funding and bringing foreign expertise (Model 2), and Multi-donor partnership, which exist between governments, social partners, local NGOs, private and public institutions (Model 3). In this section I describe the main characteristics of these as follows. I do not privilege one model in favour of another because each one of them may be context specific and suitable for particular circumstances and local needs.

Model 1: Donor/Government partnership: donor providing funding only

In this conception of international partnership the main role and responsibility of donors is to provide funds, while the recipient government takes the responsibility of administration and organisation, ensuring the smooth and

proper functioning of the programme. The recipient country looks for its local facilitators who come in as service providers or consultants. Most donors today still emphasise the value of this traditional model of partnership, which apparently resembles the NPA described earlier by Chapman (2001), since it actively promotes national "ownership" of training and reform policies (ILO, 2002). Such partnerships have been a common feature in most African countries. The DFID/JSS Teacher Education Project in Ghana (MOE, 1996), USAID/PIEP projects in Lesotho (ADEA, 1999a) and in Ghana (MOE, 1996), World Bank funded Primary Education and Teacher Development Project and USAID Support to Uganda Primary Education Reform (SUPER) program in Uganda (MOES, 1999) are examples of this model. The first two examples are described below to further illustrate the nature of this partnership model.

The objective of the DFID / JSS (Junior Secondary School) Teacher Education Project (TEP) in Ghana was to assist teachers to improve in certain areas of science, mathematics and English, such as content knowledge and pedagogical knowledge (MOE, 1996). The staff development activities in this project included: the in-service workshops for tutors of teacher training colleges (TTC) in areas of science, mathematics and English, Training tutors in writing tutors' support materials, and also involves tutors writing and receiving teaching syllabuses through subject panels. The partners consisted of ODA/DFID whose main responsibility was to provide funding while the TED/GES was responsible for administration, organisation and monitoring of the activities of the project. Local experts were usually brought in to support TED/GES in the training (MOE, 1996).

Another typical example is the USAID / PIEP (Primary In-service Education Programme) in Lesotho, which was established in 1988. The mission of the programme was to improve educational quality by providing school-based professional teacher support in multi-grade teaching schools (ADEA, 1999a). It is worth mentioning that the untrained teachers (teachers with no formal teaching certificate) found in the 502 identified schools formed the largest percentage of teachers in those schools. Activities of PIEP included teacher training workshops (covering methodology, content and materials

development), and joint scheming activity, which brought schools together at a centre to reflect on syllabi and then jointly draw up schemes of work and plan lessons with the support of district resource teacher (DRT). Similar to the DFID/JSS project in Ghana, the partners consisted of USAID, which provided the funds for relocation of DRTs and travelling allowances and the ministry of education (MOE) headquarters, which administratively coordinated and managed the project under the leadership of PIEP coordinator. The programme was judged to be effective with a remarkable improvement in teachers' classroom instruction and in the area of classroom management (ADEA, 1999a).

Model 2: Technical Cooperation partnership: donor providing funding and bring in foreign expertise.

The conception of this type of partnership is similar to model 1 except that it includes technical expertise through the participation of foreign experts. Here funds and expatriate experts are brought to take part in facilitating the training. Inter-country training assistance for teachers has always relied on two categories of resource persons: local trainers who are often part of the local establishment and expatriate training experts. The expatriates are supposed to bring a wealth of experience to local training programmes. The drawback however, is that it is often expensive to bring foreign experts and often they lack the knowledge of the local culture and work environment (ADEA, 1999b). Examples include the EU supported INSTANT programme in Namibia, DFID funded BIPP project in Botswana and the USAID funded MESA project in Malawi.

Indeed, the new MESA project, which builds on the lessons learned from IEQ/Malawi and QUEST, is being implemented in Mzimba South, Kasungu, Machinga and Phalombe districts, all new areas for such interventions. The MESA project relates directly to the current USAID strategic objectives in Africa, which basically aims to improve quality and expand access of basic education to rural children particularly the girl child (USAID, 2001), and to contain the HIV/AIDS pandemic (Anzar et al, 2004). The activities of MESA

included improving teachers' professional skills in content knowledge and instructional practices through training and establishment of school cluster network and mentor teacher programmes, improve physical infrastructure of teachers' college and improve community participation. These USAID funded projects were both implemented by both local and expatriate experts. The administration and management of the project were a joint responsibility of Malawian government and USAID (Anzar et al, 2004).

Similarly, the European Union (EU) funded INSTANT (In-service Training and Association to Namibian Teachers) project (1992 – 1996) focused on support for mathematics and science teachers across the length and breadth of Namibia. The project retrained a total of 360 mathematics and science teachers and many other unqualified teachers (Tjikuua, 2001). It was implemented jointly with expatriate experts. Hence the role of the funding agent went beyond just providing funds and resources, to joint implementation and evaluation (Tjikuua, 2001).

In 1981, a partnership between USAID and the Government of Botswana initiated the Primary Education Improvement Project (PEIP). The project was aimed first at improving the quality of teaching at primary level. Secondly, it sought to establish at the University College of Botswana, a permanent capacity to provide appropriate pre-service training through the creation of a four-year professional Bachelor of Education. Thirdly, the project aimed at strengthening the capacity of the Ministry of Education in co-operation with the University College of Botswana, to organize and implement effective in-service programmes for supervisory staff and teachers involved in primary education (Leburu-Sianga & Molobe, 2000). By 1996 the PEIP had trained 328 degree holders who were distributed among the various services of the Ministry of Education. In-service training programmes were mainly funded by USAID but jointly facilitated between foreign experts from UK and local experts from the University of Botswana (Leburu-Sianga & Molobe, 2000).

Model 3: Multi-donor partnership: involving governments, donor agency, social partners, local NGOs or private/public institutions.

The features of this partnership model takes the forms of the model 1 and/or model 2 in terms of provision of funds and expertise but differ in that it goes beyond bilateral collaboration between local governments and donor agencies to other agencies. It is characterised by multiple collaboration between the local government, donor agencies and civil societies. International cooperation, traditionally between donor agencies and recipient governments, is increasingly changing in scope involving governments, social partners, and private and public institutions (ILO, 2002). A major drawback however, is the diversity of interests among the partners (Plummer, 2002: 120). Examples include; The DFID supported Botswana In-service and Pre-service Programme (BIPP), The DFID funded Imfundo project in South Africa, The Netherlands partnership MAMSTIP in Malawi (Poston, 1995) and The ODA/DFID funded RESETT project in The Gambia.

The Botswana In-service and pre-service Programme (BIPP) was implemented with the aims of improving: the performance of in-service training officers of the Ministry of Education and the quality of the teachers produced by the two colleges of Education (secondary) at Molepolole and Tonota, in the area of English, Mathematics, science and Design and Technology (Leburu-Sianga & Molobe, 2000). In partnership with Northern College in Arberdeen, Scotland, 30 teachers trained at master's level, 2 at diploma level and 1 at certificate level through distance education. The project also allowed the Ministry to put in place training staff development co-ordinators and clusters to support in-service training at regional and school level. The establishment of BIPP in 1981 brought a change, with 83 teachers graduating from the programme by the end of the project. To date primary colleges have 88.7% local staff. The partnership was between DFID as the main funder, the Ministry of Education, Botswana responsible for the coordination, management and to lesser extend provided funds in terms of salaries of officials, two colleges of Education in Botswana and Northern College in Arberdeen in Scotland, providing technical expertise. All these

partners contribute their quota to the success of the BIPP programme (Leburu-Sianga & Molobe, 2000).

In the Republic of South Africa, the case of Imfundo aimed to create partnerships that contribute to the delivery of universal primary education and gender equality in Africa, through the use of Information and Communications Technology (ICT) (DFID, 2004). Imfundo's partnership has three categories of partners. First, Resource Bank partners who commit resources (such as expertise, hardware, software, research and development, or seconded staff) in principle to the Imfundo Resource Bank. These resources are then incorporated into the activities being developed by DFID. Second, Liaison partners who are organisations that share the objectives of Imfundo, and wish to work closely with Imfundo on particular activities or in specific countries but do not wish to contribute resources to the Imfundo Resource Bank. Third, Local partners who are essential for helping to ensure that Imfundo's activities are delivered appropriately, are sustainable and in context. Imfundo partners include a mix of other British Government Departments, Non-Government Organisations, Civil Society organisations and Private Sector companies (both in the UK and in Africa). Through this programme Imfundo is supporting the Limpopo Ministry of Education in the development and implementation of a seven-year programme on education building on the experience of existing initiatives such as MASTEC OLSET, SHOMA, ABET/UNISR and School Net (DFID, 2004).

The Regional Strategy for the Training and Education of Teachers (RESETT) was introduced in the Gambia in 1992 with the help of the then British Overseas Development Administration (ODA) (ADEA, 1999c) The project focuses mainly on the enhancement of the teaching abilities of a selected number of classroom teachers in Science, Mathematics, Social and Environmental Studies and, English. It aimed to develop effective teaching corps that is able to support the widening access and the increasing quality required by the 1988 - 2003 Education Policy (ADEA, 1999c). Those teachers were used as resource teachers for their schools or clustered schools in some cases. The partnership consisted of ODA, which funded the activities and

dispatched a team of experts to the programme, the Government of The Gambia responsible for administration and salaries of some officials, and the teacher training college of Gambia providing technical support in the training of teachers on the RESETT programme. The introduction of the RESETT project has contributed immensely in the quality of teaching at the primary level (ADEA, 1999c).

With these representations, it is rather difficult to identify the more effective structure of partnership models because the source and rationale of their emergence are not only widely varied (Bray, 1999) but also fuzzy to pin down (King, 1998). The next section attempts to locate the sources and rationale of the emergence of the partnership discourse from the literature. This is crucial because in the context of this study, the dynamics and interactive practices of all actors, which this study seeks to investigate, are indeed shaped by the concealed perceptions and agendas of various partners (Levesque, 2002; Tabulawa, 2003).

2.2 The emergence of the partnership paradigm: source and rationale

Over the last sixty years, development assistance strategies have evolved through five main, overlapping stages viz, problem-oriented funding (1950s-1970s), system-oriented funding (1980s), policy adjustment funding (also 1980s), the non-project assistance –NPA (1990) and the sector investment programs (also in 1990s). In the problem-oriented funding, a problem such as inadequate trained teachers is identified and a project is designed targeting its solution. The trouble with such an approach was the constant failure to achieve the anticipated impacts (Chapman, 1992; Chapman, 2001). As the 1980s began, a shift to the system-oriented funding occurred, a sectoral planning strategy grounded in systems theory. Here the influence and relationship of concurrent activities of other parts of the sector (subsystems) were considered in development planning. The advantage of this strategy was that several key issues within a sector were addressed, while the drawback was that project components failed to intersect among sectors, making cross linkages within and between sectors more complex (Chapman, 1992).

As a result there was a shift again towards policy adjustment strategy, where funding was tied to larger policy issues across other sectors thereby promoting cross-sectoral planning. Due to such reasons as the failure of policy-makers to understand the impact of their own policies on schools, the non-project assistance (NPA) eventually became popular. In this strategy funds were allocated to governments to spend in ways it chooses to, provided a progress towards educational goals agreed upon at the beginning by both the recipient government and the donor agencies was made (Reimers, 1994; Chapman, 2001). Subsequently, the NPA strategy came under considerable criticisms for its failure to ensure accountability when funds are not tied to particular activities.

The four strategies discussed so far, have some resemblance to the partnership models one and two identified earlier for the following reasons. First and foremost, they involve collaborations between donor agencies and governments (Reimers, 1994); second, problems are identified and targeted; and third, donors mainly provided funding with or without technical support (Chapman, 2001). On the other hand, closely related to model three is the "sector investment programs" in which multiple assistance agencies pool their funds together in an effort to sponsor a single coordinated intervention. This strategy, though co-existed with the other strategies especially the NPA, gained popularity among international donors, notably The World Bank, Asian Development Bank, European Community and many others (Chapman, 2001). A major drawback associated with this strategy was the difficulty in assigning credit to partners and complexity in tracking accountability by actors (Chapman, 2001).

In general, these evolving set of strategies reflects to some extend, the commitment of international donor organisations to finding better ways of assisting the developing world. On the other hand, it represents the view that previous efforts have not necessarily yielded the expected payoffs to educational development in recipient countries. Consequently, there emerged a paradigm shift from 'donor-recipient' relationship to the new 'partnership'

approach in the aid relationship (King, 1998, Bray, 1999) as proposed in the Jomtien declaration in Thailand. The partnership approach proposed in 1990 Jomtien declaration was echoed three years later in the Delhi Declaration (Clause 2.8) stating that:

> …Education is, and must be, a societal responsibility, encompassing governments, families, communities and non-governmental organisations alike, it requires the commitment and participation of all in a grand alliance that transcends diverse opinions and … (UNESCO, 1994).

Similarly, the final report of the mid-decade review forum in Amman, Jordan (International Consultative Forum on EFA, 1996: 26) restated that:

> As governments seek ways to decentralise responsibility for education, equalise educational opportunities and raise more funds, they need strong and innovative allies. The [Amman] Forum noted that greater and more active partnerships have been one of the most successful outcomes since Jomtien (Bray, 1999).

This indicates that the responsibility of governments in educational provision is becoming a shared responsibility of other stakeholders such as communities, parents, NGOs and civil society increasing. Following the Jomtien mandate at the WCEFA in 1990, many international development agencies have subsequently expressed an interest in the partnership agenda though the source and rationale behind this move varies in scope and emphasis across different agencies and nations. The World Bank (2000) for example recognised the growing importance of partnerships in the Bank's development strategies, pointed to partnership as an imperative for success. In recognition of the importance of partnership in education, the British white paper, 'Eliminating World Poverty' takes similar line in emphasing the shift to 'partner' government rather than the conventional 'recipient' government language:

> Where we have confidence… in partner government we will support sector-wide programmes and the economy as a whole (DFID, 1997: 38).

A comparative perspective has also been proposed by JICA emphasising on sharing of knowledge and experience for sustainable development through partnership (Ministry of Foreign affairs, 1997). Stated as JICA's principle in its oath of service:

> With passion and pride…we will work as partners to those in need of assistance…promoting peace and sustainable development (JICA, 2005: 2).

This shows that the 'donor-recipient' relationship between the north and the south is gradually changing into a partnership relationship. The same can be said of USAID with its numerous educational programmes across the African continent (Tabulawa, 2003; Azar et al, 2004) in its expressed desire for the partnership conjuncture. The USAID argues that partnerships promote democratisation, help weak voices to be heard, and facilitate the accurate identification of need (USAID 1998: 24).

The thrust of these partnership initiatives indicates a paradigm shift from the old donor conditionalities to a genuine partnership, where a more equal and respectful relationship is anticipated between donor agencies and developing countries (DFID, 1997). However, the source of this new thinking about developing a more symmetrical inter-relationships or partnerships between the north and south, takes different forms in different countries and agencies. King (1998) argued that the source of the new thinking of partnership discourse might be due to the current recognition of local ownership desired to counterbalance the admitted financial dominance of the north over the south. A second possibility could emanate from the insistence, since late 1990s, by developing nations for a new relationship with donor agencies, where the north and south can engage on a more equal terms (Bray, 1999). Third, the shift towards partnership could also be as a result of emulation by the multi-lateral and bilateral agencies of the aspirational language of NGOs, who for years describe developing countries as partners rather than recipients (King, 1998).

This reflects the fact that, multi-lateral and bilateral agencies are increasingly incorporating the community-oriented approaches of NGOs in their projects (Bray, 1999). These observations raise important issues about the rationale behind those initiatives. In the same line of thinking, Sack (1999: 12) also asserts that:

> It would be easy to provide a long list of partnerships in a variety of contexts… No matter how broad the variety, they all have something in common… People enter partnerships because there is something to be gained from it.

Essentially, Sack (1999) is of the opinion that people enter into partnership with some intentions and expectations. Consistent with Sack's view, Bray (1999) argues that the fundamental basis for all partnerships is self-interest, and the endurance of partnerships is only likely if this principle is recognised and built upon. Undeniably, various partners engaged in partnership ventures usually have different reasons or rationales for their engagement. Partnerships that involve governments, institutions and international agencies may be characterised by a cluster of rationales, which Bray (1999) summarised as: shared experiences and expertise among partners, mutual support for goal achievement, division of labour for effectiveness to the collective benefit all, increase resources (human, material and financial) through contribution, increase sense of ownership for sustainability, improves evaluation and monitoring different perspectives interact, extend the reach of initiatives to different places.

There is an opportunity here to tease out further these rationales associated with specific agencies that are in partnership in African education. For example, while the WCEFA framework for action captured other issues such as mobilisation and utilisation of resources, and shared learning as the two main rationales for partnerships (WCEFA, 1990), UNICEF stresses sustainability advocating that:

> Partnerships at this time of economic uncertainty will strengthen the capacities and maximises the investments needed to ensure that programmes for children are

> sustainable in political, technical and managerial and humanitarian terms (UNICEF, 1998: 11).

The reasons for partnership outlined by Bray (1999), WCEFA and UNICEF above reveal a vital thinking that partnership should not be misconceptualised as an "end" in itself but rather should be regarded as a "means", whose outcome depends on the dynamics and processes in the implementation of partnership ventures. This is what makes the focus of this study highly crucial in contributing to our understanding about the 'ends' otherwise referred to as the opportunities and constraints that partnership as a 'means' can privilege through its construction and practice. More importantly, the worth of this study lies in the fact that the thinking of partnership as a "means" rather than an "end" in the African context is scarce (Plummer, 2002). More so it is timely because the international development partnerships are increasingly gaining popularity in recent times following the Jomtien declaration on the need to strengthening partnership in education provision (King, 1998). Despite this logical reasoning, many studies tend to focus on the outcomes dimension of partnership without necessarily focusing on the dynamics involved in the interaction among partners (Plummer, 2002). Thus, in the following section, I further explore in detail the current state of research on educational development partnerships in Africa providing a synthesis of key debates and the direction in current research.

2.3 The state of educational partnership research in developing countries: A synthesis

Prior to the 1990s, researchers paid scanty attention to educational development partnerships in the context of international assistance programmes (Bray, 1999). Thereafter, a significant number of studies undertaken identified serious gaps with respect to relevance, efficiency, impact, effectiveness and sustainability (Operation Evaluation Department-OED/WB, 2005; Anzar et al. 2004; King, 2004; Powell, 2001; ADEA, 1999c). However, the importance of international development partnership in the improvement of education in developing countries such as in Africa has long

been globally established (WCEFA, 1990: 7; UNESCO, 1994; Bray, 1999; The World Bank, 2000).

While in principle partnership as a strategy offers many advantages, there is no consensus on what it means and its practice varies (Brinkerhoff, 2002). Explaining such variation across partnerships remains a major challenge, not least because the question of whether existing empirical evidence and theorisations are adequate in explaining the mechanisms and dynamics of partnerships involving diverse group of partners is contestable (Jones & Birds, 2000). A major concern is that our knowledge of how international development partnerships become effective is still rudimentary and evaluative studies have also proven highly inconsistent (Plummer, 2002). There is little agreement on what partnership means (Brinkerhoff, 2002). Partnership is considered as “the buzzword of the 1990” and one of the most overused and abused term (Pollack, 1995). Despite the perceived rapid growth in partnership research, the subject on development assistance partnership is not only controversial but also complex, multifaceted and typically difficult to pin down.

To provide a synthesis of the focus and key debates of studies in current research, I will critically review relevant previous studies. A meta-analytic approach permits examination of both the focus and direction of research and provides a coherent account of leading debates in current research (McMillan & Schumacher, 2006: 93-95; Mouton, 2004: 54; Cohen, Manion & Morrison, 2002: 220-225). A major problem was that not all studies were equally suitable for an analysis of this kind. For most of the studies on international development partnerships, the contexts were either in fields other than education or different geographical regions other than in Africa. However, the meta-analysis of studies that clearly captured partnership in the context of development assistance in developing countries was carried out with the purpose of informing the present study. Within the scope and context of this study, the articles retrieved were relevant and representative as key authors on the subject were included.

Overall, the number of closely related studies accessed was fifty-three, which were selectively located and included through an Internet and library search at the University of Pretoria. Broadly, the studies showed six (6) major perspectives in focus: relevance, effectiveness, efficiency, impact, sustainability and the interaction among partners (figure 3). The first five were incidentally consistent to the five evaluation criteria proposed in 1991 by the Development Aid Committee (DAC) of the Organisation for Economic Cooperation and Development (OECD) (see Appendix B).

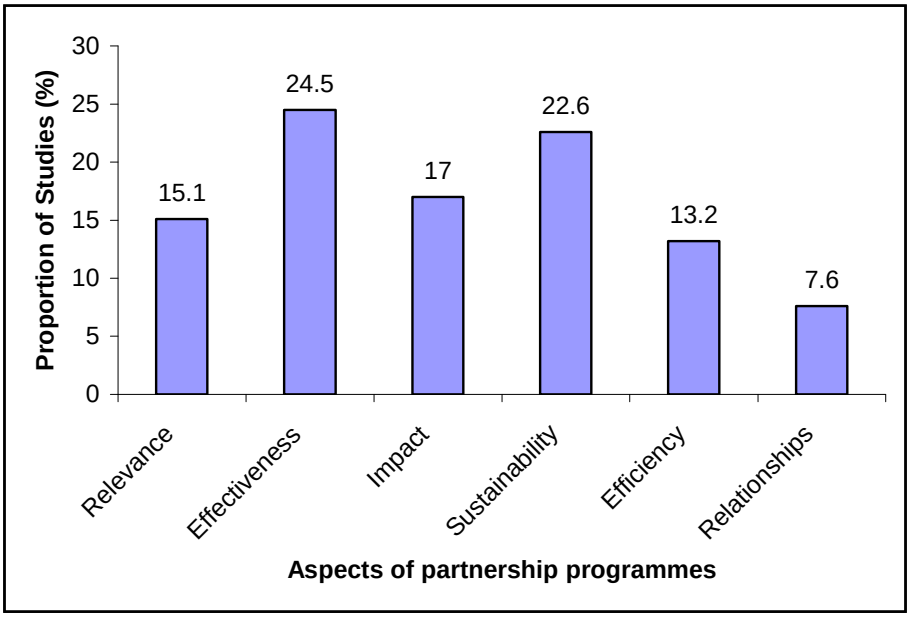

Figure 3: Proportion of related studies (*n* = 53) focusing on the various aspects of partnership programmes proposed by the Development Aid Committee (DAC, 1991) of OECD.

Generally, it appears that much attention has been given to evaluative or outcome-based aspects of partnerships, with very little emphasis on the interactive processes that leads to the observed outcomes. Clearly, the evidence presented showed that much attention is given to effectiveness, followed by sustainability, impact, relevance and efficiency whereas relationships among partners attracts the least attention in current research (Figure 3)**.** Many other studies specifically in Africa report such sentiments of minimal effectiveness (ADEA, 1999a,b,c; Hattingh et al, 2005; OED/WB,

2005) and lack of sustainability (Harvey & Peacock, 2001; Nocon, 2004; Powell, 2001) in development assistance partnerships, without necessarily focusing on the partnership process itself as a unit of analysis.

In support of the above assertion, a critical review of education sector analysis studies in Africa noted that most studies do contribute more to legitimacy than to understanding (Samoff, 1999). Most studies follow a diagnostic-prescriptive fashion, depicting what Samoff (1999) referred to as the medical metaphor. In practice, things are rather more descriptive than analytic. As a consequence, what are taken as lessons from previous experience may actually constitute preferences and impressions of agencies and individuals than a systematic and critical research (Sifuna, 2000; Samoff, 1999). Evidence in the literature may therefore be incomplete, inappropriate, inconsistent or all three. This indeed is a major weakness in the literature of current research on educational development partnership. Defining partnership has been a challenge, not least because explaining how development assistance partnerships in education are constructed and practiced to achieve success remains a major theoretical and empirical challenge.

In attempt to comprehensively outline the partnership development process Plummer (2002: 44-45) suggests a framework that include: planning, development and implementation in the partnership process as detailed (in figure 4) below. However, Plummer went further implicating the process by indicating that designing and agreeing on such a framework as a guideline might be the easier to do than actually doing it. Expressed more clearly, Harkavy (1998), director of community partnership comments that, “we know the problem… propose what must and should be done… the call for radical reform of partnerships is easy to do… but the hardest thing, of course, is to actually get it done”. What is missing and much less evident in the debates about international development partnerships is a critical analysis of the interactive processes (Dorado & Giles, 2004; Plummer, 2002) that various partners engage in.

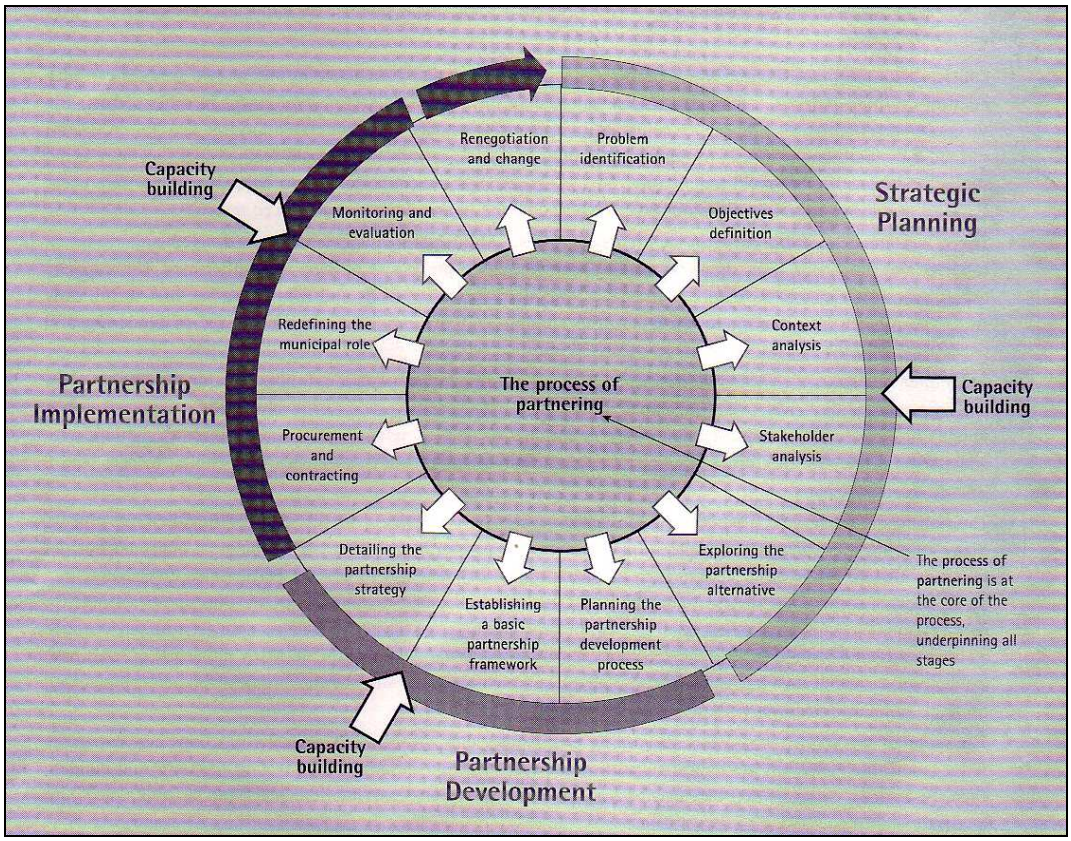

Figure 4: Partnership planning, development and implementation (Plummer, 2002: 44).

The curtain thus far drawn in previous studies is but a punctuation mark and less relevant if improvement is required. Assessing partnerships as effective or not has very little to tell about how of the processes that resulted into such consequences and not interesting in itself (Brinkerhoff, 2002; Plummer, 2002; Samoff, 1999). What stakeholders and implementers want to know about is the process that led to the observed consequences of failure or success, sustainable or unsustainable and the associated opportunities or constraints of their partnership efforts (Hubbard, 2005; Plummer, 2002). The point is not that previous studies have no utility and/or inappropriate, far from that, but rather effort to generate data reveals a gap between stated intentions and actual practice (Sifuna, 2000; Samoff, 1999). This paper therefore begins from the premise that whether effective or not, researchers should inquire not only what development assistance partnerships have accomplished or not accomplished, but how and what makes them to function and produce what

they generate (McGrath & King, 2004; Plummer, 2002). Whether the framing and practice of partnerships by donor agencies and countries are effective or not, it is important that such partnerships are carefully scrutinised to explore the relationship between the development and practice of partnerships on one hand and their consequences on the other hand as intended in this study.

2.4 Key observations emerging from the literature

To provide some key insights from the literature, an attempt is made to tease out and draw attention to major debates emerging from the literature. Clearly, the importance of partnership has often been coined in terms of the complimentarity of different organisational assets, pluralism in funding, institutional synergy and comparative advantage (Hall, Sivamohan, Clark, Taylor, & Bocket, 1999). However, insights from the literature show the contrary, indicating that no matter the model and conception of partnership, some common unpleasant characteristics prevailed within partnerships in developing countries like Africa. Most international partnerships in education are described as minimally effective and often characterised by limited or no success across Africa (Sifuna, 2000; ADEA, 1999,1998; Economist, 1999; US News and World report, 1999; World Bank, 1999). Furthermore, the few moderately effective ones face the challenge of sustainability (Anzar et al. 2004; King, 2004; Powell, 2001).

While most evaluative studies point to lack of commitment and capacity among others, on the part of developing countries as the root cause of the limited success observed in international partnerships in education (DAC/OECD, 2005; ADEAa,b,c, 1999), few studies that focus on the dynamics in the implementation of partnership programmes holds the contrary. It has been observed that the consequences of limited success could be attributed to operationally related factors. Of the many factors observed four stands out as having been significant:

1. Lack of decentralisation of authority in the education system (Chapman, 2001; Bies, Moore & DeJaeghere, 2000; Edwards, 1999; Anderson, 1998; Bray, 1999),
2. Asymmetrical power relations (McGrath & King, 2004; Tett, Crowther & O'Hara, 2003; King, 1998),
3. Limited local ownership that does not go with equivalent transfer of power (Hubbard, 2005; Odora Hoppers, 2001; Samoff, 1999) and,
4. Unequal partners in partnership arrangements (Oyelaran-Oyeyinka, 2005; Adamson & Ali, 1999; Bray, 1999).

Over the past seventeen years, major multi-lateral (e.g. The World Bank) and bilateral development assistance agencies (e.g. USAID) have made increasingly use of non-project assistance (NPA) strategies, in which international agencies deal directly with the central government (Chapman, 2001). Others agencies, mostly the NGOs, were more in touch with the real needs of citizens and better structured to deliver services at the grass-root level (Bies, et al, 2000). Agencies that collaborate either at the government level or grass-root level are not without controversies (Edwards, 1999). While working at the government level may be self-serving on the part of the governments, working outside official channels can result in lack of coordination with countries' own efforts.

How international agencies work effectively in settings in which power and responsibility have been meaningfully decentralised is not yet clear (Chapman, 2001). Despite being one of the most heavily researched areas in educational development literature, the merits and demerits of decentralisation are still debatable (Anderson, 1998; Bray, 1999). While advocates suggest that decentralisation shifts decision making to those closer to the community and schools, which leads to decisions more responsive to local needs and conditions, critics argue that decentralising power and responsibility may only shift the same old problems to levels of the system less well prepared to cope with it and decentralising management promotes corruption and inefficiency (Bray, 1999; Chapman, 2001). Both arguments could be right, because whether decentralisation is a promoter of relevance or

inefficiency depends on how it is implemented on the ground. What is indeed crucial in determining the effectiveness of partnerships is the examination of the processes of construction and practice, and their consequences in a connected fashion (Dorado & Giles, 2004).

As a result of this mixed views development assistance agencies have increased their roles in educational improvement programmes through partnerships, with stringent conditions as a strategy to improve commitment and accountability. This compels recipient countries to toe the line of donor agencies or else face the risk of losing the aid. This leads to power domination by donor agencies, making recipient countries to become beggars, which results in the acclaimed partnership resemble a token rather than substantive partnership (Odora Hoppers, 2001). Forcefully put Tett, Crowther & O'Hara (2003) described development partnerships in Africa as characterised by processes of inclusion and exclusion, dominance and subordination and generally with dominance by the funding partner.

How then on the basis offered in this review might we begin to make sense of the processes which partnership is used to describe? Theories of networking are certainly useful in alerting us on some aspects of partnerships, but one major aspect they stand inadequate is that of their limited attention to the ways in which the interplay of partners is affected by inequalities of power and access to resources (Jones & Bird, 2000). Ironically, educational development partnerships in the developed nations like in the United States for example are by contrast, reported as highly successful (Linn et al, 1999). This undoubtedly suggests a problem with the African partners (Kayizzi-Mugerwa, 1998; Chapman, 2001). It is argued that, while this view is welcomed for scrutiny, an inclusive idea is that the nature of partnerships: their frameworks, constructions and practices worth considering. More so, it provides a space for rethinking the conception and operation of educational development partnerships in Africa if the benefits of partnerships envisaged in the Jomtein declaration at the world conference in 1990 are to be achieved. This is what the following section seeks to address, exploring the conceptualisation and

the new thinking in the partnership paradigm in order to identify the framework based on which the study is carried out.

2.5 The conceptual framework: Defining partnership and the new thinking

Generally, partnership in the literature can broadly be divided into two categories: “partnership as an end” and “partnership as a means”. The first perspective, which is mainly promoted by the NGOs advocates, views partnership as an ‘end in itself’, criticising the practices of partnership by international agencies and governments as inappropriate (Fowler, 1999; Malena, 1995). More specifically, partnership is crafted in a democratic fashion as a solution to [education] improvement and sustainable development (Brinkerhoff, 2002). This notion has critically been criticised from the premises that it could be self-serving, using the partnership rhetoric for self-interest since ‘partners’ sounds morally superior to ‘contractors’ (King, 1998) and can at least afford opportunities of negotiation for more collaborations (Brinkerhoff, 2002).

Conversely, the second set of literature has a pragmatic analytic focus, viewing partnership as instrumental, a “means to achieving goals”. It addresses equality in decision-making, autonomy of partners at the individual and organisation levels (Anzar et al. 2004; Sifuna, 2000; Pollack, 1995) and deals with the “how to” (Hubbard, 2005; McGrath & King, 2004; King, 1998). On the contrary, Brinkerhoff (2002) argues that in most cases the partnership rhetoric is strong but the practice is weak. The design and management of partnerships have been little informed by theory or conceptual frameworks, making the partnership idea to be a ‘feel good’ panacea with no pragmatic grasp of what and how it is (Brinkerhoff, 2002). The term partnership is used in different ways in different contexts, generally implying some form of collaboration involving the public and private sectors, international and local, as well as the formal and informal sectors (Plummer, 2002: 6). The term partnership is therefore not only controversial but also multifaceted and opens to multiple interpretations.

In an attempt to resolve the confusion of the mix views about what the term partnership constitute, Brinkerhoff (2002) reconceptualised partnership in terms of two defining dimensions: mutuality and organisational identity, based on which she developed a framework to distinguish the term partnership from other forms of collaborations: contracting, extension and co-option or gradual absorption, representing them in a quadrant (Figure 5). Borrowed from biology, mutualism refers to the relationship between two [or more] partners, where equal benefits are produced for both parties, under which Austin (2000) and Kanter (1994) respectively claim that partnership become more enduring and highly performing. Mutuality encompasses the principles of partnership consisting interdependence, equality in decision-making, two-way relationship in trust and respect (Offenheiser, Holcombe & Hopkins, 1999: 129). Organisational identity on the other hand refers to that which is distinctive and enduring in a particular organisation in terms of its commitment to its mission, core values and constituencies (Brinkerhoff, 2002).

		Mutuality	
		High	Low
Organisational Identity	High	**1** Partnership	**2** Contracting
	Low	**4** Co-optation & Gradual Absorption	**3** Extension

Figure 5: Partnership framework showing types of collaborations (Brinkerhoff, 2002).

In quadrant 1 (partnership), both mutuality and organisational identity are maximised. Quadrant 2 (Contracting) denotes a situation where a specific organisational characteristics and contributions, determined by one organisation, are sought in another, based on organisation identity, to fulfil

predetermined ends and means. In quadrant 3 (Extension), one organisation is dominant, with the other organisation(s) having very little independent identity, the later organisation(s) can be seen as an extension of the dominant one. Lastly, quadrant 4 (Co-optation/gradual absorption), describes a scenario where organisations appear to mutually agree on ends and means, but one organisation is convinced that it is in its interest to follow the more dominant organisation by compromising its identity (Brinkerhoff, 2002). The loss of organisational identity through the processes of compromise will at the long-term lead to co-optation and gradual absorption of one by the other (Hulme & Edwards, 1997). Depending on the extent of mutuality among actors and maintenance of organisational identity by each actor, an alliance in any of the four quadrants can be plotted and said to be a type of partnership (Brinkerhoff, 2002).

The model is useful to the present discussion for two (2) reasons: First, her framework extends the current conceptions that distinguish partnership from other weaker form of collaborations as observed by Arnstein (1969: 216-224):

> There is a critical difference between going through the empty rituals of participation and having the real power to affect the outcome of the process.

Second, it does provide a common language for operationalising partnership practice for those who wish to move beyond hidden agendas and empty rhetoric. Her framework therefore may be informative in general sense to the continuing theory building in literature, but can be analytically weak, failing to consider clearly the opportunities and constraints associated with partnership in practice, acclaimed by the participants at the 1990 WCEFA in Jomtien and how to improve effectiveness of practice as the partnership evolves (Habte, 1999). Furthermore, its application does not eliminate the possibility of actors to engage in partnership rhetoric or those who strategically use the rhetoric without partnership-like behaviour in practice (McGrath & King, 2004; Sifuna, 2000). It is one thing to help a partner to understand and agree to advocate for the principles of partnership (know-what of partnership) and quite another to help a partner to operationalise the very principles of the same concept

partners advocate for (know-how of partnership). So locating what constitute a partnership in terms of identified features is impressive but what is missing is the failure to equip partners with the mechanisms and kind of processes that will promote a nonrheritoric practice of genuine partnership.

From a more simplistic perspective, the concise oxford English Dictionary rather defines partnership as an association of two or more people as partners. It further describes a partner as 'a person who takes part in an understanding with another [or others]… with shared risks and profits' (Soanes and Stevenson, 2004: 1044). In this context, engaging in partnership implies that sharing with other partners both the pleasing and non-pleasing outcomes is critical. This indeed reflects the theoretical descriptions in the research field. For instance, Franceys (1997) described partnership as 'deciding together' and 'acting together' and considers the partnership approach as a key to sustainable development (also Plummer, 2002) This though extends the conception of partnership at least beyond mere collaboration to process dimension by capturing the decision-making process, deciding yet what and how effective decision-making process can be fostered is still unclear. The rationale behind partnerships is the pull of diverse perspectives and expertise for the common goal of the partnership enterprise, where the pool of diverse views should creatively be use for innovative strategies, instead of viewed as obstacles (Dorado & Giles, 2004).

Better still, Freeman (1987: 1) from a 'National 'Systems of innovation'' point of view, defined partnership as "the network of institutions in the public and private sectors, whose activities and interactions initiate, import, modify and diffuse new knowledge. The network involves both the actors (components) and the interaction (process) that defines their engagement (Oyelaran-Oyeyinka, 2005). The components are generally taken to be institutions and organisations, while the processes generally evolve and involve the complex interactions between actors (Oyelaran-Oyeyinka, 2005). To look at the nature of partnership therefore, one had to understand that the term is a dynamic and complex interactions consisting of both components and processes. Rather than focusing on components and outcomes (impact, effectiveness

and sustainability), the new thinking urges the need to refocus research efforts on the processes and systems themselves (Plummer, 2002; Oyelaran-Oyeyinka, 2000). The assessment of both the processes and impacts of partnerships is essential to determine the extent to which benefits [and constraints] are derived for all partners (Dorado & Giles, 2004).

The multiple meanings and implications attributed to partnership arrangements have led to fuzzy conceptualisations (Bray, M. 1999) and thus oblige a new thinking in the partnership agenda in African education. Within the partnership debate therefore, the need to rethink the conception of partnership is coming to the fore. It argues that the term 'partnership' has become overused, misused and sometimes abused, and too often, analysis is concerned with the financial and technical contributions with very little said about the capacity (Plummer, 2002) and the relationship between partners and processes required to achieve effectiveness as the partnership evolves. However, one thing that is certain is the roles taken by different partners and the relationships between them have been identified as central to the effectiveness of these partnership models and strategies. It argues that as partnership evolves there is a need to build 'mutual respect, trust and a sense of being valued' for all partners, so that a deep relationship can develop (Smedley, 2001).

The current definitions therefore appear to focus on the notion of building on assets of partners (Plummer, 2002) with little attention given to the operational dimensions in the partnership process but a more pragmatic conceptualisation that will take a practice-oriented fashion is required. One appealing thought is the "genuine and surface partnership" framework provided by Odora Hoppers (2001). At the construction and practice levels, Eden and Toner (2001) argue that partnerships should work diligently at fostering deep conversation – productive conversation about issues, conflicts and differences that culminate in mutual satisfying resolutions (Nocon, 2004). The call for ongoing mutual conversation is echoed by Odora Hoppers (2001) in her partnership conception. It is further suggested that genuine participation means joint ownership, mutual rights and obligation, and implies contractual relationship,

with procedures for redress in case of default (Maxwell & Riddell, 1998). However, in the developmental process of partnership, more often targets are identified, articulated and presented by the 'North', for absorption and assimilation by the 'South', where partners have had more to do with affirming the power of one group over others (Odora Hoppers, 2001). This, Odora-Hoppers refer to as *'surface partnership'* (Table 1).

Table 1: Conceptual framework: Key features of surface and genuine partnership

Characteristic	**Surface partnership**	**Genuine Partnership**
Governance	Asymmetrical Power relations. (Dominance)	Symmetrical Power relations. (No dominance)
Negotiation	Limited dialogue	Pure dialogue
Relationship	Superiority	Reciprocity

(Adopted from: Odora Hoppers, 2001; Mkandawire, 1996)

Contrary to this is the *'genuine partnership'* (Table 1) that is developed using pure dialogue (Mkandawire, 1996: 24-48). Dialogue according to Freire (1972: 61-62) is an existential necessity in partnership and could be defined as an encounter between men mediated by the world in order to name the world. Dialogue can not occur between those who want to name and those who do not want this naming – between those who want to deny other peoples' right to speak their words and those whose right has been denied. Dialogue is the encounter in which the united reflection and actions of the dialoguers are addressed to the world, which is to be transformed and humanised, and dialogue cannot be reduced to the act of one person's 'depositing' ideas in another (Freire, 1972). Dialogue therefore, said Freire, cannot exist without humility and cannot be an act of arrogance – dominance. The implication is

that dialogue is an existential necessity in “genuine partnership”, a framework posited by Mkandawire (1996) and Odora Hoppers (2001). This study therefore employs the concepts of “surface partnership” and “genuine partnership” proposed by Mkandawire (1996) and Odora Hoppers (2001) as shown above (table 1).

The concept of ‘surface and genuine partnership’ is a useful framework for analysing partnerships because it provides the scope for: exploring patterns of the partnership process at the same the outcomes as it evolves, examining the institutional and policy contexts that govern partnership processes, understanding the dynamics of the relationship between partners, and rethinking about the conception of partnership in a more inclusive manner. In fact, Odora-Hoppers provides a conceptual tool that permits an insightful analysis of partnership building on its parallels with interpersonal exchanges. In this study, I embrace this tradition because it allows me to consider simultaneously that (a) partnerships occur between different individuals and (b) they are mediated by institutional and structural factors as they evolve over time in a non-linear way (Dorado, & Giles, 2004).

The paucity of empirical literature supports the case that partnerships are only beginning to be understood and should be studied both in terms of process and outcome (Dorado & Giles, 2004). Using the ‘Strauss’ negotiated order theory’ Dorado and Giles proposed that partnerships should be studied considering not only the outcomes of the relationship between partners but also the context in which partners’ actions and interactions are embedded. I did not test this theory but see parallels between it and the move towards genuine partnerships proposed by Odora Hoppers. In both cases the partnership takes on meaning beyond the components of partnership to the interaction and transactions between partners in a transformative manner. The central theme of the framework is based on dialogue, but two related questions in this context concerns; how dialogue can be promoted and what dialogue can offer, to merit its promotion in educational development partnerships? To provide such depth understanding of the framework presented for this study, some associated concepts need further elaboration.

The first is the issue of governance and leadership structure. Zooming on governance and processes of leadership, Goldring & Sims (2005) addressed the question of "how District-Community-University partnerships develop as successful cooperative endeavours?" and analysed data that covered the governance structure, guiding principles and political decision-making process. They concluded that partnership can take firm root and flourish under an innovative leadership structure (see figure 6) that is grounded in principles of shared power, strong commitment and shared learning.

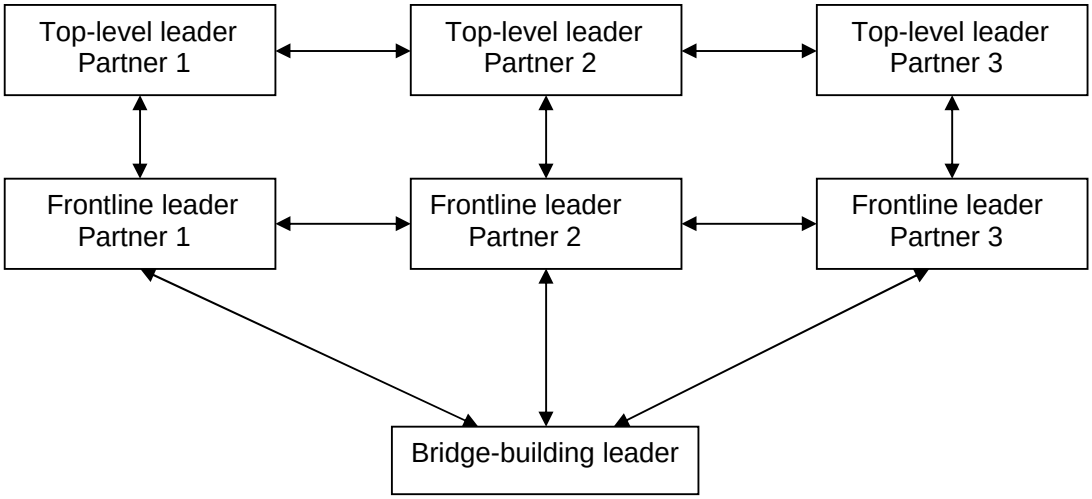

Figure 6: Innovative System of power sharing (Goldring & Sims, 2005)

Goldring and Sims identified that partnerships require strong leadership and described it as one involving three levels of leaders: top-level leaders, frontline leaders and bridge-building leader (figure 6). Power sharing take two dimensions viz horizontal sharing (power relations across partners) and vertical power sharing (decentralisation of power within each partner organisation). The demonstration of the principle of shared power in innovative leadership structures like this enhances the sense of ownership among partners. In the empirical literature, Dorado & Giles (2002) study adopted a partnership unit of analysis and concluded that the success of partnerships relates to the *sense of ownership* by and communication between the partners.

Another potential complexity that needs consideration is that of *perception gap* between partners. For instance, drawing evidence from the British and World Bank funded primary education development programmes (1991-2000), Levesque (2002) suggested that 'perception gaps' does exist in policies, definitions, priorities, expectations and implementation strategies between donor agencies and recipient countries. He concluded that perception gaps constitute a major dilemma for those charged with the responsibility for delivery of international development assistance programmes and that it is the resultant, often unpredictable, shared vision and priorities, as well as interactions between 'donors' and 'recipients' that largely determine the effectiveness of development assistance programmes. Many partnerships are strained because of differences between partners in terms of the tempo of work, professional focus, personal power, personality conflicts and fear of risk as well as lack of communication and precedent (Anderson, 1996).

In this regard, dialogue and reciprocal relationship can play a significant role, at the individual and organisation levels, in addressing perception gaps through discussions that utilise diverse views innovatively to the benefit of all. Reciprocity between partners has been espoused as a core principle of good practice in partnerships. Dorado & Giles (2004) asserted that partnership must be grounded in a network of authentic, democratic and reciprocal relationship in terms of respect and value for all partners. More forcefully, Baumfield (2001) argued that all voices need to be heard and that ways in which different voices can be encouraged to speak out must be identified to ensure a wide range of audiences. Only this can provide the enabling condition for good practice and a successful partnership. Research suggested that "the key is the quality of personal and professional relationships among partners in the partnership, people who recognise that working together will require immense patience and trust" *(*Kilbourn, Decker & Romney, 1994).

Political scientists, organisational theorists, and sociologists have all developed frameworks to analyse the origins, development and organisational

structures of interorganisational collaborations. According to Ring & Van de Ven (1994) cooperative inter-organisational relationships consist of a sequence of stages: negotiation, commitment and execution stages. In the negotiation stage, joint expectations are bargained and clarified about each group's motivations, investments, nature of roles, rights, duties and equity of the transaction in order to provide partners the opportunities to assess uncertainties associated with the deal. In the commitment stage, formal and informal relationships are established and frameworks for joint work are codified. In the execution stage, commitments are carried out and activities ensue (Ring & Van de Ven, 1994). Selke (1996) refer to these stages of relationship development as disorganisation, reexamination and reorganization, with similar descriptions.

What mechanisms help partnerships to negotiate, establish commitment and execute effectively? Three conditions help partnerships to do so: (1) Personal relationships increasingly supplement formal role relationships, (2) psychological contracts increasingly substitute for formal legal contracts and (3) the relationships continuously endure. By multiple criteria a partnership is deemed successful if there is minimal conflict, use of tensions of inconsistent views as source of creating innovative activities and institutionalisation of compatible reward structures (Goldring & Sims, 2005). From a social-psychological perspective, institutionalisation is a socialisation process that transforms an instrumental transaction into a socially embedded relationship that deals with the norms and values necessary to reproduce and propel the partnership beyond formation to effective execution of commitments (Ring & Van de Ven, 1994). Clearly, dialogue and reciprocity in respect and value will facilitate the development of a shared culture. Creating a shared culture involves shared missions, shared goals and objectives, and shared organisational governance structure (Goldring & Sims, 2005), which promote commitment and active involvement of partners (Shaeffer, 1992).

An added dimension to the theory of partnership is the more clearly defined terms otherwise used loosely and often interchangeably: *involvement, participation and collaboration* by Shaeffer (1992). Collaboration at best,

means a consultative process, where new partners help the traditional administrative partner to improve the conditions of classroom teaching and delivery of some services to enhance the effectiveness and efficiency of schools, without necessarily becoming a 'partner' in the process. Participation refers to the process of getting involved in governance and administration, planning, policy formulation, management and evaluation, where partners are empowered and recognised as more equals in decision-making process (Shaeffer, 1992). Involvement, in this sense, comprise of collaboration and participation. I concord with this notion that involvement is more rich than both participation and collaboration since it relatively implies greater activity in a particular process. According to WHO (1989), involvement is preferred to participation because it implies 'processes and mechanisms that provides an enabling condition for people to become actively involved and to take responsibility for some decisions and activities jointly taken in relationships among professionals.

The conception of partnership and its perceived relationship to professional development are all connected and affect practice (Nocon, 2004). It is claimed that however well intentioned and conceived aid programmes may be, the partnership process may function in practice to limit other partners (Powell, 2001; Safuna, 2000). The World Bank, for example, found it extremely difficult to translate the idea of "local ownership" of projects, loans or policy into practice (Odora Hoppers, 2001). Since the mid- 1990s, higher expectations and shrinking resources motivated the recognition of interorganisational partnerships as a strategy for systemic change in human services, education and governance (Goldring & Sims, 2005). Educational leaders are more aware today than at any time in history, of the complexities and challenges of effective instructional practice in education and of the importance of high quality professional development to the enduring success of schools. Key to realising this success are, opportunities for collaboration and partnershipping local and foreign organisations. Although the difficulty of partnerships has been well documented, far less is understood about the processes of developing productive partnerships.

To this end, I draw the conclusion that, how a partnership is constructed and practiced determines its characteristics, which defines the kind of partnership (surface or genuine) and that in turn determines the consequences of the partnership (figure 7).

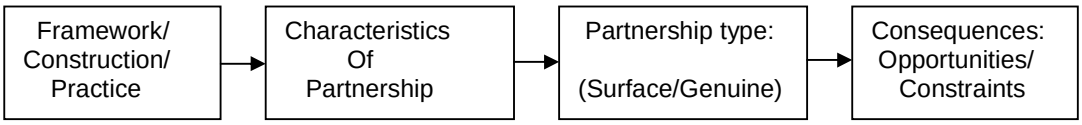

Figure 7: Path of partnership development

The conceptual framework of this study, “surface partnership” and “genuine partnership” therefore adequately incorporates and satisfies entirely; the stages of partnership development (construction, practice and evaluation), the dimensions (nature of governance, negotiation and relationships) as well as the associated principles of partnership through the centrality of dialogue. It is this framework that was used in this study to explore the relationship between the construction and practice of partnerships on one hand and the opportunities and constraints on the other hand.

CHAPTER THREE

RESEARCH DESIGN AND METHODOLOGY

3.0 Introduction

This chapter seeks to provide a systematic description of the nature of the research inquiry by locating the study in the tradition of the interpretive paradigm (Mouton, 2001: 113), which sets out to give meaning and understanding to the interpretation of individuals' own experiences (Cohen, Manion & Morrison, 2002: 19-29). It specifically describes in detail the research method, various steps and procedures involved in the data collection process, issues of trustworthiness and reliability as well as ethical issues. Based on these themes, the chapter is subdivided into seven sections viz. Research approach and orientation, Research design, Sites and subjects selection, Data collection strategies and processes, Data analysis and interpretation, validity and reliability and Ethical considerations.

3.1 Research approach and orientation

To explore the opportunities and constraints privileged by the framework, construction and practice of the MSSI and STM partnerships, the study adopted an epistemological stance that lies on interpretive positions and recognises the social and personal aspects of subjects' interaction with other partners (Cohen et al. 2002: 19-29). In this study an interpretative research was applied where the researcher believes that reality consists of people's subjective experiences of the external world (Cohen et al. 2002: 22). Methodologies that are interactive and interpretive in nature such as interviews, documents analysis and observations (McMillan & Schumacher, 2006: 339) were employed to explain the subjective reasons and meanings that lie behind social actions of various partners (Terre, Blanche & Durrheim, 1999).

In the context of this study, it was an advantage to use interpretive perspective in its approach because there are multiple ways in which

individuals construct their meaning from a given situation within the partnership (Cohen et al. 2002: 22). While an individual's knowledge is personally constructed, the constructed knowledge is socially mediated as a result of personal interactions with other partners and the collective experience of the entire process of collaboration (McMillan & Schumacher, 2006: 315). The study therefore adopted the interpretivist approach, using purely a qualitative design, where individual partners' experiences and perceptions were sought in the context of their participation and interaction with various partners (McMillan & Schumacher, 2006: 313-316). The research observed a particular reality with much emphasis on the processes rather than simply on outcomes (Lancy, 1993), and had the advantage of using the natural setting as the direct source of data, with the researcher as the key instrument (Bogdan & Biklen, 1992: 29-33).

Notwithstanding, Cohen et al (2002: 26) quoting Rex (1973) indicated that critics had argued as follows:

> Whilst patterns of social reactions and institutions may be the product of the actors' definitions of the situation there is also the possibility that those actors' might be falsely conscious and that sociologists have the obligation to seek an objective perspective which is not necessarily that of any of the participating actors… We need not be confined purely and simply to… social reality which is made available to us by participant actors (Rex, 1973).

In response to this, McMillan & Schumacher (2006: 318) contrast that qualitative inquiry is much relatively appropriate in obtaining valid data in situations where controversy, confidentiality or issues within institutions with minimal documentation [such as the interactive processes and practices within a partnerships] for practical and ethical reasons. While it is true that advocates of qualitative and interpretative stance have gone too far in abandoning objective discoveries of useful generalisations of behaviour in their persuasion, this is surely inadequate to crush the logic that our understanding of the actions of our-fellow-beings requires knowledge of their intentions and views (Cohen et al. 2002: 26-27). More so, a qualitative study of an interpretative approach have the potential of supplementing and

reorienting our current understanding of the complex micro-processes involved in the framing and practices of partners in the MSSI and STM partnerships (McMillan & Schumacher, 2006: 318).

3.2 Research Design

Given the nature of the investigation, the study employed a qualitative approach, which is descriptive in nature (Lancy, 1993:140) using two JICA funded Science, Technology and Mathematics (STM) project in Ghana and Mpumalanga Secondary Science Initiative (MSSI) projects in South Africa as case studies. Accordingly, a major objective of this study was to make sense of the opportunities and constraints associated with the way international development partnerships are designed and practiced in education development. My view of interpretative approach demanded that I obtained the views of partners (McMillan & Schumacher, 2006: 318), to provide a detailed description of the events across the design, practice and consequences of the JICA partnership model in Africa. A case study design according to Lancy (1993:140) is described as the method of choice for studying “innovations” or a study of a programme or event in detail, using a variety of data collection procedures (McMillan & Schumacher, 2006: 314; Creswell, 2003:15). In line with this provision, this study aims to provide a detailed description of the construction and practice of partnerships in the context of educational development partnerships using a case study design.

Furthermore, the contexts of partnership arrangements are unique and dynamic, hence the case study permitted the investigation and reporting of complex dynamic and unfolding interactions of events, human relationships and other factors in a unique instance (Cohen et al. 2002: 181). It provided “a detailed examination of one setting or one particular event, a single subject or a single depository of documents to understand in-depth of the processes regardless of the number of sites or participants for the study” (McMillan & Schumacher, 2006: 316; Bogdan & Biklen, 1992: 62). Case studies may also involve subunits of single-site studies focusing on individuals who had a similar experience for the purpose of contrasting or corroborating findings

about a phenomenon (McMillan & Schumacher, 2006: 317). Within the context of this study a detailed examination of the STM and MSSI partnership projects in Ghana and South Africa respectively is considered as single settings to provide a detailed description that permitted some degree of comparison to offer an in-depth understanding of the design and practices (McMillan & Schumacher, 2001: 26-27; Marriam, 1988) of these partnership initiatives in Africa.

Case study design has several claimed strengths and weaknesses. It has been identified that the major limitation in the use of case study design is the lack of generalisability of results and time consuming in data collection and analysis (Mouton, 2001: 149-150). However, Cohen et al. (2002: 183) argued that generalisations take several forms, where extension from the single instance to the class of instances that it represents, from features of a single case to many others with similar features or from part of a case to the whole of that case is possible. For example, the design and practices of educational development partnerships between international assistance agencies and the developing nations are common in Africa and the need to create opportunities for mutual learning of the experiences and lessons of others is undoubtedly desirable. Furthermore, the attractiveness of case study design in this research rested in its strengths of embracing unanticipated events and uncontrolled variables, enabling readers to understand how abstract principles and ideas can fit together (Cohen et al. (2002: 181-184), allowing a high construct validity and an in-depth insights of a single situation (Mouton, 2001: 149-150), which indeed forms the focal subject of this study.

3.3 Sites and subjects selection

This study involved two case studies of the JICA funded teacher development projects namely, the Mpumalanga Secondary Science Initiative (MSSI) and Science, Technology and Mathematics (STM) in South Africa and Ghana respectively. The JICA funded programmes in South Africa and Ghana were chosen for the case studies because these projects share a common goal of promoting the quality of science and technology education. Furthermore,

many other partnership programmes could have been chosen from the continent, but those of JICA are particularly selected because they seemed to represent a typical development partnership that have proven relatively unique in structure and in practice, at least successful beyond the pilot stage. Also the site selection of the two cases under study may provide interesting variations and contrasts in the design and practice of partnership in educational development assistance programmes on the continent.

Despite the shared features, there exist some differences among the cases selected. For example, while the MSSI project focus on secondary education, the STM project focuses on the basic education. To a minimal level, comparing such contrasting data is useful in the sense that issues of what works or does not work in either side will be identified providing the opportunity for either countries to learn some lessons derived from the implementation experience in each countries (McMillan, & Schumacher, 2001). Furthermore, the two cases were chosen primarily because of the links between the university where this study was conducted and the MSSI project in South Africa, and my familiarity with the STM project in Ghana. This close relationship provided an opportunity of easy access to appropriate documents and personnel in each of the two countries. The question of accessibility in research has been identified as one of the major constraints facing researchers in the developing world (Powell, 2001).

The question of sampling technique and size are critical as they directly influence the generalisability of the study results (Bennet, 2005). Biased sampling due to heterogeneity of populations and too small sample sizes are identified as common errors in data sources and gathering (Mouton, 2001: 101). It has however been suggested that during sampling researchers should reflect upon the intended logics and kinds of arguments they wish to develop (Mason, 2002: 135) because sampling is always done with a purpose in mind (Lincoln & Guba, 1985: 198). In this regard, I adopted the purposeful sampling technique, selecting all subjects with regards to the appropriate characteristics required of the sample members (Zikmund, 1994: 368) based on the merit of

subjects' immerse and direct involvement in the programmes from conception through implementation to evaluation.

In contrast to probability sampling, the lack of generalisability of results is described as the main weakness of purposive sampling. However, McMillan & Schumacher (2006: 319) argue that the power and logics of purposive sampling is premised in its appropriateness in sorting out subunits of a population that are relevant to the investigation or where there is no access to the whole population from which to sample. In purposeful sampling therefore it requires that information be obtained about variations among subunits before choosing the sample, and information-rich key informants who are likely knowledgeable and informative about the phenomena under investigation are chosen (McMillan & Schumacher, 2006: 319; Cohen et al. 2002: 103). In view of this, the sample population in this study comprised of twelve key administrative officers, who had a prolonged engagement with the partnership projects. This included viz. two participants selected from each of the three partner organisations (UP, MDE and JICA) in the MSSI project in South Africa (6 participants) and three participants from each of the two partner organisations (GES/TED and JICA) in the case of STM project in Ghana (6 participants) making a total of twelve subjects (Table 2).

Table 2: Composition and size of sampled population

PARTNERSHIP	MDE/GES/TED	JICA	UP	TOTAL
MSSI (South Africa)	2	2	2	**6**
STM (Ghana)	3	3	-	**6**
Total number of participants =				**12**

This sampling strategy was appropriate because it allowed the inclusion of subjects who represented a ranged of actors with an in-depth knowledge and experience about the projects. In other words, the use of this sampling strategy privileged the capture of a broader perspective of issues, comprehensive and relevant to the policy framework and how the various partners in the two projects designed and practiced their collaborations (McMillan, & Schumacher, 2001). The sample size of 12 was reasonably adequate because selected participants who were involved in the decision-making process at all levels in the partnership were represented (Cohen et al. 2002: 98-99) and bearing in mind that other sources of data (documents and observation) were used for consolidation. In fact any addition was likely not going to yield any new insights and could have lead to complexity or redundancy of data (McMillan, & Schumacher, 2006: 322).

3.4 Data collection strategies and procedure

3.4.1 Research methods

The study used document analysis, interviews and to a limited extent observations as the data collection strategies.

Table 3: Data collection matrix

Research question	Data collection strategies		
	Document analysis	Interviews	Observations
1. What is the policy and organisational framework of the JICA funded science projects in Ghana and South Africa?	√	√	
2. How are the partnerships constructed and practiced in the MSSI and STM projects?	√	√	√
3. What are the consequences of the MSSI and STM for science teacher development in each country?	√	√	

The first research question was addressed through document study, interviews and observation of the two programmes to identify the policy-framework and how it was practiced. The second and third research questions were mainly explored using interviews and field observations (Table 3).

3.4.1.1 Document analysis

Document analysis as a research method pertains to the process of examining and understanding the contents in documents from a source external to the researcher (Bennett, 2005). Document analysis was chosen as a method because of its merit in providing relevant legitimate data from a variety of sources (Creswell, 2003). Again document analysis has the strength of challenging or legitimating data from other sources such as the interviews and observations from the case studies (Bennett, 2005). In addition it facilitated the accessibility of accurate written evidence of information and studied in my convenient time (Creswell, 2003). The documents collected included policy documents, reports of evaluation studies, newsletters, and the reports and minutes of stakeholders' meetings, which were studied to identify the framework and other policy issues about the projects.

In studying the documents, the following information was sought:

- The goals/objectives of the partnerships,
- The processes of conception and construction of the partnerships,
- The Project components, approaches and processes as in the Project Design Matrix (PDM) and,
- The roles and responsibilities of various partners.

Document collection as a noninteractive strategy requires imaginative fieldwork in order to locate accurate and relevant information (McMillan & Schumacher, 2006: 356). The obvious pitfalls that researchers need to guard against with the use of document analysis as a technique encompasses, accuracy, relevance, authenticity and outdated information (McMillan & Schumacher, 2006: 358; Yin, 1994: 80). This was avoided by the researcher

through a keen evaluation of the authenticity and relevance of the documents in terms of the source, dates and accuracy. This was consistent with the recommendation provided by Yin (1994) that, the validity of documents should be carefully reviewed so as to avoid the inclusion of incorrect data in the database.

3.4.1.2 Interviews

This study placed more emphasis on understanding the experiences and perceptions of purposefully selected research participants regarding the framework, construction, practice and consequences of the two partnerships concerned. Participants of the study comprised key administrative officers from all partners of the projects in both countries, who I deemed appropriate in providing me with the information required in this study. The purpose of the interviews was to identify how the partnership was constructed and practiced in the two programmes. The conduction of the interviews aimed at obtaining information to address the following research themes:

- Project design and implementation (Policy and organisational framework),
- The implementation mechanisms and processes (Construction and Practice) and
- The consequences of the projects in science education (achievements and constraints).

This technique was chosen because it permitted freedom of expression such that views of individual subjects were obtained, yielding insights that might not otherwise have been available through the other data sources (Cohen et al. 2002). The interviews were preferably semi-structured, using open-ended questions, where the interviewer planned a general structure of questions to cover the major aspects of the enquiry (Tellis, 1997). This allowed for total individualistic expression and a greater degree of interaction between interviewer and interviewees, permitting immediate clarification, probes and prompts to ensure an in-depth expression of ideas and thoughts by

participants (McMillan & Schumacher, 2006: 354). For the purpose of validation and to ensure that no aspects of the views and opinions of participants were lost, the interview sessions were recorded on audiotapes with the consent of the participants (Cohen et al. 2002: 281; Tellis, 1997) and a keen attention paid to observing non-verbal cues expressed by participants as in the following section.

3.4.1.3 Observations

This was used as a complementary data collection technique that permits the researcher to use the natural setting of the interaction between partners to explore more information during the implementation process (Cohen et al. 2002:188). According to McMillan & Schumacher, (2001) field observation involves direct, eyewitness account of social actions and settings, taking the form of field notes. I attended and observed some stakeholders meetings, provincial training workshops, conference meetings and cluster activities of the projects. The purpose of this technique was to augment the data collected from the other two main sources (documents analysis and interviews), focusing mainly on the institutional context and the interactive culture within which the partnership evolves, and to observe how the policy and organisational framework is being translated into practice towards the achievement of project goal(s). In view of this, I documented comprehensive field notes with photographs and/or audio recording taken with permission from participants throughout some workshop periods to help describe the nature of interaction between partners (Cohen et al. 2002: 188). Also, I had casual conversations with partners in an open fashion (McMillan, & Schumacher, 2006: 346) to explore how partners perceived and felt about the interaction between them and how the policy was translated into practice.

The use of this method helped me to observe and study the operational mechanisms and structures of the programmes, identify and record what and how partners play their roles in the programmes and with what consequences are derived for science teacher development in the two programmes. Another important component with regards to the observation was its usefulness as a

tool to obtain additional information from the participants' non-verbal signals during the interviews. The study of participants in the form of an intensive observation and listening allows the researcher to obtain peoples perceptions of events and processes expressed in their actions (McMillan & Schumacher, 2006: 347). The non-verbal cues that were displayed appeared in the form of facial expressions, gestures, tone of voice, body movements and other non-verbal social exchanges (McMillan & Schumacher, 2001, pp.437 – 440; 2006: 347).

3.4.2 Development of the interview protocol: Instruments

With regards to the development of instruments (interview protocol), Mouton (2001: 102) identified 3 steps: design, construction and piloting. Prior to designing, I developed 3 themes corresponding with my research questions by outlining the purpose and theoretical basis of the study (Cohen et al. 2002: 274 –275). During the designing stage I translated the research objectives into questions in relation to the conceptual framework that made up the main body of the protocol (Bailey, 1987: 107-108). Upon deciding on the question format and type of items to use, I constructed the first draft items (Cohen et al. 2002: 274 –275) developing questions around each research question and other themes based on the conceptual framework of the study. McMillan & Schumacher (2006: 353 - 354) proposed that effective interview protocol depends on efficient probing and sequencing of questions and that a good qualitative interview questions can be assured by the critiques of experienced interviewers, testing and revision of initial questions.

To ensure this, the preparation of the interview schedules took two steps as shown below (figure 8). Step 1: Drafted questions were first submitted to my supervisor and other experienced researchers and revised accordingly with some critiques and inputs from them (McMillan & Schumacher, 2006: 353–354). Step 2: Subsequently, the interview schedule was pre-tested and subjected to scrutiny through discussion with some colleagues (Bailey, 1987: 141). The questions were then reconstructed with the comments and inputs from the discussion into the finally questions with reference to the research

questions and framework. In all a 4-page interview protocol containing 30 questions was developed consisting of three main sections: framework, construction/practice and consequences. The interview schedule composed of different types of questions: knowledge, experience and opinion questions (Appendix C). The interview questions were both semi-structured and unstructured questions that permitted greater latitude in asking broad questions in ways that the interviewer deemed appropriate and probing for clarification and deeper understanding of interviewees. The primary purpose of this process was to evaluate and improve the interview schedule and the procedure with regards to time frame, clarity of questions, relevance and content validity (Mouton, 2001: 103).

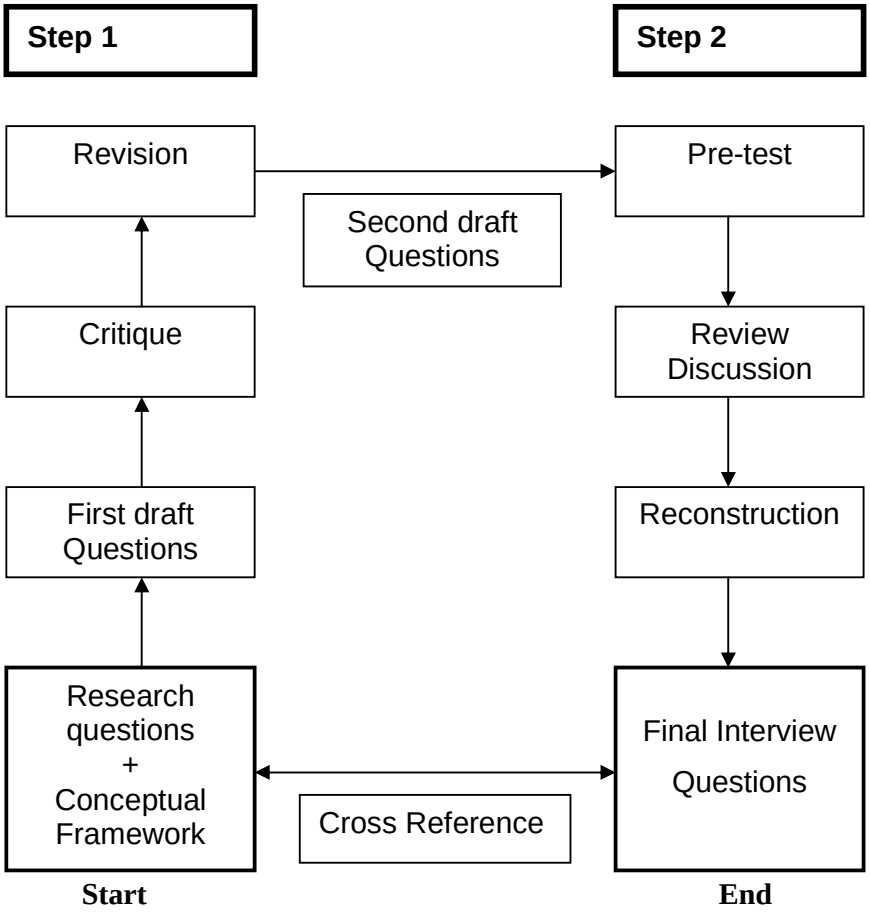

Figure 8: Development process of interview protocol.

3.4.3 Data collection procedure

I must emphasise that the fieldwork took place in two phases in terms of time and site: first phase June - July 2006 in South Africa and second phase in August - September 2006 in Ghana. I initially planned to conduct my fieldwork earlier in January in 2006 but due to some delay in facilitating financial arrangements it became impossible until June 2006. Due to the temporal and geographical differences in terms of context and procedures in the two sites, I deem it appropriate to describe the processes of my fieldwork in two subsections corresponding to MSSI in South Africa and STM in Ghana as follows.

3.4.3.1 Fieldwork in South Africa

The conduction of interviews and collection of document were simultaneously done but at different times and places due to different locations of the three partners within the partnership, that is in Pretoria and Mpumalanga. Following the construction of the data collection protocol, I started making arrangements, negotiating entry for my fieldwork. Though I conducted this study under the memorandum of the MSSI partnership agreement between the University of Pretoria and the other partners, it was still essential to make the necessary arrangements for permission with regards to participants' acceptance, since gaining access at the top level authority is quite different from winning the acceptance of participants (Bogdan & Biklen, 1992: 81). Thus, through personal and telecommunications all participants were contacted and the dates, times and places for the conduction of the interviews and collection of documents scheduled at their own convenience.

While I was preparing to set off for the fieldwork, I considered it useful, in consultation with my supervisor, to hold an interview in the form of a discussion with some visiting experts under one of the partner (JICA) on the project who incidentally and fortunately came around in March 2006. Though these people were not originally selected due to uncertainty of their availability, it was much appropriate for me to seize the opportunity to talk to

them. This was necessary because they were part of the frontline actors who participated in the partnership from its inception and design through implementation to evaluation, undoubtedly suggesting that they had much information and experience to share with me.

Through phone calls I managed to gain their acceptance and interviewed them on 24 March 2006, with the support of a colleague for the purpose of validating the data collected through peer reviewing. Indeed this was not quite a pleasant exercise since that was my first real conduction of interview, more so with well experienced researchers. At a point they criticised me of being too young in terms of experience to conduct such a study. To some extent I was convinced that they were right because it was my first experience in interviewing for data in my own study. So I panicked and to some extent became nervous, which led to some few mistakes at the beginning in my reaction such as “at this point in time I need information from you wait after the interview I will allow you to comment on the study itself”. This was actually a defensive response to their criticisms, which they picked up and became a bit reluctant. However, let me emphasise that I took this as more of a challenge than a problem. This, together with the information I obtained established the fact that interviewing them was highly significant as it did not only privilege me data but also prepared me well for the rest of the fieldwork.

Now back to my original plan I negotiated permission as mentioned earlier and kept in touch with my subjects, in the case of the Mpumalanga Department of Education (MDE), through one ‘link’ participant who was so supportive in liasing up with the other participants around him. All contacted persons showed interest to participate but two of the targets persons under the Department of Education indirectly refused initially, with the excuse that they were too busy. With persistence and persuasion (Bogdan & Biklen, 1992: 85) they finally agreed and we scheduled my visits based on the convenience of the participants in terms of meeting dates, times and places.

After making the necessary arrangements and permission granted for my visit, I proceeded with my fieldwork. In the case of JICA and University of

Pretoria, my access to documents and interaction with interviewees were relatively much easier and more comfortable during the data collection hopefully because I was better prepared with the experience of my first interview, the much familiarity I had with them and also I did not travel outside Pretoria. In JICA for example, the participants were ready to receive me and happy to see me. They gave us (myself and a colleague as a research assistant) a very warm welcomed. The story in University of Pretoria was not different, I was happily received, provided with tea prior to the start of the interview, which progressed in an informal fashion permitting the access of rich information (Bogdan & Biklen, 1992: 80). In fact my experience in the two cases was rather an enjoyable exercise. However, that of the Mpumalanga Department of Education was another mix bag of both stressful and entertaining experiences. When I arrived in Nelspruit in Mpumalanga my interviewees did not honour the times we scheduled earlier, and only gave me attention during their lunch break, which I utilised in good faith for the interviews. However, I must say that the time was not wasted, the 'link' participant for the time being provided me with all documents I requested for.

Remembering that winning participants' acceptance is a means rather than an end to obtaining information for my research (Bogdan & Biklen, 1992: 79) I created a friendly relationship with all subjects when they finally became available. It is argued that the quality of fieldwork depends on how relationships are established, whether in interviews, document searching or observation (Bogdan & Biklen, 1992: 80). To maximise access therefore, I aimed at establishing a close and informal relationship, rather than a formal one, with my subjects. The interview sessions were also conducted at the convenience of the interviewees, which I earlier arranged through verbal communication by telephone. This was evident in one situation where one participant preferably invited us to his house for some drinks before the interviews, which I embraced gladly bearing in mind that friendly social context most likely will privilege rich information (McMillan & Schumacher, 2006: 330).

The fruits of my cordiality were also seen in one case where the participant became reluctant to take part in the study, saying "my colleagues have told you all about MSSI, do you still want to interview me … I may be giving you the same information". In response I jokily answered, "Yes sir, I am interested in your repetitions". This made him laugh, conditioning him for the interview. In each interview session, I first explained to participants the purpose of the study and assured them of the confidentiality and anonymity of their information, and then gave them the letters of consent (Appendix D) for them to sign upon reading. Interview sessions lasted for about 50 minutes on average. Since I was primarily interested in the experience of participants, I found it most appropriate to allow some degree of flexibility in the sequence of the questions (McMillan & Schumacher, 2006: 328). This gave interviewees the opportunity to be relaxed and free to say more if they wish to.

Another important data collection source was the use of observations as a complementary data collection tool. This permitted me to use the natural setting to observe some stakeholders' meetings, provincial training workshops, conference meetings and cluster activities within the partnership activities. In one of the workshops, I spent three days each on three visits, first familiarising myself and interacting with stakeholders and participating educators, in order to observe how partners collaborate and practice in executing their respective roles within the partnership.

3.4.3.2 Fieldwork in Ghana

To avoid unnecessary repetitions of some of the processes of data collection, I resolved to provide a brief story on occurrences that are seemingly similar but committed to elaborate as detailed as possible with the case of Ghana. Prior to my departure to Ghana, all the six participating officials of the STM project in Ghana were conducted to gain permission of their participation through telephone communication. Upon my arrival in Ghana, I again contacted participants on telephone to confirm their participant and all accepted with the exception of one, who left the country. As pointed out earlier, the delay in embarking on my fieldwork was actually the cause of the

loss of this key participating official. However, this dilemma was resolved with a replacement by another former official on the project who fortunately and coincidently was on a visit to Ghana.

In accordance with the schedule agreed upon earlier, I visited participants on separate dates, times and places. In fact my experience in Ghana was equally interesting. On arrival at the Ghana Education Service/Teacher Education Division (GES/TED) office I reported to the National Coordinator of the STM project who warmly received and officially introduced me to the rest of the participants. I first collected all the documents I needed, some as soft copies while those hard copies were photocopied. Thereafter I had the interviews with them, which was successful. Similarly, at the JICA office I reported to the deputy residence representative of JICA in Ghana, who is also in-charged education programmes. He gave me a warm welcome and introduced me to already waiting participating officials. They were so excited to see me and be involved in the study so much that, unlike the South Africa case, establishing rapport was relatively easier and completely informal.

With similar approach to the case of South Africa, I conducted interviews and collected documents successfully. Before commencing on interviews I requested participants to sign the letter of consent after explaining to them the purpose and addressing issues of confidentiality and privacy of information and all did. As usual, the interviews took the style of conversation and exploratory in nature (McMillan & Schumacher, 2006: 351; Cohen et al. 2002: 270). To minimise distraction from external interruption I negotiated with interviewees to put our cell phones off (Cohen et al. 2002: 280) and all cooperated except one controversial participant who refused with reason. Ironically this person requested that I should state his name in the final research report, unusual for most interviewees. So is the ethical principle of confidentiality meaningless to some people?

Interestingly the same person became impatient to stay to the end of the session and refused to respond to some questions with the reasoning that I was involved in the project so I should know the answers to those questions.

True to his words he left without finishing the interview session, however strongly proposing that we could complete the process using telephones. I did not consider this important earlier, but later I realised that there was a need to talk to him. Fortunately, JICA/STM office assisted me with a telephone to complete the session by telephone interview, which time he sounded patient allowing me not only to exhaust my question but also permitted some clarifications and filling in of gaps (McMillan & Schumacher, 2006: 105–109). One setback in this regard was the inability to record the conservation on tape, but its effect on collected data was insignificant since it formed just a small part. In each case, I always thanked the interviewees for their participation and asked them to comment on the interviews and data collection processes in general if they wish.

Unlike in South Africa, I had no workshop or conference under the STM project to observe at the time of my visit. However, I incidentally became aware of a one-day stakeholders meeting under the second phase of the partnership programme, which I attended at least to observe the nature and dynamics of interaction between partners. This I think was relevant considering my previous experience with the project implementation and also in the sense that the new project was a continuation of the STM project involving the same partners (GES/TED and JICA).

3.5 Data analysis and interpretation

Both computer and manual approaches were employed in analysing the data using a qualitative approach of analysis described by McMillan & Schumacher (2001). It is primarily an inductive process of organising the data into categories and identifying patterns among those categories. It is an ongoing process involving continual reflection about the data, coding the data into categories and finally interpreting the data for understanding that can be applied in a theory or policymaking (Cohen et al. 2002:147; Creswell, 2003). In fact, I began with a preliminary analysis of the data while the data collection process was on going. This was achieved through a peer review involving a colleague and myself as a strategy for data validation (McMillan &

Schumacher, 2006: 364). In addition, this helped me to refocus questions and attention towards central themes relating to the questions and framework of this study in subsequent sessions during the process of data gathering.

In this study I employed the inductive data analysis technique, drawing inference from a particular instance, because it facilitated interpretation of data case by case (McMillan & Schumacher, 2006: 364). This technique indeed assisted in the interpretation and description of data sets into a more detailed manner seeking to explore the experiences of partners in the case studies and to analyse them in relation to the level of collaboration attained under different aspects of the partnerships. These involved the structural settings of the partnerships in terms of policy and governance, the commitment of partners in executing their roles, the provision and management of resources, and the resultant outcomes of the partnerships in science teacher development. Complementary to the manual approach, available computer aided procedures for the analysis of qualitative data were also used particularly regarding issues of filing and memoing of field notes, editing and coding, storing and retrieving of data (McMillan & Schumacher, 2001, 2006: 380).

The collected data sets were first organised into groups according to the partner organisations – JICA, MDE/TED, UP and thereafter, I scanned through the data to acquire a broader sense of it and general observations noted (Cohen et al. 2002: 147). The various audio taped data were transcribed into text form, stating exactly what the subjects provided during the data collection process (McMillan & Schumacher, 2006: 355-356; Bogdan & Biklen, 1992: 128-132) for the purpose of substantiating facts with evidence in order to provide thick (detailed) description of information (Cohen et al. 2002: 182, 311; Creswell, 2003; McMillan & Schumacher, 2001).

Following this was the process of coding data into topical categories such as policy issues, inception and design, implementation dynamics, nature of partner relationships, opportunities and achievements, enhancing factor, difficulties and challenges as well as the general perceptions and assessment

of partners in 'emic' terms (insiders' view) about the entire partnership (McMillan & Schumacher, 2006: 372). These categories were further refined to generate major themes namely: framework, construction, practice, and outcomes as indicated below. Let me reiterate here that the procedure was not a straightforward process though, because I constantly reviewed, undertaking a process of decoding and recoding as new categories or themes emerge in the data analysis process (McMillan & Schumacher, 2006: 364-373).

Specifically, relevant themes parallel to the research questions within the framework of this study were identified under the following headings:

- The policy / organisational framework of the partnerships. This refers to the goals and objectives, the leadership structure, responsibilities and roles of partners, project components and implementation strategies.

- The construction process of the partnerships which included the planning process, conduction of feasibility studies and the entire development of the partnerships prior to implementation.

- The process of implementation of and practices within the partnerships. These include the governance and decision-making process, the institutional culture, interaction among partners, interpersonal relationships and individual perceptions and expectations regarding the dynamics of the partnership,

- The opportunities and constraints generated in the partnerships. These involved the resultant outcomes of the partnership activities on the attitudes and performances of science and mathematics teachers, achievements of learners, institutional changes at the departmental level and others challenging issues as perceived by participants.

To complete the analysis, I compared the categories of themes in order to identify similarities and differences that existed between the programmes in

the two countries (Cohen et al. 2002: 148). Interpretation was then carried out to translate the data into detailed descriptive written form, quoting extensively to substantiate the interpretations given there in. The goal of my procedure was to identify and integrate themes and concepts into a framework that offers an accurate and thick interpretation (Cohen et al. 2002: 311) of key issues pertaining to the framework, construction, practice, and the consequences of the partnerships in a broader perspective.

3.6 Validity and Reliability

Qualitative researchers are particularly concerned with the accuracy and comprehensiveness of data (Cohen et al. 2002: 119) aimed at establishing trustworthiness and persuade readers that their findings are worth reading (Bennet, 2005). In this study reliability is regarded as a fit between what researchers record as data and what actually occurs in the natural setting that is being studied, ensuring accuracy and legitimacy (Bogdan & Biklen, 1992: 48). My position with regards to this is that a number of procedures such as triangulation, peer review and pre-testing of instruments (McMillan & Schumacher, 2006: 324-325) were undertaken to ensure reliability. Multimethod strategies were used as data sources, as discussed earlier to provide data richness. Again the strategy of multiple researchers used permitted a peer review involving a colleague and myself. Having two persons present during interview process is said to minimise interviewer bias (Bennet, 2005). Besides the data collection instruments were carefully constructed and pre-tested to promote some level of dependability and relevance (Mouton, 2001: 103).

It is argued that reliability is not sought for its own sake, but as a precondition for validity (Bennet, 2005). Validity, otherwise regarded as credibility, is said to be a persistent problem in qualitative research due to misleading presentations (Cohen et al. 2002: 120). The most practical way of attaining greater validity is by minimising bias, which depends on the characteristics of the researcher, respondents and the substantive content of the questions (Cohen et al. 2002: 121). One limiting factor that needs to be acknowledged in

this regard is that of my prior experience with the projects that form the cases of this study. This proved to be somewhat of an advantage as well since the participants involved were quite comfortable with my interactions with them and thereby ensuring easy access to relevant data, which otherwise could have been hard to achieve. Though this ensured familiarity with the actors and the workings of the projects, I paid careful attention to retaining neutral and focus (Bogdan & Biklen, 1992: 79-84) in order to avoid the influence of being bias due to perceived affiliations (Cohen et al. 2002: 121). As a result the peer review mention earlier was also used as a strategy to remediate such influences. Furthermore, a level of validity was ascertained by checking transcriptions from audiotapes against the researchers' field notes during the data collection process (Chabilall, 2004). In spite of these measures and the extensive detailed description provided, the external validity – transferability will depend largely on the social context and judgement of the reader.

3.7 Ethical considerations

It has been argued that there is no place in qualitative research for unethical behaviour, researchers must adhere to strict ethical principles and considerations (Eisners, 1991). 'Nothing is more indicting to a researcher than to be charged with unethical practices' (Bogdan & Biklen, 1992: 49). In compliance to the "ethical principle of dialogue", the process of obtaining permission in this study, seeking to conduct the research using the partnerships, involved both written and verbal communication under the following:

- Access and use of project documents deemed relevant to the researcher,
- Interview selected officials on the project,
- Assuring participants on issues of confidentiality, privacy and anonymity.

In recent times, the two dominating issues with regards to the principle of ethics in research concerns informed consent relating to voluntary participation of subjects and protection of subject from any risk (Bogdan &

Biklen, 1992: 49). In line with this, prior arrangements and scheduling of dates and times for the data gathering process were accomplished by the use of telecommunication, which was successful as indicated above. During the actual data collection process, letters of informed consent to participants were prepared for subjects to read and sign before commencement of interview sessions (McMillan & Schumacher, 2006, pp. 333), and all cooperatively signed. In capturing data, names of all participants also remained pseudonymous, that is real names of participants will be replaced with conjured names.

CHAPTER FOUR

PRESENTATION OF FINDINGS

CASE STUDY 1: MSSI IN SOUTH AFRICA

4. 0 Introduction

The results reported here were obtained from the analysis of official documents, interviews with key officials and observation of some activities of the partnership projects. My coding procedure produced seven categories based on the characteristics of the partnerships as developed and discussed in chapter two (conception, framework, construction, implementation processes, evaluation, achievements and challenges). These were regrouped into themes that related to my research questions under which these results are presented in the present chapter: the framework (policy and organizational), construction, the context and practices, and the consequences (Opportunities and constraints) of the partnership arrangements.

4.1 Origin and Construction of partnership

A major mission for the South African government following its impressive demolition of the apartheid regime was to improve the quality of education, particularly in science, mathematics and technology (MSSI Project document, 1999: 2). In view of this, a number of initiatives were developed and supported through international development assistance to address the poor learner performance in science and mathematics in primary and secondary schools. One of these was the MSSI supported by the Japanese Government through JICA. Two of the seven JICA funded primary and secondary science and mathematics education programmes in Africa (Egypt, Ghana, Kenya and South Africa, Appendix A) were the phases I and II of the MSSI project located in the Mpumalanga province of South Africa. From the interviews and project documents, the MSSI project emerged from a visit by the former President Nelson Mandela to Japan in 1997 during which he made a request

to the Japanese government for support to the government's on-going educational reform. In response, the government of Japan through JICA, in partnership with the MDE and UP launched the MSSI project in November 1999.

Prior to the launching of MSSI, a number of feasibility studies were conducted, which basically characterised the discussions at the construction stage of the partnership, with the last one conducted in February 1999. This study, which is generally known as the baseline survey, was conducted by a team of Japanese experts from the Hiroshima University (HU) and Naruto University of Education (NUE) for the purpose of elaborating on a possible framework (Interview with Japanese experts, Mr. Kono, 21/04/06). Though reported data on learner performance in mathematics and science prior to 2000 in South Africa appeared inconsistent, with some data indicating 35% pass in mathematics and 53% in science among grade 12 learners in 1999 (MSSI Final Evaluation Report, 2006: 5).

However, the baseline survey conducted by Japanese experts in September 1999 in the four districts in the Mpumalanga province scheduled to join MSSI for the first year revealed a pass rate far below the national average in mathematics and science at the senior certificate examination (MSSI Final Evaluation Report, 2006: 6). Furthermore, the results showed that many teachers lack the fundamental content knowledge as well as capacity for creative thinking among science and mathematics teachers (MSSI Project document, 1999: 14). Given this trend, coupled with the disadvantaged black students that were marginalized under the schooling system in the previous regime, it was therefore imperative that a project like MSSI is initiated in the Mpumalanga province.

To find out whether all the partners were involved at the beginning of the partnership, the MSSI Project Document (1999: 2) indicated that initially the arrangement was mainly between MDE and JICA, but later UP was brought on board as a collaborating partner in order to fully utilise the immense local knowledge, skills and experience already existing in South Africa. In response

to the question of whether of all partners were involved at the initial stages, Prof. Kono (21/04/06), a Japanese expert dispatched to the project also indicated that:

> During the conception stages UP was not involved we brought in UP because we Japanese did not have enough knowledge about South African education system. And at the beginning we were very conscious of the relevance and also that we are going for a sustainable project, this was a major concern. Based on reflection of past projects, we wanted that the project becomes sustainable when our support is terminated and so it was the interest of all parties especially the local government to have a local partner in the project not as a consultant but as a collaborative partner.

Asked the same question, Mr. Morgan (14/07/06), an official of the MDE responsible for physical science curriculum activities at the Province and have been involved in the MSSI activities from beginning to the end responded as follows:

> The Japanese did not have enough knowledge about education in South Africa and there are universities that are internationally known and so it is logical that the accumulated knowledge and skills are utilized to improve science and mathematics in South Africa and this, in my view, worked very well.

From the project documents and interview comments it indicates that at the beginning of the collaboration it was mainly MDE and JICA, and UP came on board later during the conceptualisation and construction of the partnership for two main reasons, ensuring relevance and sustainability. This led to the formulation and adoption of the tripartite partnership in MSSI. Within this tripartite system, according to Mr. Morgan, a series of joint meetings and deliberations were then held among the three partners to solicit inputs (opinions, views and suggestions) from all for the designing of the framework and implementation mechanisms of the project.

Exploring further on the importance of the tripartite partnership approach, the MSSI final evaluation report (2006: 7) describes the 'tripartite partnership' approach as essential and enhancing for project planning, management,

implementation and evaluation. The reason behind this claim was clearly illustrated by the comment of a senior official of the MDE, Mr. Morgan (14/07/06):

> Yes, the contributions and expertise brought to the project by all the three partners made it more effective and attractive to all, UP visiting clusters and assisting teachers, learning from the Japanese experience like the idea of lesson study, we [MDE] organising teachers and so forth, it was good.

Similarly, Dr. Christina of UP indicated that:

> The Japanese professors did not have good understanding of our system, they relied on our input during the design stage and we had to accompany the study team to Japan to guide development of project materials, booklets, study guides. When we came back from Japan MDE will organise teachers for various workshops, every partner had unique role to play. The Japanese have experience in science and mathematics education, especially when it comes to content and are more developed, so they provided much of the funding. We also conduct research, Japanese experts were visiting professors they were not always here and so we have to visit and monitor cluster- and school-based INSET activities. You see, we learn from each other and it is an advantage to have diverse people with different views working together, so the tripartite partnership was appropriate for MSSI and we achieved a lot.

The indication here signifies that the value of the tripartite partnership approach adopted by MSSI was associated with the role of all partners regarded as essential and facilitative in the design and subsequent implementation of the project activities.

Following a period of consultations since 1997 to 1999, the minutes of memorandum was finally prepared and jointly agreed upon, with MDE as the owner of project, JICA and UP as collaborating partners, on November 15th, 1999 (MSSI project document, 1999, p. 2). This process subsequently led to the formulation of the project objectives and design of the Project Design Matrix (PDM – Appendix E) as a guiding instrument for the MSSI project implementation. Thereafter all the three partners signed the letter of

memorandum of agreement (Interview with Mr. Mosehle: 13/07/06). The stated objectives of the MSSI partnership were threefold (MSSI project document, 1999: 2):

1. *Long-term goal:* To ensure that secondary school students acquire enhanced skills in mathematics and Science, Mathematics and Technology,
2. *Short-term goal:* To improve the quality of teaching in mathematics and science in the province through enhancement and experience of teachers,
3. *Project purpose:* To establish and maintain a province-wide INSET system for grade 8 – 12 mathematics and science teachers through the cluster workshops in order to improve the quality of teaching and learning of secondary mathematics and science in schools across the province.

To ascertain whether partners entered the partnership with common understandings of the project's aims and expectations, Prof. Kono (21/04/06), a Japanese dispatched expert to the MSSI had a mixed feeling:

> Yes, though our understandings were different in terms of the way we conceived the project we all had understanding that we want to improve the quality of teaching of science and mathematics.

A point of departure in answering this question was provided by Dr. Christina, a UP expert on MSSI, stating that:

> For almost 6 months to a year we didn't know which direction to take but to continue with what was available at the time. I think it wasn't clear. We had a problem in terms of whether the approaches of activities followed the OBE approach or Japanese approach or UK approach, because I recall in one meeting we [UP] had our own approach, standard unit, developing themes for INSET. The Japanese also had another way, and they wanted more of the content. Honestly we did not have clear understanding and our expectations varied across partners but it improved over time.

Similarly, an official of MDE, Mr. Mthethwa (13/07/06) also appeared rather more pessimistic:

> No, all partners did not understand because sometimes others were pushing some roles to others, arguing this is your role, and that is not my role. At the beginning it looked like we had the same understanding but our major concern was the way to go. But the way some partners behaved later with less committed did not show that we all had common aim.

Clearly, this demonstrates that partners entered the partnership with varying expectations and somewhat limited understanding of some dimensions like the roles and responsibilities. It therefore appears that there was a perception gap among partners in terms of project expectations, approaches and roles.

Given this context, I further wanted to ascertain the conception of partnership in MSSI and whether all partners had a common conception at the construction stage of the project. Under the principles of JICA in its 'oath of service', it states "we will work as 'partners' to those in need of assistance (JICA Annual report, 2005: 2). However, exploring through JICA's annual reports and other documents such as newsletters as well as MSSI project documents, it was extremely difficult to explicitly identify JICA's conception of the term 'partnership'. In view of this lack of clarity in the documents, efforts were made during interviews to obtain a sense of the conception of partnership within the MSSI project in particular.

When asked 'what is your conception of partnership in the MSSI project?' three officials, one from each of the three partners, gave the following responses. First, Prof. Kono (21/04/06) a Japanese expert who has been involved with the project from its inception captured the sense that the partnership was conceived in terms of an agreement between entities where each partner was able to bring resources to the collaboration:

> I think I am more familiar with the partnership than anybody else, because I have been involved from the inception; I was part of the team that designed the partnership in November 1999, through its implementation to the termination and evaluation of

> the partnership in March 2006. So I can tell you that it is an agreement among entities each of which bring resources to the project that is why we call them partners. If as consultants then they are not partners, they are only technical service providers.

Asked the same question, Mr. Morgan (14/07/06) who is a senior official of MDE and in-charge of physical science curriculum activities, responded as follows:

> Well, this is my understanding of the term partnership, in fact you will not see the term defined in anywhere, so in summary partnership means bringing together and sharing our resources, according to our strength. For example financially MDE and UP provide small part but JICA contributes more for the project activities, technically experts from Japanese Universities and UP provide more than MDE, but in terms of teachers, offices and even administrative roles MDE does more we are the owners, JICA and UP are playing supportive roles.

Again the idea of pooling resources comes into the picture by a third official, Dr. Christina (04/05/06), an expert of UP stating that:

> Err ... simply, each partner works independently with other partners towards a common goal, bringing each one's *resources*, working together with a common understanding and for the *common interest* of all parties. This is the ideal, but at the beginning promoting the common interest of say teachers was not a major concern. As a result some people, teachers and officers, clearly showed little interest in attending workshops and implementing MSSI activities in their classroom, saying they were overloaded and MSSI approaches are time consuming.

These statements all seem to prioritize 'bringing of resources' as the central element in the MSSI partnership conception. Though the last official, Dr. Christina, attempted to expand the notion of partnership in MSSI beyond contribution of resources to working together for a common interest, it did not significantly extend the conception beyond the notion of bringing resources. What is missing is the question of what characterizes 'working together' to promote common interest? In this sense the partnership conception, which indeed is not only peculiar to MSSI but also to many other collaborations, appears limited in scope given that partnership engagement may go beyond

'bring resources together' to issues of mutual respect, power relations and nature of dialogue among others to promote a common interest (Dorado & Giles, 2004).

In an attempt to explore the nature of the construction process, I asked the question: so how will you describe the nature of the construction process at the beginning? In response, Dr. Christina (04/05/06), a UP expert officially assigned to the project had this to say:

> The construction process was o.k. It was participatory in nature, personnel from UP, policy makers and top management of MDE, Japanese experts from Japanese Universities, representatives from teacher unions such as SADTU and NAPTOSA were invited. At that time everything was so nice, we talk, negotiate and discuss issues, there was dialogue, and everything was jointly planned and different view gathered.

Posed with the same question during an interview, Mr. Mthethwa (13/07/06) the project manager, in excitement with a smile on the face, responded as follows:

> The beginning of MSSI immediately followed up the termination of the previous British Government support project: Mpumalanga Primary Science Initiative (MPSI) project. The name MSSI was actually coined from MPSI. We were allowed to give the name MSSI by ourselves based on our pass experience in the previous MPSI project. What made MSSI different was the way meetings and decisions were taken, we talk with each other and decide on what to do, that was good.

Clearly, this demonstrates that the process of construction of MSSI was shaped by the principle of dialogue and a wide range of stakeholder participation, which led to flexibility in its approach. Evidence from the minutes of the initial formulation meeting in November 15, 1999 also illustrates this flexibility, under item 16 stating that:

'The minutes shall commence on 15 November 1999 and shall continue for a period of three years. The University of Pretoria or any of the partners may however, terminate said

university's involvement in this cooperation with 90 days advanced written notice to the other partners after intensive consultations between all the partners.'

Unlike the contractual type of collaborations where termination process may be complex, the promotion of the flexible termination principle within the partnership made the MSSI more a real partnership. Two key factors emerging thus far from the construction process of MSSI that deserve highlighting were the roles of the feasibility studies, participatory and the consultative approaches based on dialogue among all stakeholders in shaping the design of the project policy and organisational framework.

The indication here attests to the fact that the promotion of dialogue during the construction process was extremely enhancing and privileged many benefits such as mutual naming of the project, consideration of local conditions and use of previous experiences. It also shows that dialogue is essential in the context of partnership arrangements between diverse groups of people with different perspectives such as international development agency (JICA), higher education institutions (UP) and a governmental department in the case of MSSI. However, it is obviously true that no matter how well intended and constructed a partnership is, its practice can undermine its perfection in realising mutual benefits to all actors (Harkavy, 1998), thus the following section seeks to explore this in the context of the MSSI project.

4.2 Components, implementation strategies and practice of the partnership

In the course of the six-year (1999-2006) period of MSSI, the project evolved through two sequential stages of phase I: 1999-2002 and phase II: 2003-2006 (MSSI Final Evaluation Report, 2006: 7-8). In phase 1, the main components of the project comprised: long-term study and short-term refresher training sessions for teachers and teacher trainers in Japan, Workshops at the provincial, district and school level, and the supply of equipment and utilization of teachers' centers for training. It also engaged in a continuous

monitoring and evaluation through the report writing and research component often carried out jointly by the Japanese experts and the JCSMTE of UP (MSSI Project Document, 1999: 6-10).

To investigate on how the MSSI operated in carrying out its activities, a senior official involved in MSSI activities, Mr. Mr. Morgan (14/07/06) described the process as follows:

> The project activities were carried out using the cascade approach. Generally, the cascade model of training involved a sequence of training activities, beginning with a group study mission in Japan comprising of curriculum implementers (CI) and/or key cluster leaders (CL). When they return a CI feedback workshop was organised at the provincial level, which aims to provide a platform for CIs/CLs to reflect and plan for workshops at the regional/district levels. Then after that the CIs/CLs will directly organise a Head of Department's (HoDs) workshops at the district level. Also the HoDs will in turn organise school-based INSET for classroom teachers at the school level, this how we operated in the first phase.

In response to a similar question 'how will describe the implementation process of MSSI activities?' Miss Yamasaki (25/04/06), MSSI site coordinator, explained as follows:

> It was envisaged that a continuous cluster-based INSET would be ongoing, where the 'lesson study' approach adopted from Japan, will be used in the training workshops. Err… so the main strategy was the 'lesson study' approach, used in all workshops and training teachers, where they learn from each other. This approach involves the process of a peer teacher learning and post lesson reflection about the good and bad aspects of the lesson for the improvement of classroom instruction.

Still on the subject of how MSSI operated in executing its activities, Dr. Christina, UP expert who was involved in MSSI activities from beginning to ending, comprehensively captured the process as below:

> This is a broad question but let me try, MSSI activities were implemented by all the three partners, using the cascade model. It starts with a study mission to Japan, which I always accompany them as UP personnel, in Japan we learn Japanese approaches like the lesson study and prepare training materials. When we return we

> conduct workshops for CIs/CLs and visit teacher clusters, in these sessions we promoted the use of lesson study approach we learn from Japan. … A lesson study begins with a lesson is collectively prepared and one teacher teach it for the colleagues to observe. After the lesson, they sit together to evaluate, commenting on the strong points as well as weak points, then the lesson is improved and presented again for all of them to learn. So in the nutshell, the operations of MSSI was characterised by the cascade model and this lesson study thing, I don't know if I have answered your question.

The above descriptions about the MSSI operation show that the project carried out its activities using the cascade approach, which began with study programmes for science and mathematics teacher trainers in Japan. From the project documents, these existed in two kinds, first the long-term scholarship study for master's programmes in two higher institutions in Japan viz; Hiroshima University and Naruto University of Education. Second, the short-term refresher training for teacher trainers to pursue a six-week study in Japan. The purpose of these study programmes include (MSSI Project Document, 1999: 6): (1) to learn about the experience of Japan in education, particularly its in-service training system for teachers at the national and local levels, (2) to upgrade the knowledge and skills in science and mathematics and (3) to develop an in-service retraining programmes for specific subject areas at different grade levels for implementation.

Upon the return of the teacher trainers from Japan, they were expected to organize and conduct workshops with support from the experts from UP and the dispatched team of experts from Japan. In these workshops the lesson study approach (figure 9) adopted from Japan was employed. The conduction of workshops varied across different geographical levels: the provincial for CIs/CLs, regional for all CLs, district for HoDs and school-based INSET for classroom teachers. This approach referred to as the cascade model (figure 10), created the opportunity for teacher trainers to transfer the knowledge and skills (MSSI final evaluation report, 2006: 9-10) as well as attitudes obtained from the Japanese system to CIs/CLs and classroom teachers (Interview with Mr. Mosehle, 13/07/06).

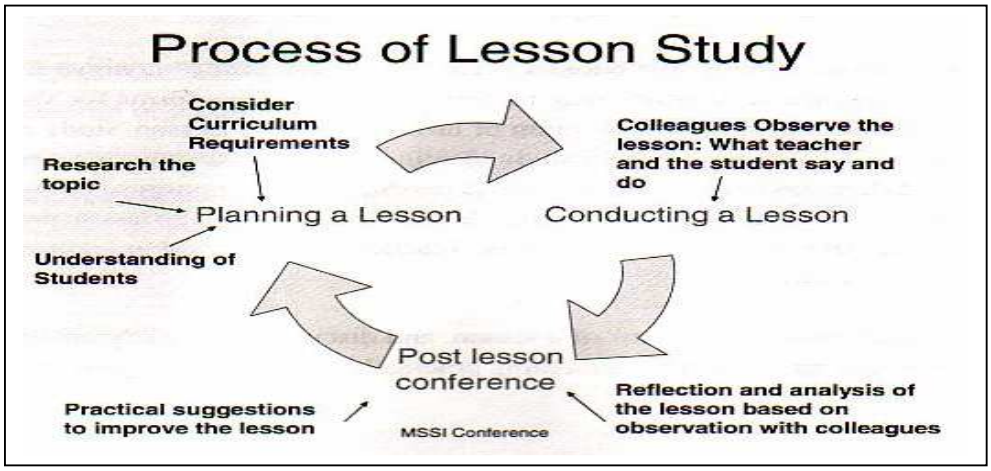

Figure 9: Process of Lesson Study (MSSI, 2005).

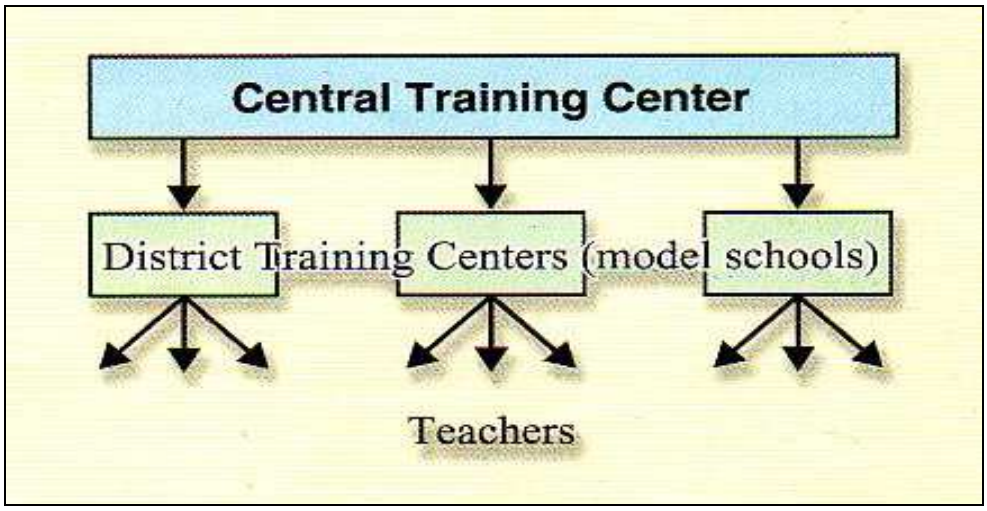

Figure 10: Cascade system of training (Source: JICA, 2004).

The MSSI cascade model was designed to bring training interventions into school classrooms within the constraint of limited resources of time and opportunity (Final Evaluation Report, 2006: 35-38). The report further indicated that the initial phase 1 cascade model therefore provided two points of contacts at the school level. First school leadership through the administrators' training and invitation of school principals to HOD workshops and second the direct contact of CIs and their interactions with school HODs.

To determine whether the nature of the intervention changed from Phase I to Phase II, I further asked an official of MDE, Mr. Mthethwa (13/07/06) to comment on the transition between phase I and phase II, and in response he said:

> One problem between phase I and phase II was that there was a major change in the structures of the MDE, the ten Districts were restructured into three Regions and also a new curriculum change occurred, I mean the National Curriculum Statement (NCS). In response we restructured the cascade model shifting to clusters trainings. So the project activities focused on cluster support workshops at Regional, District and school levels. This time CIs and some of the CLs go to Japan, on return a feedback workshop was organizes, then they go down to Regions and Districts to organize cluster support workshops for all CLs and teachers in cluster groups.

In response to the same question, Prof. Yamaki (21/04/06), a Japanese expert dispatched to MSSI, rather shed light on impact of those dynamics saying:

> In phase I everything went very well, rather in phase II we did not do well. The intervention have to changed you know, because all the three partners organizations experienced restructuring, MDE had administrative restructuring, charge of Director in the JCSMTE of UP, and JICA also changed from office of African division to education division. So there were all these changes during the transition between phase I and phase II, which was on it's on a constraint and so restructured the activities particularly the cascade model was modified to incorporate teacher clustering.

The view of restructuring the cascade model was indeed confirmed in the Final Evaluation Report (2006: 36-38) where it stated that:

'In phase II the additional level of clusters of schoolteachers was introduced at the Circuit level to extend the capacity of the cascade to bring training activities closer to the classroom by interacting more directly with teachers.'

In phase II, the Japan and Provincial workshop trainings, school-based INSET as well as the monitoring and evaluating system remained a major component of the partnership (MSSI Final Evaluation Report, 2006). However, some

changes did occur in the structure of the cascade operations, the HODs workshops at the District level was replaced with CLs and cluster teachers' workshops at the Regional and Circuit levels respectively.

In view of the sentiment expressed by Prof. Yamaki above, I probed further to ascertain the extent to which the administrative and organisational restructuring during the transition phase between Phase I and phase II was a constraint. When asked how did the restructuring affect the success of the implementation process of MSSI? Prof. Kono (21/04/06) passionately responded as follows:

> Hold on I am not saying it affected the whole project phase 1 was o.k. But in phase 2 we envisaged establishing a province-wide INSET system, which is far from us, a major drawback of the restructuring during the transition to phase II was that, new people who did not understand the philosophy of the partnership came in, we did not understand the changes also, and it took us time to understand. It led to personality issues and one partner even relaxed in its commitment along the line, which was a constraint because if one does his role and the other does not, a gap is created making all ineffective.

However, Mr. Morgan (14/07/06) was rather optimistic expressing his view as follows:

> Yes, this changes led to some tensions at certain stages between some personalities. But I don't see any of these things as constraints, they are part of the normal and you see growth is always associated with all these things, so we actually have to restructure the modalities, policies and strategies in the PDM was revised and the different views also helped us to come up with news strategies like the clustering system. What was good about it is that there was consultation at meetings, always dialogue between partners, so for me that wasn't a constraint as such because as I said new ideas came and we improved with time.

These illustrates that the restructuring and its resulting conflicts certainly posed a major challenge to the implementation process of the phase II of MSSI however, others view it as part of the normal process of growth that leads to the creation of innovative strategies. From Mr. Morgan's comment

above, I was attracted to further probe on whether all partners had similar view and determine the factors that facilitated the design of the counter measures alluded.

When asked 'how do you view the restructuring and its associated controversies during the transition between phase I and Phase II?' Dr. Christina, UP expert on the project responded as follows:

> Though those changes generated heated debates, conflicts and in some instances silent quarrels, err ... I think we still moved on till the end of the project. The exciting thing about MSSI is that consensus is always reached through negotiation and discussion, things are flexible, there was no sought of outcome pre-design everything was jointly developed and re-developed at meetings of the steering committee or coordinating committee.

The above statements show that consultation, dialogue and negotiations played a major role in the day-to-day activities of the partnership. Remarkably, the most important outcome of the dialogue process appeared to be flexibility, which in turn permitted reconstruction of some aspects of the project design as the partnership evolves. For instance, the process of designing the second phase of MSSI was based on lessons from the first phase emerged from research and evaluation reports. But the recognition and incorporation of those lessons were facilitated by dialogue and its associated flexibility, which resulted into the observed changes [reconstruction] in the PDM. From a report on MSSI activities for the year 2004, it stated that:

'The MSSI alignment workshop came about after Dr. A, [a partner] had discussions with the Japanese colleagues involved in MSSI during a visit to Japan. It was then proposed at the steering committee meeting that a 2-day meeting should be held by all partners for the purpose of coming up with a mutual agreement on commitments and clarifying goals for the remaining years. The meeting was finally held on the 25th and 26th of March 2004, in Nulspruit where the PDM was revised.'

There is enough evidence legitimating the view that the practice of dialogue privileged flexibility, which in turn allowed reconstruction project design, rendering the initial construction somewhat less significant.

In both phases I and II, the partnership planned and carried out a series of district/circuit level workshops organized into three 5-day (Phase I) or 3-day (Phase II) sessions, one in each of the three quarters of a year following the return of the study mission in Japan. These district/circuit level workshops were followed by regular school-based training sessions by district teacher trainers with support from UP and Japanese experts (Interview with Prof. Kono, 21/04/06). Given the multiplicity of its approaches from both domestic and foreign sources coupled with its long-term vision of establishing continues practice of INSET, MSSI also incorporated into its operational systems some 'learning-intensive' approaches for its viability as captured in the MSSI Project document (1999: 9):

'MSSI primarily relied on formative evaluation strategies through both external and internal monitoring and evaluation, self-assessment of performance by the target groups and joint periodic review and group learning.'

A remarkable commitment to the formative assessment approach was also evident from an observation of a 3-day CIs/CLs workshop (25/08/05) in which joint committee meetings were held at the end of each day's activities to reflect and evaluate effectiveness of activities for the purpose of improving the following day's activities. During a tea break after a presentation on MSSI operations at the MSSI closing conference on March 17-18th, 2006 in Nelspruit, one CI who was a participant in the conference made this comment on the importance of the monitoring strategy:

> What makes the Japanese MSSI approach viable was the continuous monitoring and constant reflections, sometimes we didn't like it especially after a workshop, but it is good in ensuring reshuffling, and quality as we progress (Casual conversation with Mr. Hermen, 18/03/06).

Adopting a culture of continuous monitoring and improvement permitted the process of restructuring of the partnership implementation mechanisms, a characteristic that promoted continuous reconstruction to ensuring relevance, effectiveness and efficiency of the partnership activities.

To explore partners' views about the activities of MSSI, I posed the question 'how will you describe the nature of MSSI activities with regards to partners' interest and commitment?' In response, Dr. Christina (04/05/06) of UP indicated that:

> For the issue of interest and commitment on the part of some beneficiaries, some partners [officials and teachers] felt that MSSI put on them too much responsibility in addition to their regular official duties. Some were saying 'when will this Japanese project come to an end'. The perceptions I picked up were that in principle it was MDE's project but in peoples' mind it was Japanese. This is because the Japanese wanting more work, putting pressure on us, which was view as a problem and imposing by many.

Exploring the same question further, Mr. Mthethwa (13/04/06) had this to say:

> At the beginning it was time consuming for us, we spend a lot of time out of office and still be expected to do some work'. Some of the teachers and even MDE officers complained that the workload was too much for them to cope with MSSI activities. Because of this some teachers were not using MSSI materials developed for them to use in the classroom, but we managed to resolve later.

The message in these comments portrays an implicit limited interest and demand for MSSI activities among some beneficiaries [some officials and teachers]. Otherwise it would have been viewed as an opportunity to develop one's instructional capacity rather than extra workload. For instance, making comments like 'when will this Japanese project end at all' and others complaining, 'too much workload for us to cope with' all show that MSSI activities were perceived as imposition of extra tasks to their classroom and office duties, at least to some section of educators. It can also be recalled that an official indicated that 'MSSI activities are not reaching learners, some teachers see it as waste of time to implement in the classroom (interview with Dr. Christina: 04/07/06). Hopefully this is because they do not see the need, otherwise why will they not conduct an activity they value and cherish as helpful.

Ironically, the baseline survey at the inception of MSSI indicated that teachers lack basic knowledge and skills for science and mathematics instruction and suggested from an outsiders' view that teachers need capacity development. But coming to closely look at it with the lens of an insiders' view, one may ask whether the perceived need was teachers' expression or the recommendation of external researchers? Obviously the former is unlikely, this is where the gap is. A professional development opportunity was supplied and they [teachers] were mandated to participate hence eliminating the demand-driven factor.

It therefore appears that MSSI was more of a supply-driven rather than a demand-driven venture, resulting into the low interest and limited commitment among certain group of partners. However, evidence show that effort was made to promote the "demand-driven" factor as captured under section III of the MSSI project document (1999: 6): 'Providing individual incentives for teachers through accreditation schemes' and continuous to state that:

'The aim of the accreditation scheme was motivate teachers by incorporating certification of Further Diploma in Education (FDE) and MSc, MEd and PhD in Mathematics and science with the support of UP. Enlistment was optional and candidates required paying part of the tuition fees. Even those teachers who successfully completed the training programmes and very active in our activities but did not enlist in the scheme, we planned to provide them with certificates, which would count toward the annual training requirements of the South African Council of Educators (SACE). But this was not very successful, but I think to some extend teachers were excited about the new methodologies offered them.'

On the same subject, when asked whether MSSI was demand-driven or supply-driven, an official of MDE, Mr. Morgan (14/07/06) gave the following response:

> You see for issue of creating demand as you may called it was there, though the accreditation programme did not work as we planned some teachers got enrolled for programmes at the UP and they are motivated. Look even the selection of teachers for study in Japan alone was also an incentives and made teachers become interested in the training, that is why clusters are on-going some clusters are self-

> motivated by teachers themselves and their principals. Any way it was not enough to call it demand-driven but it encouraged, it could have been better if we did more.

To find out why the accreditation scheme was not so successful MSSI Final Evaluation Report (2006) indicated that there was no clear mechanism put in place to put it into operation. However, in response to the question of why the accreditation scheme did not work, a senior official of MDE, Mr. Mosehle (13/07/06) pointed out a different reason stating, "It was because of time and constrains that the accreditation program was not finalized until the project ended".

It therefore appears that a clear structure to effectively implement the accreditation scheme was not put in place, indeed much was required to sufficiently stimulate teachers' interest and demand for the professional development opportunities offered by MSSI. However, drawing a conclusion of absolute lack of interest and/or demand may be misleading as some officials indicated high interest among some educators. For example, an official of MDE, Mr. Mthethwa (13/07/06) held a similar view:

> Perhaps with the help of UP I think the people are beginning to own this cluster activities. I don't see it dying. It's internalised now… there is this evidence of teachers just coming together without any outside force, just their CL will bring them together.

Similarly, comments from interviews in the Final Evaluation Report (2006: 34) confirms that teachers' interest was created and there are chances for sustainability:

> Now when you go to secondary schools in the after, you'll find there are people, they are working. This used to be very scarce, but is happening now as what they call 'seventh hour activity'. Sustainability is certain, because teachers now have definite motivation.

The above comments show that teachers' interest was motivated and to some extent stimulated demand for the activities of MSSI. Even though the use of people's interest at some times as an indicator of demand could be

misleading, divorcing its ability as an indicator of demand could be more debatable. However, let's return to the subject on the implementation processes and re-visit this issue in the discussion in chapter six.

To find out how decisions were taken within the partnership, the MSSI Final Evaluation Report (2006: 9) indicated that the three partners through the coordination committee jointly shared the responsibility of implementation based on the decision made by the MSSI joint steering committee. The leadership structure can be represented below (figure 11). Similarly, when I asked Mr. Mthethwa (13/07/06), a senior official of MDE on the project, to comment on the way decisions process he indicated that:

> Decisions were taken through the meetings of the steering committee and coordinating committee, who jointly shared the responsibility of planning, implementing and evaluating the project activities.

Within this structure the highest decision-making body was the steering committee particularly matters relating to policy issues, which convened meetings on a semi-annual basis (MSSI Project Document, 1999:11). The coordinating committee, which was accountable to the steering committee, held meetings on monthly basis rotating between Nelspruit and Middelburg (Report on MSSI activities for the year 2004). When asked what was your role in the partnership?, the project coordinator, Miss Yamasaki (25/04/06), responded that:

> I played a major role in linking up with other partners, coordinating activities and approves budget on behalf of JICA. But I also visit the regions for support from management, for example I conducted courtesy visits to all regions when I arrived my aim was to lobby for support from regional management for the cluster leaders training workshops and cluster meetings in the regions. The fruits of this visit and discussions with the regional directors were evident because regional management representatives attended and graced the workshops at the training centres.

Innovatively, the project site coordinator appointed was integrated into the leadership structure to ensure effective coordination within the partnership.

What is striking about the leadership structure is the role of the project site coordinator going beyond the typical duty of serving as a bridging leader between all partners, the usual role of passing on information to stakeholders to providing assistance to MDE and lobbying for support in running the project.

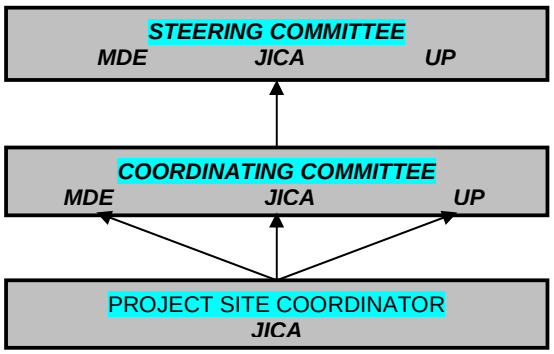

Figure 11: Leadership structure of the Partnership (MSSI)

To further find out how effective the whole leadership was, I asked a senior official of MDE on the project, Mr. Morgan (14/07/06) about his view on the leadership structure, and he asserted that the leadership structure was effective:

> Yea, it was good because the leadership included the three partners and people at all levels, the top leaders like the MEC and Directors of FET and GET levels, it promoted local ownership because the chairperson for the steering committee was from MDE.

Exploring further on the perceived effectiveness revealed inconsistent perceptions about the effectiveness of the decision-making process. From the MSSI project document (1999: 13) it is states, “decisions are taken by means of consensus”. A senior official of MDE, Mr. Mosehle (13/07/06) stated that:
Though at times confusions do arise but I think the process of taking decisions was always democratic … We all talk, defend our positions and finally reach a consensus so there were negotiations and things were flexible, for example the selection of CIs/CLs for study in Japan was controversial but through negotiations we were able to strike a balance. We finally decided to select a team mixed of CIs and CLs, which satisfied all.

These comments though a bit sceptical, they demonstrate that the role of both the leadership structure and the decision-making process were based on dialogue. In response to the same question, Miss Yamasaki (25/04/06) expressed a similar view:

> I think the leadership structure was very good in that it comprised of all the three partners, MDE, JICA and UP, but let me say again that there were times issues were not discussed but implemented, or discussed but not implemented, I don't know why, but in general the structure was very nice.

However, Dr. Christina (04/05/06) described the nature of meetings contrary, stating that:

> In meetings, for example, someone will say, 'you can't say you know Mpumalanga more than me', how many times do you visit, I have been here, for long time so don't say you know more than me. For me it was a matter of power and who owns the schools.

Undoubtedly, Dr. Christina statement suggests that such innovative leadership structure is exciting however asymmetrical power relations can compromise its prospects. When I proceed to ask the question about synergy between power sharing and local ownership adopted by the partnership, Mr. Mosehle (14/07/06), an official of MDE on the MSSI, explained as follows:

> The principle of local ownership is encouraging but promoting its real functioning was limited to more responsibilities rather than power. Look to the best of my knowledge we could not take any decision without consulting them [JICA] for their approval, particularly on funds. You see, get me right consultation is good but why should one become more controlling in some aspect and when it comes to responsibilities we [MDE] are blamed, anyway we managed till its termination as owners.

However, when I further questioned another official of MDE, Mr. Morgan (14/07/06), whether in his view there was shared power, he responded affirmative but elaborated further to indicate some limitation:

> Yes, … there was shared power, no domination because the steering committee and coordinating committee operated well in decision-making, … you know not all decisions, I must say we liked the committees but the ownership part, I don't know may be I don't understand but in my view ownership should show both responsibility and power to make final decisions not just bringing teachers or inviting partners for meetings, you see … but it was not all that a problem to us.

However, Dr. Christina (04/05/06) passionately asserted that:

> No, some partners were not flexible, they hold up to their institutional structures, if it comes to money, one will say am in control, e.g. when we did research and could not do some aspect, one said we will not pay for this, then when we wanted to take teachers to Japan another said no we are not releasing them. So the issue of power sharing was skewed towards where each partner had control over, which was shaped by the role-played. Again because as third world country issues of inferiority could be a factor, e.g. all documents were written as Japanese experts, and we questioned why not UP experts? Creating an impression that Japanese are bringing their expertise, meanwhile we did everything together, you understand? Yea!!

Another official of MDE, Mr. Mthethwa (13/07/06) made similar statements in a jokily manner while smiling:

> Eish, … some shared power existed but real power sharing may be difficulty because [laughing] how can a 'beggar' have absolute equal power as the 'rich' person, we know, it is not a problem, power or no power our teachers and children are benefiting.

The implication shown here is that though much effort was put in place in the MSSI framework, promoting ownership could be limiting at the practice level. The notion of ownership was viewed limited due to lack of corresponding power transfer, which if closely examined was tied up with issues of funds. Another issue that caught my attention from the above comments on ownership was the idea of ownership having to do with more responsibilities. So I decided to explore on the roles of partners and how they were allocated. Evidence from the MSSI project document (1999: 10-13) and the final evaluation report (MSSI Final Evaluation Report, 2006: 9) show that partners agreed upon the commitments summarized below.

Endowed with educators, schools, learners and all other structures that constitute the educational system and as the project owner, the MDE's commitments encompassed: (1) to provide an office structure for the JICA coordinator with adequate secretarial support, (2) to designate responsibilities to officials specifically assigned to MSSI activities such as the project manager, and (3) provision of regular budgetary resources for local costs for MSSI implementation, (4) convening of steering committee meetings twice a year, and (5) to encourage and promote the active implementation of MSSI activities in general at regional, district and school level.

The Japanese government through JICA and backed by UH and NUE, was committed to provide (1) financial and organizational support for teacher trainers' study in Japan, (2) technical assistance to the training and workshops for teachers, (3) facilities and equipment to schools and teachers' centers participating in MSSI, (4) dispatch of a JICA/MSSI project coordinator stationed on project site, and (5) dispatch of Japanese secondary mathematics and science as Japan Overseas Cooperation Volunteers (JOCV).

Commitments by UP on the hand include: (1) assigning an expert(s) to MSSI on a full attention basis, (2) providing support to training workshops provincial, regional, district and cluster levels and dispatching of an expert(s) to accompany the study missions to Japan as technical advisor, (3) offering academic certification and accreditation system to teachers training in relation to their needs, (4) providing technical and managerial advice and expertise to MDE in relation to MSSI implementation and the interpretation of Japanese experiences C2005, and (5) providing academic and intellectual support regarding research and evaluation component of the project.

The MSSI therefore functioned with the MDE as the owner with technical and financial support from the JCSMTE of the UP and JICA, through the assistance of short-term visiting experts from the Hiroshima University and Naruto University of Education in Japan. Cost sharing was employed whereby the cost of workshops and INSET programmes were continually budgeted and

shared by MDE and UP (MSSI Alignment workshop Agreement, March 2004). The allocation of roles was based on the principle of 'division of labour' where other technical functions were shared based on the strength and expertise endowed by each partners. Indeed, allocating commitments appears to be the easiest thing to do, what may be critical however, is the execution of those commitments. In view of this, I further explore on the importance and commitments of partners' roles. When asked how will you describe the importance and commitment of partners to their roles, a senior official of MDE, Mr. Morgan (14/07/06) responded as follows:

> For commitment, emm… I think we were all committed otherwise the project will not have continued but you know honestly, Japanese were more committed than us, you see we are benefiting so we should have done more. But my friend you know commitment cannot be equal, and on significance all roles played by partners were significant. If we [MDE] do not organise teachers no workshops, if JICA do not provide money you know we cannot conduct any activity and the technical support of UP together with the Japanese professors, the expertise they brought was even more important, teachers learned a lot, their classroom activities have changed. Everything was beneficial and we all did our best.

Posing a similar question 'what percentage weightings will you assign to the performance of partners in relation to their roles?' the project coordinator, Miss Yamasaki (25/04/06) gave the following response:

> I will give 80% to MDE, 70% to both JICA and UP, this is because MDE is the owner of the project and they did well. But towards the end one partner [later] became less committed and we didn't know why, err… yea that is what happened. But UP together with the Japanese experts played their roles well, transferring knowledge and skills to teachers, it was very good and important.

In response to the same question, UP expert on MSSI, Dr. Christina (04/05/06) remarked that:

> I cannot give percentages because we all had our limitations and shortcoming, but in general all partners deserve tap on the shoulder. Through the joint effort of all the partners the project thrived through the first phase and second phase, though less

> smoothly in the second phase. Some people like criticising others, if did today and not able tomorrow then you are labelled bad but that's part of life, I all did well.

Notably the issue of role performance was controversial, however, what is also clear the above comments is the importance of the technical support provided by the higher education institutions (HEIs) namely, University of Hiroshima (HU) and Naruto University of Education (NUE) in Japan and University of Pretoria (UP) in South Africa. Further investigation on the value accorded to the involvement of the HEIs, revealed that the involvement of a HEIs was actually critical to ensuring relevance and sustainability as expressed by the project coordinator, Miss Yamasaki (25/04/06):

> The reason why we involved Japanese university was because JICA do not have experts in science and mathematics teaching as staff, JICA contracts consultancy firms in Japan and they provide the experts like the Professors, you know them, yea. But JICA experts did not know much about South Africa so UP was consulted they agreed to participate because they know the local system and they are permanent here so for sustainability they will help.

Similarly, in response to whether the HEIs' involvement was vital, a senior official of the MDE, Mr. Morgan (14/07/06) had this to say:

> It was just unique because it is not common for a university to work with the department, this made MSSI unique and other province envied, they wouldn't understand that the university really gives us resources. Other provinces paid to take their teachers to institution for skills, but we did not pay. That was a great advantage; the department took a lot of educators to UP through the skill development fund because of the partnership. One teacher, who went to Japan through MSSI, became a national teacher award of that year, because of the quality of the training.

In addition, a member of UP involved in the project, Dr. Christina also asserted that:

> You know people like concentrating on negative things, but in my thinking, their continues invitation to come implies that we might be doing something better. What made MSSI special is the involvement of universities. At individual level, we benefited from meeting other academicians, interacting with other experts and building

> relationship with MDE. Some of us had access to data with no cost and finished our studies. At university level, UP benefited because some personnel visited Japan, also money was given to the university for research, and research collaborations between UP and Japanese professors. One incentive to the university is the exchange program, where students from UP go to Japan and Japan students came to UP.

These therefore imply that the involvement of the HEIs (UP, HU and NUE) was beneficial and essential in ensuring quality training, relevance and sustainability. It further indicates that the involvement of the HEIs was also beneficial to the intuitions themselves, particularly UP and not only the MDE. Clearly, the MSSI case demonstrates that it is possible for local Higher Education Institutions (HEIs) to change their typical role in international development partnerships in education as contractors or service providers to collaborative partners that allow them to reap overwhelming benefits that go beyond the common economic benefits to such benefits as student exchange programs, accessibility to research data, attracting prospective students and international collaborations among others. Such collaborations that promote mutualism also provide services to school and teacher communities and thereby helping to address the educational needs of the society of which the universities are part.

Given these developments, an obvious concern will be the question of ‘what are the benefits of MSSI to teacher development, and science and mathematics education in general in the Mpumalanga Province?’ To address this concern the following section seeks to explore on how MSSI came to a close and to outline the achievements and constraints generated by MSSI of which much have already been reported.

4.3 Termination and Consequences of the Partnership

The MSSI project starting in November 1999 finally came to an end in March 2006. Prior to the termination of MSSI, preparation towards its completion appeared in the agenda of the discussions in the partnership as illustrated in the minutes of the steering committee meeting on 25/01/05. It stated as follows:

'Prof. Nagao informed the committee that it is JICA's custom to conduct an evaluation at the completion of its project for the purpose of accountability and improvement of future projects in similar areas. … He informed the house that JICA will appreciate if the evaluation is done in a participatory way with the views and participation of all partners. The committee endorsed both suggestions.'

To inquire therefore about what exactly happened during the termination, I asked Mr. Morgan (14/07/06), a senior officer at MDE who had been on the project from the beginning to the ending, 'how did you end the MSSI partnership?' and in response he described the termination process as follows:

> The partnership ended with two key events, the Final Evaluation Study and the MSSI closing conference, which was held in Nelspruits on the 17th – 18th March 2006. This was important because it brought stakeholders together to discuss the findings of the Final Evaluation Report and to outline the way, particularly issues of continuation of its activities. I mean sustainability is important and now I think the chance are there, because teachers are excited with the cluster activities, which is on going. So this is the way MSSI came to end, I think it was good.

Again**,** when asked 'how will you describe the way MSSI end? Dr. Christina, UP expert who has also been involved in MSSI from inception to completion, explained as below:

> It was a mixed feeling to all of us, excited for the achievements but at the same time sad because we were parting from each other, particularly the Japanese people, you saw how Prof. Kono [Japanese expert] wept when he was presenting at the closing conference. What was important is the conference because all partners and their leaders were even Prof. Jansen [Dean of Faculty of Education of UP] was there and top management of MDE. I think the good part is that they didn't just end the partnership like that; their concern was the sustainability, which was the main issue at the conference. Another thing was the evaluation of the project, which we did jointly with all partners involved and at the end we identified the achievements and also made recommendation for sustainability.

The termination of MSSI was therefore characterized by and Joint evaluation study after which a final closing conference was organized to hold discussions on the way forward, which was vital for sustainability of the project. From my observation of the conference and the Final Evaluation Report as well as from the interviews, the consequences of MSSI can be identified as summarized in the following two sections: (1) contributions to science and mathematics education and (2) the challenges generated during the operation of MSSI. My aim here is to draw attention on the key lessons that MSSI construction and practice can offer.

4.3.1 Contribution to science and mathematics education

In answering the question of 'how far MSSI has progressed in establishing an INSET system for secondary science and mathematics teachers?' the Final Evaluation Report (2006: 76) concluded that the project has made significant advancement in establishing a province-wide system of INSET for secondary science and mathematics teachers, however, building the INSET system is not complete. Interestingly, this conclusion appeared a confirmation of the conclusion made by the Phase I External Evaluation report, which concluded that:

'Although still in an early stage, it is clear that a school-based INSET system is being developed in Mpumalanga Province. In general the ingredients of such a system are in place. However, a number of challenges will need to be addressed during the next phase.' (Final Evaluation Report, 2006: 12).

Similarly, in response to the question whether MSSI has achieved its aim, an official of MDE, Mr. Mosehle (13/04/06) indicated that:

> The senior management of MDE are aware of the positive impact of MSSI, the mechanism of clustering and peer teacher learning is on going in schools and is taking shape. So MDE even decided to make it an official policy of the department not only for M & S but also extending to other subject areas.

There is evidence that MSSI facilitated the development and establishment of a province-wide INSET system though addressing some challenges is required for its sustainability. However, in answering the question, Prof. Kono, a Japanese expert on MSSI, indicated the contrary: 'honestly, we are far from establishing the INSET as I said, not all'.

Further, when asked 'what excites you most about MSSI? Mr. Morgan (14/07/06) also stating that: 'teachers have not only improved content knowledge and teaching skills but also acquired positive attitudes and behaviour.' Similarly the Phase I evaluation report in September 2002, echoed that MSSI has strengthened teacher development through long and short-term training as below:

'The total number of participants who have received training in Japan so far is 71 for maths and science educator and 45 for the senior managers. One importance of the training, exposure of participants to different practices in Japanese educators, such as lesson study and peer group reflection, that is the unique feature of the project.'

Indeed, these views were clearly demonstrated by one teacher at cluster meeting in Malelane expressed her excitement this way:

'My students fail to interpret graphs in my science lessons, especially on heat, I failed to explain and clarify it to them because my maths is not so good. As I saw one doing it at the meeting I became very excited and … talking to him during teatime was my best day ever, this year. He was so good' (Final Evaluation Report, 2006: 39).

The MSSI project therefore has facilitated the creation of opportunities for active learning and exchange of knowledge, skills and attitudes among teachers that transcends international and institutional borders. In response to the same question, Miss Yamasaki (25/04/06) extended the achievements to revitalisation of teacher centres indicating that:

> Teacher centres were not effectively utilised… but now they are equipped with science apparatus, teachers have access to them for their lessons. Also they are use as site for workshops, is encouraging and is very good.

The following comments from Mr. Morgan of MDE confirmed the active of teacher centres and extended to capture awareness creation among senior management and political leaders:

> The project has achieved many things, though some were not intended, for example the MDE and principals are now aware of the benefits of teacher clusters and the importance of science and mathematics teaching. Also our teacher centres are now alive, they are stocked with science materials and workshops take place there.

A speech for the Deputy Minister of education at the MSSI closing conference on 16th March 2006, in essence support the claim of awareness creation among politicians, I quote but a portion:

'I expressed my wish for continuation of the partnership due to its benefits. I need to commend the MDE for coming up with an initiative of this nature. My appreciation equally goes to the joint partners. I hope that this partnership will continue beyond this project considering the achievement it has recorded.'

Equipping and improving the active utilisation of teacher resource centres and raising awareness among policymakers, educators and general public of the role of science and mathematics in nation building were constituted some of the achievements of MSSI. Still on the question of MSSI achievements, a senior official of MDE, Mr. Mthethwa (13/07/06) asserted that:

> Teachers went to Japan and learned new methodologies, teachers' classroom work has improved, they teach better with materials and hands on activities, everybody in the Province know the importance of science and mathematics, even parents. Other Provinces have heard it and they may come to learn from us, especially our direct contact with UP give us an advantage. We have access to them and the also have access to us, like you are here I take as a brother and is because of the project.

Another official of MDE, Mr. Mosehle (13/07/06) also expressed similarly:

> We can now call on UP to support us in further activities and some educators are taking programmes, all because of the partnership.

The partnership also assisted in bridging the gap between educators and education departments on one hand and high education institutions on other hand. Remarkably, the above statements prove that the MSSI partnership realised several achievements both intended and unintended, however, it was not without controversy. In fact, responding to the question 'how will you describe the success of the partnership?' Prof. Kono (21/04/06), a Japanese expert on the project, expressed a point of departure, saying:

> We just wanted that an INSET system is build regardless of what happens. Honestly, we are far from establishing the system, not at all. But we did our best, though it didn't work as planned.

A slight departure on the success issue of MSSI from Prof. Kono's view was that of Dr. Christina (04//05/06) of UP, who expressed her view as follows:

> The success part is that we were able to develop INSET clusters all over the province, the structure exists but the effective use of the structure sustainably is yet to exist, the structure is not strong enough to support the issue of content in the classroom.

An extreme departure in answering the same question from the last two officials was that of Mr. Morgan (14/07/06), a senior official of MDE on the project, who said:

> Teachers have learnt a lot of things, they are excited, … teachers have gone to Japan and trained, and there is a cluster system working, it is now even extended to other subject areas not limited to only science and mathematics, it was a success. We need to collaborated with UP.

To some extent, either extreme argument could be right because each ones' notion of success is dependent on the terms of reference: intended or unintended. While one side of the argument appeared to be based on sustainability in relation to project objectives like of Prof. Kono, other partners like Dr. Christina and Mr. Morgan sound satisfied with the outcome

considering the immerse achievements, both intended and unintended. But my aim here is not to justify these divergent notions, rather what seems important to me here is the different perceptions that existed among partners, suggesting that indeed partners did not have a common understanding with regards to what the partnership sought to achieve. Further, what could be important in this regard is the question of what was its effect on the partnership? And what created the perception differences?

To find out if the perception differences existed and whether it had some effect on the partnership, Mr. Morgan (14/07/06), an official of MDE, indicated that:

> Yea, differences is certainly since we are different people but how we handle them is the problem, it affected because some us begun redrawing from the meetings that is the sign of abstention, because somewhere, they [JICA] said we were confused. Also when they [JICA] insisted that classroom teachers should go to Japan, then when some of the teachers come back from Japan, they thought they are now superior than the CIs, which is not suppose to disturb the structure in our system, how can you empower teachers and leave subject specialists who are their senior officers, you see.

On the same issue of the effects of the different perception, Miss Yamasaki (25/04/06) also asserted similarly as follows:

> This differences affected the social relations among partners it was not cordial … it was like arguments and misunderstandings especially getting to the end of the project but not all, with others it was well. It is also good because I met people of different personalities and I have learnt a lot about other cultures.

From this and other previous discussions, it suggests that some form of perception differences existed among partners. Thus there is enough evident to conclude that partners somewhat entered the partnership with different expectations and perceptions. An attempt to determine the possible cause of these differences, I asked Mr. Mthethwa (13/07/06) of MDE what in your view was responsible for the difference and he responded by saying:

> The working style of partners is different, sometimes the Japanese may find it difficult to accept the culture we have and the way we work is different. I think the Japanese were now showing their true nature … the agenda of pushing. I think it was be hindrance, because you then have a fear of saying 'I don't like this' if you do they take position against you. I think the problem was that if you don't agree with one of them, you don't agree with all of them then you are seen as not cooperating. So it was cultural difference, I think.

In response to the same question Dr. Christina of UP reiterated the issue of cultural difference as the root cause, stating that:

> Japanese working culture is good, they go to office from morning till night, always on time but in South Africa its different, but they don't understand. So they way they expect you to work if you don't then there is a problem.

Also the difference perception appeared to have stemmed from cultural differences between partners. However, to others it was of personality, for example Prof. Yomiko explained that:

> Our relationship was good but not so good with some people. Different views is not a problem but if you bring in personality issues it makes things difficult, some perceived themselves more informed than others and need to be recognised as such, which became an issue of contention between partners.

So from these comments the perception differences was not due to cultural difference alone but could also be attributed to personality differences. In view of the sentiments expressed above effort was made to find out if there were other challenges within other than those already provided. This is what the following section seeks to focus on.

4.3.2 Other challenges generated within the partnership

Contrast to the preceding section, the central question I wanted to address here was 'what challenges or constraints did you encounter in your engagement with the MSSI partnership?' When asked 'what will you regard as

the most disturbing thing about MSSI operation?' Dr. Christina of UP, expressed her view as follows:

> Generalising issues without being specific for me was constraining. I was discourage when there was a very strong comment during the evaluation, UP wanted to work as a consultant, which I stood against because if the top leadership hear this, they may think we demand for payments when we do something, which was never done, they needed to be clear and specific.

In response to the same question, an official of MDE, Mr. Mosehle (13/07/06) also commented on the issue of transparency in this manner:

> If we engage in partnership, the issue of sharing information and ideas is important, but some don't want to, you only know when there was a problem, so transparency among partners was questionable. In contrast to other donors like DFID and USAIDS, they [JICA] came in not disclosing how much money they allocated for the project or going to spend till the six years end. I have never seen the financial statement showing how much money has been spent and remaining. The usual practice was that activities were planned and budgeted for and after justification funds were then made available.

On the issue of finance, Mr. Morgan (14/07/06), a senior official of MDE on MSSI, indicated the effect of the limited financial transparency as follows:

> Financial issues were not properly discussed openly. The lack of openness broke down the teamwork spirit especially during the last days of the project. This was a constraint to some extend because e.g. when we were going to have the conference they other partners as usual thought JICA will sponsor, which turn out not so. So we said that if we knew the total amount earlier we would have reserved some amount for the conference, but we did not know. Finally it was suggested all partners must contribute to bear the cost of the conference, which was a problem and controversial. But at the end JICA sponsored it.

This reveals that the limited financial transparency was indeed a challenge. This was detrimental to the spirit of teamwork and planning at some stage. The 'good' intention for this is unknown except to JICA, but the message here

is clear, transparency, particularly with fund is necessary for team spirit and planning, in fact dialogue is good but if coupled with transparency is best.

A further attempt to find out how partners survived through those challenges, Prof. Kono (21/04/06) clearly indicated a reconstruction process where the partners redirected the partnership approach as follows:

> As mentioned earlier, in 2002 MDE reorganized its structure of administration from 10 districts to 3 regions, and divided the curriculum section into GET phase (Grade 1 - 9) and FET (10 – 12). To cope with these changes, which were constraints, the partnership redirected its focus on cascade training introducing clusters.

The MSSI Phase 1 evaluation report in September 2002 confirmed the above statement stating that:

> It shifted from school-based INSET, promoted through district-level training workshops for Science & Mathematics HODs to cluster-based INSET. Peer teachers from neighbouring schools will organize cluster meetings and their cluster leaders (CLs) convened for regional level workshops.

On the same question, Mr. Mosehle (13/07/06) appeared less optimistic but explained further to indicate a coping strategy as below:

> What can we do then remained in itself because at least teachers and learners are benefiting but they were some instances we managed to resolve amicably, like the issue of who will go to Japan I said earlier, we finally discussed and decided to take a mixture of CIs and CLs as a team and we were all satisfied. Also the problem of administrative restructuring in the MDE at the end of Phase I we debated over issues and restructured the cascade model to incorporate the clustering strategy, which wasn't part at the beginning.

It is gratifying to note that positive attitude and discussions through dialogue led to the reconstruction of some approaches like the cascade model. Also the dialogue privileged the creating of innovative strategies like the clustering system, which was incorporating into the cascade system to cope with the challenges of the administrative restructuring at the beginning of Phase II.

4.4 Summary

The MSSI project was launched in 1999 under a tripartite partnership involving MDE, UP and JICA with the aim of developing a province-wide system of INSET for secondary science and mathematics teachers in the Mpumalanga Province. The construction process of MSSI began with a feasibility study, otherwise called baseline survey, followed by the process of consultation through participatory approach and particularly the process of dialogue between the three partners as well as other stakeholders such as teacher unions. Its main activities included study programmes in Japan and workshops for teacher trainers and classroom teachers at the Provincial, Regional, District, Circuits and School levels. The MSSI implementation process was mainly characterised by several principles such as joint governance, democratic decision-making process and division of labour based on dialogue and flexibility, which in turn privileged reconstruction of the project design as the project evolved. It employed the cascade model and lesson study approaches as its main implementation strategies.

MSSI evolved through two phases (phase I: 1999-2002 and Phase II: 2003-2006) and finally came to an end in March 2005 with a final evaluation study and closing conference. The contribution of MSSI to science and mathematics education in the Mpumalanga Province included changing classroom practice of teachers and stimulating peer learning among teachers through cluster-based INSET. Other achievements were equipping and revitalising the utility of teacher centres as well as creating awareness on the importance of science and mathematics education in among parents, learners, teachers and politicians. The role of dialogue and the involvement of Higher Education Institutions (HEIs) among others were identified as the main enhancing factors both at the design and implementation stages of MSSI. However, transparency and perception gap remains a challenge.

CHAPTER FIVE

PRESENTATION OF FINDINGS

CASE STUDY 2: STM IN GHANA

5.0 Introduction

This chapter traces the lifecycle of the Science, Technology and Mathematics (STM) partnership project in Ghana, from its initiation in 2000 to its termination in 2005. The data reported were obtained mainly from interviews with key officials, document analysis and from my personal involvement in the activities of the STM project. Based on the coding process during the data analysis, the life cycle of STM can be categorised into four stages, which are captured under the following four themes: 1) Pre-partnership planning stage, 2) Partnership conception and development stage, 3) Partnership implementation stage and 4) the partnership conclusion and termination stage.

5.1 Pre-partnership planning stage

Identifying education as a key development tool, the Ghana Government in its 1992 constitution under article 38 made it mandatory for the Government to provide free, compulsory, universal basic education (FCUBE) for all children of school going age (STM Project Document, 1999: 1). This led to an increase in enrolment rates, but there remained a strong need for quality improvement. In view of this challenge, a number of initiatives were developed and supported through international development assistance to address the pressing need of improvement. One of these was the Science, Technology and Mathematics (STM) project supported by the Japan International Cooperation Agency (JICA).

The early planning stages of STM were characterised by a problem identification process through feasibility studies. Discussing these initial processes in the preparation stages of the STM, Mr. Duah (29/07/06), the

national project coordinator who was involved from inception to completion had this to say:

> Before the project started, three study teams were dispatched from Japan to Ghana during the formulation process of the project. The project started with a baseline survey (feasibility study) conducted within the period 1997 to 1999 by a team of Japanese experts who came down to Ghana to identify problems in the Ghanaian education system.

The key findings of the said survey, as reported in the STM Final Evaluation report (2005: 3), included the following: (1) the levels of attainment for both upper primary and JSS (Junior Secondary Schools) were low, (2) Pupils expressed high interest and value for science and mathematics, (3) Pupils' levels of attainment do not match parents expression of satisfaction with quality of teaching and learning in schools, (4) The use of practical work activities by teachers in the teaching of science was lacking, and (5) Teachers expressed interest and value for in-service training to improve their competency.

In relation to the relevance of these findings during the preparation stages of the partnership, Mr. Hamidu (21/08/06), STM district science coordinator, described the process as helpful. However, he went further to criticise the exclusion of some pertinent issues of local trainers and teachers that came up in the study but were subsequently not considered:

> The baseline survey conducted during the inception of the project was to look at the various factors that can affect the teaching and learning of science and mathematics. So it involved tutors of teacher training colleges, basic school teachers, and senior management at the district level as well as parents. After this we decided to target teacher improvement as the goal of the project and then we went further to put the whole project into shape. It was a good exercise but one negative thing is that some of the issues, particularly those relating to financial needs of both local counterparts and district coordinators were not considered sufficiently to motivate us, no allowance, nothing only work, work, work.

Another voice on the relevance of the baseline study was captured in what Mr. Shihamoto (08/08/06) referred to as an "eye opener":

> When we came to Ghana, we first conducted the baseline survey, which helped us to understand the local situation, then we realised that science and mathematics teachers need improvement. We couldn't have designed the project without the baseline survey … it helped us to know the kind of project and the activities we have to do. The baseline survey was essential because it was an eye opener not only to the foreign Japanese experts but also to the local partners because even the Ghanaian counterparts were surprised to see how poor the children's performances were and how teachers also performed.

Clearly the above comments show that the results of the baseline study were central to the construction and development of the STM project. Also important was its attempt to assess the desirability of the projects intervention at the teacher, school and community levels. It is noteworthy that at the inception and construction stages of STM, the interest and attitudes of teachers, pupils and their parents with regard to their demand for the project were considered in one way or another.

Following the problem identification was the *contextualisation* process, which was geared towards ensuring relevance of the intervention to local educational needs. This process was carried through what is referred to as project cycle management (PCM). To further obtain an in-depth understanding of this process I made enquiries with Mr. Yamaki (07/08/06) a JICA official on STM, who described the preparation stages of STM as follows:

> The first and second Japanese team came for a field study in 1997 and 1998 respectively, after which a third Japanese team also followed in 1999 for the Project Cycle Management (PCM) workshops. The PCM workshop is *compulsory for JICA projects*. The PCM was important because it had 2 main stages, the first was the identification and analysis of the problem: 'what is the problem?' as identified by baseline study and 'what caused the problem?' Then the second was the objective analysis, where we aimed to answer the questions 'what should be done? That is,

> what kind of intervention and activities should we carry out?' Then we decided on teacher training through workshops and Japan training.

In response to the question, 'how do you view the PCM process?' Mr. Amoah (29/07/06), STM Ghanaian counterpart in-charge of science training, indicated the contrary:

> Yea, the procedure of the project cycling management (PCM) workshop in itself is very useful, however if such a useful exercise is conducted involving only top management officials without the involvement of science and mathematics teachers then it is disastrous. So those Japanese processes were good, but the failure of local authorities and/or partners to recognise the important role of schoolteachers' contribution is disturbing. These teachers who are not recognised are those who are going to use the knowledge and skills transferred to them in their classrooms, you see… inputs from teachers in discussions at such preparation stages is very important.

It therefore appears that the role of the baseline survey and PCM that featured the pre-partnership planning stage was undoubtedly acknowledged. However, two challenges were pointed out. The lack of comprehensive consideration of all arising issues seems to have been a constraint. Second, the limited sensitivity of partners to recognise the important role of classroom teachers' involvement may have been a hindrance to the actual implementation and translation of the good practices into classrooms. Furthermore, the indication by one official that 'PCM workshops are compulsory for JICA projects' implicitly suggests some unavoidable obligatory practices. Controversial as it may sound, a further examination in the context of current literature in the next chapter will attempt to shed light on these controversies.

5.2 Partnership conception and development stage

The development of the STM project, which started in 2000, was carried out under a bilateral partnership comprising the Japanese Government through JICA and the Ghana Government through Ghana Education Service (GES) and Teacher Education Division (TED). The following comments to the

question 'who were the main partners of the STM partnership?' from Mr. Yamaki (07/08/06), a JICA official on STM, illustrates this point:

> The main partners are JICA and GES, but also TED is part of GES and responsible for teacher education in Ghana. So TED was responsible for the implementation of the project since STM is a teacher development programme… The answer to your question therefore is simple, the STM project was a partnership between the two, that is JICA and GES, but other groups are supporting.

Based on a participatory approach involving the two partners, JICA and GES/TED in consultation with other stakeholders such as the Ghana National Association of Teachers (GNAT) and the University of Cape Coast (UCC), jointly formulated and developed the project framework. It mainly consists of the Project Design Matrix (PDM) as the guiding document that outlines the objectives, activities, inputs and expected outputs of the partnership. From the STM project document (1999: 1) and subsequently in the STM Mid-term review report (2002: 4), the objectives of the STM project were outlined as follows:

1. *Long-term:* students' educational achievement in science and mathematics at upper primary (UP) / junior secondary school (JSS) is improved in project areas.
2. *Short-term:* the educational achievement in science and maths of UP/JSS students who have been taught by STM/INSET-trained teachers is improved in project areas.
3. *Purpose:* The capacity of STM trained teachers for delivering science and maths (skills and contents) is improved for UP/JSS in the project areas.

The stated objectives demonstrate that the STM project targeted science and mathematics teachers at the basic education level (Primary and Junior Secondary school). Achieving these objectives required appropriate allocation of roles and resources. In this regard, the partnership adopted the principle of

division of labour and role sharing. The National Project Coordinator, Mr. Duah (29/07/06) illustrated this point in his comment when he said that:

> Through discussions we came to agree on certain terms, the Ghana government was to provide some personnel like the counterparts, to provide office and some basic office equipment to house the project, pay the counterparts and other personnel on the project… Also Ghana government have to remove taxes on the equipment brought in for the project as her contribution to the project. Also we provided security to ensure the safety of all visiting Japanese experts on the programme. On the side of the Japanese, they were also to train the personnel, provide some basic equipment and facilities, long- and short-term subject experts from Japan and funding of the running cost of the project.

In response to the question 'how were roles allocated among partners? Mr. Shihamoto (08/08/06), the Project Administrative Coordinator, extended the role sharing process to the fact that it was unequal and described the role allocation as dependent on the strengths and capacity of each partner:

> Not only in STM but also in all JICA projects, we do sharing of responsibilities but *not equally* because it is very difficult to ask financial contribution from counterpart countries. So we trained counterparts in Japan, prepared budgets and provided some equipment. At the beginning it was realised that Ghana lack knowledge and skills in maths and science, so JICA dispatched Japanese experts to transfer new knowledge and skills to Ghanaian counterparts. The role of the Ghanaian side was more in the area of human resources but not in the area of money. We worked together as one team in a *supportive manner* to achieve our goals.

The roles of partners were therefore partitioned considering the strength of each partner with Ghana providing largely the human and infrastructural resources and less financial resources while JICA provides more on the financial resources. From the STM Project Document (1999), the following roles of partners were agreed upon as summarised below:

1. The GES will set up the Project Unit at TED and appoint 5 counterparts (National Coordinator, 2 science Experts and 2 mathematics experts),
2. The GES will set up teacher development centres at TTCs,

3. The GES will hold a series of orientation meetings for all major stakeholders (Directors, Principals and Tutors of TTCs and Counterparts core team),
4. JICA will dispatch Japanese experts (Chief Advisor, Administrative Coordinator, 2 Science experts and 1 mathematics expert) to the project,
5. JICA will provide to Ghana the necessary equipment and materials for the implementation of the project while the GES ensures that customs clearance and other contingencies are catered for to start the project.

STM as a teacher development project in science and mathematics was initially conceptualised as a technical cooperation project in which strengths and assets of collaborators were identified and planned to function in a complementary fashion. How these roles actually functioned and whether these complementary roles materialised was influenced more by the notion of partnership held by partners. It is therefore expedient to ascertain the partnership conceptions within the STM project, given the possibility that the personal and professional interactions of partners are likely to be shaped by their perception and conception of what the partnership meant to them. First a search through project documents yielded no information on the conception of partnership. This was confirmed by Mr. Nkrumah (10/08/06) STM district science coordinator, in his response to the question 'will you regard the STM project as a partnership, if yes what is your notion of partnership and if no why?

> Yes, why not. Even though you cannot find it defined anywhere in the documents but our practice showed, so it is a partnership in which there is an agreement between Japan and Ghana people, where everybody understands what you want to do. This is a partnership arrangement because the basic principle is team spirit, there is no master-servant relationship, everybody is supposed to play a role and contribute to ensure that the partnership arrangement fulfil its goal and sustains its legacy.

Asked the same question, the National Project Coordinator, Mr. Duah (29/07/06) expressed his view as follows:

> Actually at the beginning we used the term partnership without a specific definition of it but it became much clearer later during the implementation. The partnership team was made of Japanese experts and Ghanaian counterparts, so we all brought our expertise while learning from one another. We learnt a lot from the Japanese experts, we worked together as partners, no one felt important than the other.

Similarly, in response to the question 'how will you describe the kind of collaboration between the two partners in the STM project?' Mr. Shihamoto (08/08/06), project administrative coordinator asserted as follows:

> JICA is a technical assistance agency and usually we bring Japanese experts to the project, bringing our knowledge and skills, as we are a bit developed in science and mathematics than Ghana, yet we work together as partners. So I will describe it as a technical cooperation project implemented by JICA and GES/TED as strong partners to achieve the goal of the STM project and to sustain its legacy.

Clearly from what the officials expressed STM is conceived as a partnership arrangement between JICA and GES/TED. But the conception of the term as perceived by partners was actually developed over time and appears to be centred on two pillars. First, it is based on the 'contribution of resources and expertise' and second, it is based on the 'spirit of teamwork' both emphasising on the 'transfer of knowledge and expertise'. The common idea of working together is indeed impressive in extending their partnership conception at least beyond pooling resources together. Even so, the lack of clarity about what constitute the said teamwork at the practice level makes it sound rather rhetoric.

Again, the notion of 'knowledge and skills transfer' could be ambiguous because whether the nature of the transfer entails a process of adoption, adaptation or both two is also unclear. With this conception two implicit assumptions surface, the links between the partnership success on one hand and the contribution of resources (through supply of human, equipment and financial resources), as well as the transfer of knowledge and skills (through training to capacitate local counterparts) are assumed as unproblematic. For example, Mr. Shihamoto continued his argument as follows:

> As said earlier, Japan is developed in science and mathematics than Ghana. So if we are able to transfer the required scientific knowledge and skills from Japan to Ghana by capacitating the Ghanaian counterparts who, together with Japanese experts and provision of enough funds then the achievement of project goal will actually be ensured.

However, observations from the interviews revealed that interpersonal relationship affected the working relationships among partners. For instance, Miss Alice (29/07/06) STM science resource person rather indicated the effect of the interpersonal differences as follows:

> In terms of doing the work, err… things weren't all that well. The working relationship was generally o.k. But sometimes because personal things set in, which can affect the working relationship. We cannot say we had it all perfect, there were a whole lot of problems and once it affects working relations automatically it affects work effectiveness also. One problem we had with the Japanese was that the emphasis too much work without thinking of motivation, which cannot work because commitment to work depends on motivation.

A further probe on the views of partners on the interpersonal differences revealed lack of trust and linguistic difference as the source. For example, Mr. Shihamoto (08/08/06) STM administrative coordinator pointed out that:

> Communication was mainly an issue of language, which was a factor because if you don't actually understand the language very well sometimes you become suspicious of what someone is saying. Sometimes Japanese resort to Japanese language and the Ghanaians to Ghanaian language, then each group becomes suspicious of the other. So language was one of the big problems among the Japanese and Ghanaian partners.

It is therefore clear that the interpersonal relationships among partners were sometimes problematic. The possible cause of this as suggested in the interviews may be lack of trust, differences in work ethics and linguistic variation among partners. However, some partners viewed interpersonal conflicts as inevitable and that what makes a difference is the way they are

resolved. With regard to this, Mr. Duah (29/07/06) the STM National coordinator appeared somehow optimistic indicating that:

> No doubts about human relationships. Surely if you are dealing with people with their own perceptions, although the paper may describe all that is to done but the human nature will not allow certain things to be done as on paper. But it wasn't so serious though it was observable. I think it wasn't bad because for every human institution there is bound to be difference in personal interests, it depends on the approach in dissolving such issues. Even in all these we always discuss to resolve those interpersonal conflicts.

Similarly, Miss Hayashimoko (24/09/06), a Japanese expert on STM expressed her experience as follows:

> Err… sometimes I had a fight with Ghanaian counterparts however, before they close or when they arrive the next day morning they shake hands with me, smile and resolve the misunderstandings. Sometimes if I cannot explain well some financial issues they help me to explain better. If somebody complains against me they will just support me and they don't ignore me when I am in trouble. I think Ghanaians sometimes complain about things but they accept discussions and they don't like keeping quarrels.

Generally, the point made here is that the supply of funds and human resource capacitation alone cannot guarantee a successful implementation of partnership arrangements. Rather a combination of things with close consideration of the human factors is what is needed for the achievement of partnership goals. The extreme focus on work with very little concern on motivation and social relations was criticised as limiting the partnership conception and its subsequent practice. It is therefore important that in development of partnerships, the different levels of partnership, namely purpose, structure and process dimensions (Hogue, 1994) are critically considered.

Though interpersonal differences and conflicts are inevitable in every human endeavour, the culture of mutual support and instant conflict resolution strategies like greeting and shaking of hands may help amicably resolve such

interpersonal conflicts. The discussion also suggests that building healthy interpersonal relationships is not an event but rather a process and develops over time. With this understanding of the construction process, it was important to look further at the way the partners engaged in their practice during the implementation of activities of the STM project. The next subsection seeks to explore that process.

5.3 The partnership implementation stage

The Science, Technology and Mathematics (STM) project in Ghana constitutes one of the seven JICA technical cooperation primary and secondary science and mathematics education programmes in Africa (Appendix A). The STM project was initiated and launched under a bilateral partnership arrangement between the Governments of Japan and Ghana:

'The "Improvement of Educational Achievement in Science, Technology and Mathematics in Basic Education" (STM project) is a technical cooperation project undertaken by the Governments of Ghana through GES/TED and Japan through JICA. The STM project was inaugurated in March 2000 (STM final report, 2005). The project duration was a five year period, which started in March 2000 and will end in February 2005' (STM Mid-term review, 2002: 4).

The STM final evaluation report (2005) indicated that the implementation of the STM project was a gradual one starting in one district as a pilot phase in 2000 and then replicated into two other districts in 2002:

'The project was initially implemented in one district (Akwapim North District) and was later replicated to the Adansi West District and Tamale Municipality in 2002, which operated as the three pilot educational districts'

In support of this, when asked to comment on how the STM project implementation began the National Project Coordinator, Mr. Duah (29/07/06) described the process as follows:

> The approach employed here was to pilot the intervention strategy on small scale and expand with time throughout the country, starting with one district in 2000 and then

> replicated into another two districts in 2002 making it three districts in three different regions located across the northern, mid-belt and southern sectors of the country. Currently the phase 2 is underway and has finally been extended into all 10 regions of the country.

The STM project therefore was first launched in one district, and thereafter replicated to two other districts as pilot districts, located strategically in three zones, the Southern, Middle and Northern parts of Ghana.

With regard to the main activities of the project, Mr. Shihamoto (08/08/06) the project administrative coordinator elaborated as follows:

> We undertook training for teacher trainers in Japan, which is referred to as country-focused training, involving the core counterpart team, tutors of participating TTCs and some district officials from all the three districts. Then, the Ghanaian counterparts and the TTCs tutors that were trained in Japan together with the Japanese experts organised training workshops for science and mathematics school teachers at the resource centres in batches. Each batch went through six-day training, divided into two sections of three days each with approximately 4 weeks in between. This was to ensure that participating teachers are not kept unduly from classrooms and to allow them to put into practice what they have learnt and they were monitored with the aim of improving the second phase of the training. Also we had scholarship schemes for long-term study programmes in Japan and other countries like South Africa.

Furthermore, the STM final evaluation report (2005) also identified the establishment of well-equipped teacher resource centres in all the participating districts as part of the project's activities. The centres were used for workshop trainings for teachers and as sources of materials from which teachers can borrow for their classroom demonstration.

In addition, Miss Hayashimoko (24/09/06) further outlined as follows:

> Besides the Japan training and schoolteacher trainings, we also engaged in workshops for circuit supervisors, head teachers and district support teams. Curriculum leaders from the three participating districts were also trained to provide support to the project at the district level… In addition, we organised science and mathematic fairs and quizzes to showcase the application of scientific knowledge.

> The purpose was to encourage pupils and teachers to enter into the world of science and mathematics. Also it served as a means of creating awareness and stimulating the interest of teachers, pupils, parents and political leaders for the teaching/learning of STM subjects.

The above comments identify a wide range of components of the STM partnership comprising long-term and short-term counterparts training in Japan, district level workshops for science and mathematics teachers, district officials and school administrators. Also included was the establishment and utilisation of teacher resource centres in all 3 project sites. Still on the project activities, the STM final evaluation report (2005) also identified international cooperation as one of the components of STM activities:

'The project through JICA offered Japanese teachers the opportunity to visit Ghanaian schools to learn about the Ghanaian education system. They visit schools and observe teaching/learning in the classrooms, interact with education officers and the local culture to promote understanding of each other. In return some district directors, for example the Akwapim North District Director with STM counterparts in 2002, were invited to visit South Africa to study and learn from the South African experience in the MSSI project. This has promoted a stronger tie between Ghana and Japan providing opportunity for sharing experiences and practices in educational and cultural development of both countries'.

Furthermore, Miss Alice (29/07/06), Ghanaian counterpart on STM provided a detailed description of the whole process as follows:

> We operated in three pilot districts and mainly had 2 types of activities, the 6-day workshop for basic school teachers. This was divided into two 3-day training sessions with a month in between for them to practice what they have learnt in the first 3-day training. Besides the training we also had pre- and post-monitoring system. In the pre-monitoring we observe lessons of selected teachers for the training to see how they were performing and to better identify their specific needs. In the post-monitoring we observed lessons of the STM trained teachers and then we compare teachers' performance before and after the training to see the impact of the training in their classroom work.

The STM final evaluation report (2005) elaborated further indicating that:

'The STM project adopted a continuous monitoring and evaluation of project performance… a pre-monitoring and post-monitoring were carried out before and after the 6-day training of teachers to measure the impact of the INSET on participants and to give them support and encouragement to improve the quality of teaching and learning of science and mathematics'.

Evidence of this monitoring and evaluation scheme was the mid-term review conducted after two and half years, to assess whether the project is on track or may need to be re-directed based on identified difficulties or challenges in the operations of the project. The mid-term review (2002) evaluated the PDM developed in 1999 to guide the project implementation upon its inception in March 2000. Through the use of participatory approach involving stakeholders, a workshop was organised to bring the key implementing officers and advisors together. The workshop, facilitated by a consultant, was held on the 2nd – 3rd December 2002 to revise the PDM and to draw the plan for the project from January 2003 to February 2005 based on recommendations made (STM Mid-term review report, 2002: 4-7).

Based on the recommendations of the mid-term review, cluster leaders (CLs) training was introduced to promote school-based INSET and at the time reduce the expensive cost of bringing teachers to one training centres. Also introduced was the induction training for newly posted teachers to the districts with the aim of ensuring that all teachers have some experience of the STM practices. It is therefore evident that through consultations and dialogue the partners made some modifications on the project activities and approaches in the middle of the 5-year period of STM to redirect the focus of the project.

To explore how the activities of the project were being implemented, the STM Project Document (1999) stated that:

'The project is being supported by long-term and short-term JICA experts. The long-term experts who serve a minimum of two years comprise: team leader, administrative coordinator, 2 science and 2 mathematics experts. The short-term experts comprise of professors from four Japanese universities namely; Hiroshima University, Shinshu University, Miyasaki University and Fukuoka Education University'.

When asked 'how did you implement the activities of the STM project?' Mr. Yamaki (07/08/06) Japanese expert on STM responded as follows:

> The JICA experts and the Ghanaian counterparts, supported by the TTC tutors, conducted the activities of the projects in all the three pilot districts. The training was non-residential workshops, which was purposed to encourage participants to consider it as part of their normal school activities and to promote project sustainability. During workshops the main strategy use was the lesson study approach adopted from Japan, in which teachers observe a lesson and hold post-lesson discussions.

The STM project functioned with the support of long-term and short-term Japanese experts together with the Ghana counterparts using the PDM as the guiding principle for all partners in the execution of their duties. The training sessions were organised in the form of non-residential workshops using the 'cluster system of training' (figure 12) and also the 'lesson study approach' was employed as the method of training.

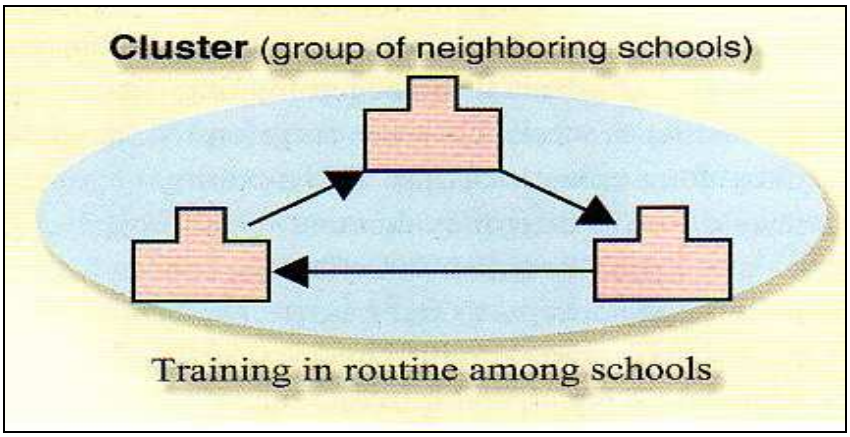

Figure 12: Cluster system of training (Source: JICA, 2004).

The 'lesson study' approach adopted from Japan is a peer teacher learning approach that begins with a collective preparation of a lesson. This is followed by a presentation of the lesson by one teacher while the colleagues observe. After the lesson presentation, a post-lesson discussion is held where they assess, commenting on the strong points as well as the weak points. Then the lesson is improved and presented again, beginning the whole process, for the purpose of peer learning among participating teachers.

In response to a question 'how did you coordinate activities of STM?' Miss Hayashimoko (24/09/06), Japanese science expert on STM, replied as follows:

> We had the PDM to guide the project direction, which all parties follow but it is not rigid, it was flexible, so we could make changes if all of us agree. But one person cannot change. If the working committee see something when implementing they suggest changes to the Joint Coordinating Committee (JCC). After discussion on it then we all agree to change or not. So the 2 joint committees coordinated the activities of the STM project and making decisions, and also the PDM was the guideline for implementing the activities.

Similarly, Mr. Shihamoto (08/08/06) the STM administrative coordinator indicated that:

> We had the JCC, which meets 2 times a year and a WC, which also meets once a month to look at the implementation process. We also had a Japanese chief advisor and the national project coordinator who coordinates the day-to-day running of the project and report to JICA and GES/TED respectively. However, for decision-making they advised and formed part of the WC and the JCC.

In response to the question 'how are the activities of the project managed and coordinated? Mr. Duah (29/07/06)' the National Project Coordinator, described the leadership structure as follows:

> Yea, I started by saying that the whole thing is a partnership arrangement, so the project was managed by two effective committees made of representatives of JICA and GES as well as other stakeholders. The first is the Joint coordinating committee (JCC), it is the highest decision-making body, and then underneath we had the working committee (WC), made up of both Ghanaian counterparts and the Japanese experts, which also makes decisions about the implementation process of the project.

From the above descriptions, the leadership structure of the STM project may be represented as below (Figure 13). The overall administration, coordination and implementation were carried out by two structured committees viz; joint coordinating committee (JCC) and the working committee (WC). The JCC,

which meets twice a year, is the highest decision-making body of the partnership. The working committee, which also meets once every month, is the technical implementation committee and is accountable to the joint coordinating committee.

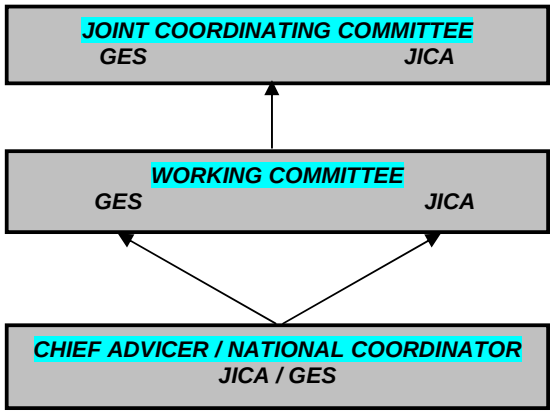

Figure 13: Leadership structure of the STM Partnership.

However, it is not only the establishment of an inclusive leadership structure that makes a leadership structure innovative but also the nature of the decision-making process. In view of this, I explored further to find out if the structure did function to privilege the rationale behind inclusive leadership.

In response to the question 'how will you describe the nature of discussions during meetings?' Mr. Amoah (29/07/06), a counterpart and science resource person, describe the process as follows:

> During meetings issues were discussed, no restrictions at all from anybody. If you had something to say you simply raise your hand and people will be give you the floor and listen to you. I was even surprise that the DG of GES could change her position because we the lower level staff have suggested something else. So everything was dialogue, no one dominated the other and everybody's view was respected as such. We discussed issues to reach a consensus for the common goal.

On the nature of discussions, a Ghanaian counterpart and science facilitator on STM, Miss Alice (29/07/06) expressed her view as follows:

> If all projects were flexible like STM, no project would fail totally because we modified things as the project is ongoing, everything is done through consultation with stakeholders. The meetings are good, e.g. from the discussions at the mid-term review we changed some aspects of the PDM, we introduce the CLs training to facilitate organisation of school-based INSET, which was not in the plan originally.

Further on the issue of flexibility when asked 'what is your view about the nature of dialogue and flexibility within the STM project?' the national project coordinator, Mr. Duah (29/07/06) further zoomed on the role of flexibility and indicated as follows:

> One unique thing about this project is that it was well structured and flexible in a way that things can change. Things changed so much, e.g. the PDM was changed after an open discussion, so the flexibility was the beauty part of the whole programme. The only part that I personally feel needs improvement is openness on financial issues. Even though it was not a problem at our meetings, openness may help build trust but you know they have their reasons for doing that because we like talking about allowances, so it is both sides.

Two issues emerging from the above statements are that, first, meetings were mainly characterised by discussions and dialogue, which was espoused as enhancing flexibility and modification as the partnership evolved. Second, transparency on financial issues appeared limited.

Conversely, Mr. Nkrumah (10/08/06), TTC tutor and STM district science coordinator appeared sceptical about the dialogue and flexibility alluded to, expressing his view as follows:

> Discussions and listening must go hand in hand because discussions can offer nothing but a debating contest. Why should flexibility only be applicable to planning activities and not to finance? We have to defend our budgets for district activities to be fully accepted, this is a power issue but we discuss a lot. For example during monitoring we needed more funds but they wanted circuit supervisors (CSs) to do that, the problem they refused to see just because of their funds was that CSs are not science oriented, so how can they monitor science lessons. But they thought we wanted more money, you see. So at that time it was discouraging, in fact.

It is therefore evident that the flexibility factor was enhancing in the partnership and what facilitated this flexibility seems to be the promotion of dialogue and discussions. However, the latter comment shows that there is more room for improvement since effective discussion must go with effective listening and openness. Furthermore, flexibility must not only be applicable to planning of activities but also financial matters need to be flexible as well if the espoused privileges of flexibility are to be generally obtained. Indeed, STM by design attempted to allow varying levels of flexibility at the *structural* level to respond to unplanned changes, however, the degree of flexibility was somehow constrained at the *process* level, where each partner appeared to independently enforce its own prescribed guidelines in some aspects such as financial matters. The case demonstrates that the occurrence of flexibility at one level of partnership does not necessarily trickle down to other levels (Mitchell and Rautenbach, 2005).

Similarly, another Ghanaian counterpart and STM science resource person, Mr. Amoah (29/07/06) indicated as follows:

> Japanese are people who always want to keep things secret when it comes to funds, why? We don't know. This created suspicion affecting the way we trusted each other and discouraged us at some point, which they thought we were not commitment. But that wasn't the case because we need to treat each other as equals with a common goal. They needed to be more open in their budgets for us to trust each other and even help us prepare for the project's sustainability.

Indeed, the above assertion was reflected in the STM review report in the Adansi West District (2004), which stated among others "the late provision of funds delayed monitoring programmes". However, with regard to the issue of limited financial disclosure, Mr. Shihamoto (08/08/06) the STM administrative coordinator explained as follows:

> You know we cannot be talking about financial issues every day but looking at the situation the financial aspect was not clear and we try to show the figures. But for the reason of avoiding some complains and to promote sustainability some aspects were not made known, we can't declare everything, and for example, we tried to share the

> financial information in terms of unit cost for running a workshop. At the district level we authorise them to draw an action plan with budget and we look at it together, then funds are provided. That should not be a problem but people have their personal interest.

The issue of limited financial transparency was somewhat confirmed, but it appears that the views of partners on financial restrictions were contradictory. While others view that as essential for sustainability others perceived it as demotivating, affecting the commitment of partners and therefore constituted a constraint to both implementation and sustainability. Nonetheless, it created a feeling of non-equal partners leading to suspicion and distrust among partners.

To ascertain whether the dialogue process implied mutuality among actors as equal partners, Mr. Nkrumah (10/08/06), TTC tutor and STM district science coordinator, explained as follows:

> I have never seen the term partnership defined anywhere in the documents, but for me the project wasn't a partnership as such because we did not see each other as equals. Sometimes you need funds to do something and then they say this is Japanese taxpayers' money and controlling some things. Even the names like experts were for Japanese people and we were called Ghana counterparts, whatever that means I don't know. But we did not complain because we regard them as people who have come with their money to help us.

Conversely, Mr. Duah (29/07/06) National project Coordinator, in response to the question of 'how was the nature of interaction among partners, as equal or unequal partners?' indicated as follows:

> The first thing I would like to say is that partnership can never be equal because the training cost of counterparts alone in Japan, we cannot afford to be equal in providing the cost. The Japanese made funds available whether known to us or not. The Japanese were open in their discussions except this issue of funds, which some people complained about. But for me it wasn't a problem because it is their funds and we cannot afford to be equal. You know what, two poor ingredients cannot make good soup but one poor and one good ingredient can make a better soup. We need support and they are helping us, so it is better.

The above comments show that the notion of partnership was not only limited in scope as earlier discussed but also inconsistent among partners. In fact, while some held the view that partnership should be made of equal partners in every respect others were with the view that partnership can never be equal. Furthermore the impression created here is that some partners could agree and remain comfortable to be subordinated by another partner for the sake of the benefits. Interestingly, the question of whether such perceptions are right and/or profitable remains a puzzle that deserve investigation in future, but an attempt will be made in the discussion chapter (six) to share some thought on it. Nonetheless, it did affect the commitment of partners at some stage.

To further explore the commitment of partners to their agreed roles I asked the question 'do you think partners were committed to their roles as expected?' In response Mr. Nkrumah (10/08/06), TTC tutor and STM district science coordinator expressed his view as follows:

> Yes, because everybody was committed otherwise we won't have been able to achieve what we have achieved. Japanese played their roles and Ghanaians also did the same, so in term of commitment fine. This is because there was no any point where because of lack of commitment the project could not go on. We work late into the night and even worked at weekends all because we were committed.

However, asked 'how will you describe the commitment of partners in the STM?' the STM administrative coordinator, Mr. Shihamoto (08/08/06) responded as follows:

> In terms of commitment it's yes and no because we were clear about the project objectives and activities, so in that sense yes, we had common understanding of the project. But the motivation and passion depended on individuals. Some were commitment others not. Stakeholders on Ghanaian side sometimes get tired [laughing] and with small things they have different perspectives. We argued too much which made it difficult to keep the teamwork spirit but I think it improved with time.

Similarly, Miss Hayashimoko (24/09/06) Japanese science expert on STM indicated as follows:

> Commitment emm… in working with Ghanaians we cannot expect certain things as Japanese. Japanese experts have their roles and Ghanaians counterparts have theirs… but sometimes they expect us to do certain things. So we have to be flexible enough to go beyond our duties supporting areas we didn't expect to do.

The issue of commitment appeared fuzzy: while the recipient partners think there was commitment, the donor partners felt that it was not all that perfect. The reason for this controversy is unclear; however recalling the earlier assertion that some processes such as the financial disclosure were discouraging suggests that the lack of openness and transparency could be one possible cause of the perceived lack of commitment at the implementation level.

In view of the crucial role of commitment on the part of participating teachers to the success of the project, I explored the interest of teachers in attending the training sessions. In response to the question 'what is your opinion about the commitment and interest of STM participating teachers?' Mr. Yamaki (07/08/06), a Japanese expert on STM indicated that:

> Teachers' interest on INSET was associated with money, they didn't see much of it as building their capacity. I am saying this because without money their willingness to attend workshops was very low and they complained a lot. So it was more or less supply-driven, but you see the Ghana system, as a whole is not demand-driven. This is because teachers don't apply or request for professional development, they don't have any institutionalised INSET system for teachers, it is just on ad hoc basis.

This comment reminds me of the previous indication that effort was made during the construction stages of STM to stimulate demand among teachers. It is therefore expedient for me to ascertain whether this demand factor was pursued beyond construction stage to the practice stage. Asked, 'do you think the STM project was demand-driven in its operation?' Mr. Amoah (29/07/06), a counterpart and STM science resource person, responded as follows:

> No demand-driven, we had to call teachers, sometimes force them to attend workshops through their school heads. Teachers don't find training relevant because they attend and all they want is something in their pockets. There is no intrinsic motivation from teachers. The source may not be lack of importance of training but our economy. Sometimes in conversation, they complain that if I had organised my extra classes for this period I would have had something in my pocket', that is the way most teachers supplement their small salaries in the country. So you can see that there is no demand at all, it is solely supply-driven.

Asked the same question, a Ghanaian counterpart and science resource person, Miss Alice (29/07/06) explained as follows:

> Teachers plainly say I can't do school-based INSET without materials and even if they do it is out of their will. We should reach a point where they will voluntarily organise school-based INSET for the purpose of sharing ideas but we haven't reached that stage yet. So there is no demand-driven factor because, we trained them to improvise and use commonly available materials in their environment for most activities. Also the teacher resource centres at the TTCs in each district are equipped and they can borrow some materials for INSET and classroom activities but their interest is too low to take such initiatives.

The above assertions suggest that the promotion of the demand-driven factor at the construction stage was not correspondingly embarked upon during the implementation. There is no evidence of any strategy implemented to stimulate demand among benefiting teachers. Thus, there was lack of teachers' self-initiatives and minimal implementation of school-based INSET. However, the dynamics presented thus far constitute a blend of enhancing and limiting factors and exploring their consequences may be striking. For this reason the following section is devoted to explore the termination of STM and to find out the resultant outcomes of the processes reported above.

5.4 The partnership conclusion and termination stage

The STM project, which was launched in March 2000, officially came to a close in February 2005 (STM Final Report, 2005) with several achievements. To explore the success standing of the STM project at the time of termination,

I investigated the question 'how successful is the STM project?' In response Miss Hayashimoko (24/09/06) a Japanese Science expert on STM alluded to the fact that STM is successful and indicated as below:

> The project was successful because we established an INSET model, which was our aim. The only problem currently is sustainability, which we didn't aim at. That is why the new project is changed, but you see the first project aimed at improving and building capacity of teachers and at the end of the 5 years we achieved that and the new project is aimed at institutionalising an INSET system.

Similarly, in response to the question 'what excites you most about the STM project? Mr. Amoah (29/07/06), a Ghanaian counterpart and STM science resource person asserted that:

> Yes, the project is successful because we have achieved our aim. The objective of the project was to improve teachers' knowledge and skills in science, technology and mathematics with the goal of improving educational achievement in science, technology and mathematics in basic education. So the second phase is now targeting all the regions and also we are emphasising sustainability this time. But first we aimed to develop an INSET model feasible to local conditions. Improving students' achievements is long term and will take time to be observable, but the development of the INSET model, I think we have achieved that.

Furthermore, the Final Evaluation Report (2005) as well as the Mid-term review report (2002) assessed the success of STM based on the five evaluation criteria developed by the DAC/OECD. The report indicated that the project was relevant, effective and efficient. It showed that the impact of STM was observable in science and mathematics classrooms where the use of teaching materials and activity oriented lessons are now taking place. From both project documents and interviews the position of partners on the success of STM is unequivocal, suggesting no perception gap among partners on the success of STM at its conclusion.

The response to the question of 'successful project and then what?' demands a return to the issue of sustainability. When I asked, 'in your opinion do you think the good practices of STM are sustainable?' In response Mr. Shihamoto,

(08/08/06) the STM administrative coordinator appeared completely sceptical stating that:

> After the project meeting we were discussing and one counterpart said, “there is no sustainability, Ghana government cannot assist in providing funds, we are so disappointed” “just a joke” he added. From what he said I think the problem is the financial over-dependency and not on the availability of personnel or commitment of Ghana counterparts. Financially, the project depends so much on the Japanese government, so now we are trying to reduce funds but Ghana people are complaining and we don’t know what to do.

However, the STM final report (2005) indicated that at least some of the project’s activities would be sustained in some districts such as in the Tamale Municipality. In support of this view Miss Alice (29/07/06) STM science resource person argued that the chances are there given the institutional and financial arrangements made by the directorate:

> The challenge of sustainability of the good practices, in terms of funding support from the districts has remained a big challenge. But we will reduce the cost of training teachers because teachers will not need to travel long distances at high cost of transport to attend workshops. We haven’t reached where we wanted but I think efforts have been made. Also the GETFUND by the government may be able to address some of these funding problems.

In contrast, Mr. Amoah (29/07/06), a Ghanaian counterpart and science resource person also indicated as follows:

> Sustainability is doubtful because financial sustainability will be very difficult in the short- and medium-term. Limited financial resources may make the government not be able to sustain the INSET without the help of external aid and/or self-financing by schools and communities. The latter is only possible if income improves otherwise sustainability will be impossible.

The high financial dependency or over reliance of the project on the Japanese Government appears to be the main barrier to the sustainability of the project by the Ghana Government. Yet, the STM final evaluation report (2005) indicates that institutionalisation of the best practices of the project is currently

underway: “It was realised that institutionalising the best practices of the project will ensure continuous practice of the project activities when the project is terminated in 2005”. As part of the process to institutionalising the INSET, GES/TED in collaboration with the project and other development partners have harmonised the INSET structures to enhance INSET delivery in science and mathematics. It is encouraging to note that an initial policy towards the institutionalisation of the INSET at the National level has so far been drafted and received attention. It is currently in the process of being finalised at the appropriate quarters” (STM Final Evaluation Report, 2005). In support of this, a proposal for extension of STM project into the second phase has also been agreed upon and has started in all regions throughout the country (INSET project inception report, 2005).

To specifically obtain the contributions of the STM project to science and mathematics education in Ghana, I further explored the question ‘but why the need for sustainability?’ In response Mr. Hamidu (21/08/06), STM district science coordinator expressed his excitement as follows:

> My brother…this project had a lot in stock for us, so much, teachers classroom practices have changed, you can see them using materials, going for further studies and many others. This is one kind of project where we can talk about building that ownership into it, which makes us proud. Also the counterpart arrangement is so exciting, we don’t find it in most projects, so even if the project ends we can still count on the people we have trained on this project who will continue to work.

STM trained teachers are showing much interest in science and mathematics and are now teaching with confidence using practical and activity oriented approaches (STM Final Evaluation Report, 2005). Similarly Miss Alice (29/07/06), a Ghanaian counterpart and STM science facilitator indicated as follows:

> STM made us self-sufficient, we learn computer skills, typing our materials ourselves without a secretary, operating and repairing minor problems of some equipment such as photocopier and fax machines. Also the content and training of STM was of high

> quality, so we are happy and that excites me. TTC tutors had both short- and long-term training in Japan and that has built their capacity very well.

Still on the specific contributions of the STM project to science and mathematics education, the STM project administrative coordinator, Mr. Shihamoto (08/08/06) further added that:

> We have build the capacity of the Ghana counterparts so that even after the project is terminated they can use the expertise they have gained from Japan to support the training of teachers in the country. We have interacted with many and learned about other educational systems and how to work with other people. Now a lot of teachers are using TLM in teaching, which is more understandable and the district directors are now more excited about science and mathematics.

Indeed, the final evaluation report elaborated further, indicating that at the end of the project 754 teachers had been trained, constituting 94% of the expected output. Of these females and untrained teachers constituted 15% and 10% respectively (STM final report, 2005). Again 20 district officers, 15 circuit supervisors and 5 other officials, have received capacity building training on school management and monitoring, as well as organisation of school/cluster based INSET. These show that the project contributed to capacity building of officers, teacher trainers and schoolteachers.

As a result of the capacity building, pupils' performance in science and mathematics has shown some improvement although not very significant, but encouraging given the short period of the project (STM Mid-term review, 2002). The performance of pupils in the Criterion Referenced Test (CRT) organised yearly by the GES to monitor performance of pupils in English, Science and Mathematics has shown some improvement in the programme areas (STM final report, 2005).

Furthermore Mr. Yamaki (07/08/06) a Japanese expert on STM also mentioned the establishment of teacher resource centres as one of the contributions of STM project:

> Apart from the training programmes teacher resource centres have been set up in all 3 districts and equipped with libraries, computers and science equipments. They are used for workshops and teachers can visit the centre to borrow some equipment for their teaching.

Another issue has been the increase in awareness and interest among pupils, teachers, education authorities, parents and other organisations about the importance of science, technology and mathematics (STM Final report, 2005). On the creation of awareness Mr. Nkrumah (10/08/06) STM district science coordinator further indicated that:

> STM have really contributed so much, it has increased our awareness of science and mathematics to parents, teachers and pupils are now interested in science activities like quizzes and fairs. The project has also bridged the gap between TTCs, District education Directorates and schools. It established a good rapport between district leaders, TTCs tutors and basic schoolteachers.

The above contributions of STM to science and mathematics education appears overwhelming comprising capacity building of teachers' knowledge and skills, establishing teacher resource centres, provision of equipment, raising awareness among policymakers, parents, teachers and pupils about the importance of science, technology and mathematics to development.

However, a major threat to this success story and the exciting achievements identified above in the long-term is the issue of high attrition rate of STM trained teachers. In fact, the issue of high attrition rate of STM trained teachers was also identified as a challenge from the project documents. STM trained teachers tend not to stay; they go for further studies or are transferred to other places and it affects the assessment of the impact of the project in the participating districts (STM Mid-term Review Report, 2002). For example, it is stated in the final evaluation report (2005) that 11.7% (167 out of 1430) of the STM trained teachers left the Tamale Municipality between 2002 and 2005. This does not only affect the project but also affects the pupil-teacher ratio in basic schools.

In view of this, measures put in place by MOE/GES include cutting down on study-leave with salary benefits by about 30% between 2001/2002 and 2004/2005 academic years. In addition, GES is encouraging distance education programmes offered by the University of Cape Coast and University of Education, Winneba as a means of upgrading teachers' qualification.

A point of departure on the issue of attrition was expressed by Mr. Duah (29/07/06), the national project coordinator who positively argued as follows:

> No, it is not as negative as people think, because they are still in the system. We train certificate 'A' teachers, which is the lowest grade in the Ghana Education Service (GES) and we also encourage teachers to go for further studies. For the further studies we are happy but we are only sad because they are leaving the classroom and that is why we have reduced the number of study leaves so that people can go for distance education programmes and encouraging distance education. We are thinking of giving some allowance to those who go for distance education. So for the further studies all of us in GES are happy about it because if we have to talk about quality education we have to also talk about the quality of the teachers and further studies is one way of improving the quality of the teachers.

It therefore shows that the negative effect of the attrition of STM trained teachers may be viewed as but a short-term matter. In fact, the measures put in place coupled with the view that further studies by STM trained teachers may offer more dividends in the long-term suggests a brighter future. However, the sustainability of the good practices of the project may be equally important for the achievement of the brighter future envisaged as was identified in the STM Mid-term Review Report (2002).

With regard to the exit strategies employed by the STM partnership, Mr. Nkrumah (10/08/06) STM district science coordinator was asked to comment on how STM came to an end:

> Just as we started with a baseline study we ended the project with a final evaluation study conducted by all partners with the support of University of Cape Coast (UCC). After that we had a discussion meeting on the achievements and challenges based on the final report and we therefore made a request for its extension to a second

> phase. The aim of the project this time around is to institutionalise an INSET policy and extend it to all the ten regions of Ghana.

Before continuing the discussion on the exit strategy during the end of the partnership, the continuous recognition of the role of UCC in the baseline survey, mid-term review and final evaluation study is striking. In attempting to understand the role of UCC in the baseline survey, mid-term review and the final evaluation study it is essential to investigate first, about the nature of their involvement as well as the balance of gains associated with the university's participation in the partnership. The STM documents and evaluation reports showed no evidence of UCC as a collaborative partner, though their involvement was evident as part of the team for the baseline study, mid-term review and final evaluation studies (STM Project Document, 2000). Miss Alice (29/07/06), a Ghanaian counterpart and STM science facilitator, indicated that:

> The university was not a partner, the key partners in STM were JICA and GES or TED. But because we use participatory approach we invited other stakeholders like the UCC to support in some areas particularly with research. So UCC participated as consultants not as partners and they involved in the baseline, mid-term review and final evaluation studies, and also gave advice to us on the training content.

On the same question I asked Mr. Duah (29/07/06), the national project coordinator, to comment on the involvement of UCC and he specifically indicated as follows:

> Actually the university's involvement was in two ways, at times as consultants and at times as voluntary participants with no payment. Their participation in the baseline survey, mid-term and final evaluation studies may be as consultants but when it comes to meetings they sometimes attended when invited not as consultants but as supporters. So their participation went beyond consultancy contracts, but they were not partners, generally the partners were JICA and GES/TED. Let me add that their involvement was very important because when it comes to research they have the capacity than us [GES officials] so their contributions were appreciated by us.

The statements above indicate that UCC was not a collaborative partner in STM project but were involved when their expertise was requested either as consultants or voluntary participants.

Given this clarification on the involvement of UCC at best as a consultant, I further made enquiries regarding the mutual benefits of the university's involvement. That is benefits of UCC to the STM and those of STM to UCC. When asked, what excites you about the involvement of UCC? Mr. Nkrumah (10/08/06), STM district science coordinator, responded as follows:

> You know we do not have the expertise for research, UCC is much capable to support in such things and so their involvement was very important. They were involved in collecting and analysing data as well as writing the reports of the three major studies conducted within STM. We couldn't have done these without them otherwise the whole evaluation would have been the sole responsibility of Japanese experts.

Again, when I asked Mr. Yamaki (07/08/06), a Japanese expert on STM, to comment on the benefits of UCC involvement in the STM project apart from their contribution to the evaluation studies, he replied as follows:

> The benefits are in either way, the university benefited financially because they were consultants and they have built some relationship with the Japanese universities participating in the project, which may have future benefits. On the part of the project, besides the studies conducted they also facilitated some of the workshops that discussed the findings and recommendations arising from those studies. In fact their contribution was mainly associated with the studies and it is important because Japanese experts did not have enough knowledge of the local conditions and educational system.

The involvement and hence contribution of UCC was largely appreciated and more or less limited to the conduction of the studies. On the other hand, the STM project also privileged the university by establishing a relationship between it and the Japanese universities like the Hiroshima University, Shinshu University, Miyasaki University and Fukuoka Education University. The evidence here shows that UCC involvement as a consultant yielded

economic benefits and research inputs to the university and the partnership respectively. Exciting as this may sound, Kruss (2006) provokes HEIs, in the context of university-industry partnerships, arguing that universities can pursue new forms of network partnerships in a strategic manner by limiting the scale of the old forms of consultancy and contractual collaborations in order to achieve the kinds of academic, financial and national developmental benefits that they value, rather than being driven primarily by financial imperatives.

Returning to the issue of how STM came to an end, the STM administrative coordinator, Mr. Shihamoto (08/08/06) also indicated as follows:

> The project ended with a final evaluation study and at the end of the day we compared the results of the baseline survey and the final evaluation report and it showed great improvement. The final evaluation report showed improvement in pupils' performance since the inception of the project in the participating districts so the project was very successful and we are glad with that. We only hope that the legacy of STM project is sustained. Sustainability of the good practices is our major concern, which the second project is planned to achieve.

In view of the enormous contributions of STM to science and mathematics education in the pilot districts, the Ghana Government through the Ministry of Education (MOE) and Ghana Education Service (GES) requested for the extension of the support by the Government of Japan to a second phase of the STM project (STM Final Evaluation Report, 2005). From the minutes of a meeting held on the 2nd of November 2004 involving the top officials of STM it is indicated that this meeting was to discuss and explore on the possibilities for the extension of the STM project. It is therefore evident that STM came to a close with a final evaluation study followed by a meeting aimed at deliberating on the findings of the final report and to make proposals for an extension. The second phase of the STM project is current underway as a result of these processes.

5.5 Summary

The science, technology and mathematics project (STM) started in 2000 and was designed as a technical cooperation project to provide professional development for basic school science and mathematics teachers. It was executed under a bilateral partnership between Japanese Government through JICA and Ghanaian Government through GES/TED for a period of five years. The project aimed to support three pilot districts located in the northern, middle-belt and southern parts of Ghana and was to be extended to other regions over time. The construction of the partnership project started with a feasibility study, on the basis of which discussions were held between Japanese and Ghanaians to design the project. However, the partnership conception within the project appeared to be narrow and was limited to the 'contribution of resources' and 'transfer of skills' with little or no emphasis on the interactive processes among the partners.

The components of the project ranged from long-term to short-term study/training outside the country, workshop trainings for school teachers, school heads and administrative officers, establishment of teacher resource centres equipped with science and mathematics materials, a continuous monitoring and evaluation as well as science fairs and quizzes. The project aligned itself with four main implementation strategies that shaped its operations viz; a participatory approach, division of labour, joint governance and management, and stakeholder discussions based on dialogue. The role of dialogue led to some flexibility, which coupled with the continuous evaluation privileged modification of the project components and strategies as the partnership unfolded. Though a local university was involved, it participated as a consultant and not as a collaborating partner. Attempts were made at the construction stages to assess the demand for professional development among teachers in particular, however, the effort to stimulate teacher demand for professional development at the implementation stages was less evident.

The project came to a close in 2005 with a final evaluation study and was unequivocally judged as successful by the partners, in terms of its contributions to science and mathematics education in the country. These included raising awareness among policymakers, management, parents, teachers and pupils, building the capacity of teachers and officers as well as the establishment and equipment of teacher resource centres in the participating districts. However, the key challenges alluded to include the limited financial transparency, interpersonal conflicts, high attrition rate of STM trained teachers, high financial dependency and the challenge of sustainability among others.

Interestingly, while some perceived these factors as constraints, some of which were resolved amicably through dialogue and instant conflict resolutions, others viewed the challenges as opportunities for innovation. For example, the interpersonal differences observed in the partnership though constraining, it was perceived as inevitable. Moreover, it was somehow viewed as enhancing considering the diversity of ideas generated by partners, which was creatively used to develop innovative ways of addressing some issues such as the training of school heads to stimulate their support to the organisation of school-based INSET by teachers, which was not in initially plan. Furthermore, the positive influence of the diversity on work attitude of some partners.

CHAPTER SIX

DISCUSSION, LIMITATIONS AND RECOMMENDATIONS

6. 0 Introduction

In this chapter, I commence the discussion by returning to my original research question: what opportunities and constraints result from the nature [framework and construction] and practice of the JICA funded educational development partnership projects in Ghana and South Africa? I then discuss the results of the present study under the following broad themes. First, I present a recap of the findings from the two cases comparing the frameworks and contributions of the partnerships. Second, I examine the processes of partnership construction and its practice. Third, I discuss the changing role and the comparative advantage of local Higher Education Institutions' (HEIs) involvement in educational development partnerships. Finally, I conclude with a discussion of the key lessons, recommendations and their implications for future research and analyses. In each section, the consequences (opportunities and constraints) of the partnerships are highlighted.

6.1 A recap of findings from the case studies

The partnerships analyzed in this study, the viz. Mpumalanga Secondary Science Initiative (MSSI) and the Science, Technology and Mathematics (STM) projects in South Africa and Ghana respectively, constitute two of the seven JICA primary and secondary science and mathematics education development projects in Africa (Appendix A). The importance of the present study lies not only on its relevance but also its timing in examining the opportunities and constraints created by this kind of somewhat different partnership arrangement, currently emerging particularly in Africa and the developing world at large. In chapter two, I explored some of the literature on partnerships and identified three dominant models used in development partnerships generally. These models included: Donor-Government partnership in which the donor provides only funding while the recipient government plans and implements (model 1); Technical Cooperation

partnership where donor provides funds and technical expertise as well for implementation (model 2) and lastly the multi-donor partnership, which involves governments, international agencies, local NGOs and private/public institutions with multiple funding sources and support (model 3).

Indeed, none of the three models outlined above seems to match directly any of the partnerships under scrutiny in this study. Rather, it appears like a combination of these models may describe the two partnerships better. For example, in both STM and MSSI the partnership involves Governments (GES/MDE) and donor agency (JICA) in collaboration with HEIs (UP/UCC). The donor agency provides funding as in model 1, provides technical support as in model 2 and the partnership collaborates with other local stakeholders like universities and teacher unions as in model 3. These partnerships therefore appear somehow unique in their framework, construction and practice as illustrated in the discussion below, than any simple typology would suggest. The data analyzed from the project in South Africa revealed that MSSI was launched under a tripartite partnership between MDE, JICA and the University of Pretoria (UP), with the UP involved fully as a collaborating partner. By contrast, the STM project in Ghana was a bilateral partnership between the GES/TED and JICA with a local university, the University of Cape Coast (UCC) participating at best as a consultant. This contrast is striking and demands a further discussion, which I will revisit in a later section (6.4) on the role and involvement of higher education institutions (HEIs) in teacher development partnerships.

Both the MSSI and STM projects performed a variety of activities, with the long-term aim of improving science and mathematics instruction, even while the MSSI focused at secondary level and the STM targeted the basic school level. Their activities ranged from long- and short-term studies abroad mainly in Japan, organization of training workshops for teachers, establishing and equipping teacher resource centers, and continuous evaluation through research often conducted jointly by all partners on the projects. This resulted in many contributions, as described in chapters four and five, including the improvement of teachers' instructional capacity, establishing teacher resource

centres and awareness creation on the importance of science and mathematics in national development.

In spite of these contributions, many challenges abound. It is important to emphasise that the lessons drawn in this study differ in levels and degrees of magnitude, with some being more fundamental with broad applications while others are context specific and may not apply to different situations. The issues that constitute the main focus of the study are discussed with greater emphasis on the processes of partnership rather than their outcomes per se. This is largely because the ultimate outcomes of the projects will probably take much longer to be known in both country contexts. In relation to my critical questions as stated in chapter one, the findings from the analysis and interpretation of data can broadly be put into three categories, each with some inherent opportunities and constraints. The three categories for discussion are: partnership planning, partnership construction and partnership implementation. These categories are consistent with those identified by Plummer (2002: 44) as involving strategic planning, partnership development and partnership implementation.

For the sake of clarity and coherence, I structure the discussion on the partnerships' frameworks and processes under three broad headings as identified in the stages of partnership:

- The processes of planning and constructing partnership framework,
- The processes of partnership implementation and practice,
- The roles of Higher Education Institutions in educational partnerships,

Under each of these themes or headings the opportunities and constraints generated within the context of the partnerships are explored.

6.2 The processes of planning and constructing partnership framework

6.2.1 The process of planning the partnership

Some of the key features of the MSSI and STM projects included the emphasis on capacity building strategies and the role of dialogue and teamwork among partners. In relation to these issues, Plummer's (2002: 44) work mentioned above provides a useful conceptual tool that illuminates this part of the discussion. The strategic planning stage entails problem identification, defining objectives, context and stakeholder analysis, and exploration of the partnership alternative (Plummer, 2002: 44-45). The strategic planning processes were reflected in the two JICA partnerships from the beginning when the preliminary baseline surveys were conducted, followed by intensive deliberations among the partners. The baseline surveys seemed to play a significant role in the construction of the partnership frameworks in both countries. In support of this, JICA's experience from the Strengthening of Mathematics and Science in Secondary Education (SMASSE) project in Kenya and the Strengthening of Continuing School Based Training Program for Elementary and Secondary Science and Mathematics Teachers (SBTP) project in Indonesia was used extensively. For JICA, the lessons from Kenya and Indonesia confirmed the importance of the baseline surveys in the formulation of training contents and systems that reflected the needs of teachers and the realities of the local training systems (JICA, 2004).

While useful and somewhat well intended in nature, the execution of these baseline studies in terms of the focus, design, data generation and their interpretation was sometimes questionable. The evidence gathered in this study indicates that the primary aim of the baseline surveys were to identify the educational problems in the local systems to equip partners with the local educational context. That information then formed the basis for the development and design of the educational goal(s) and activities for the partnership interventions (see Nagao, 2004). However, designing an appropriate educational goal and activities for an intervention is one thing while to develop appropriate institutional structures/conditions within which the

activities will be carried out to achieve the goals is another. The baseline surveys mainly aimed at the former with an implicit assumption that the latter will occur in the course of implementation. The data reported raises questions about this assumption given the unavoidable effects of the socio-cultural differences and power dynamics observed in the partnerships.

In STM, for example, local counterparts used to work from morning (7 am) to late afternoon (about 3 to 4 pm) and had the rest of the day with the weekends to themselves. According to the local counterparts interviewed, in Ghana the engagement of teachers in other educational activities such as extra classes after school hours is an accepted practice for coping with and supplementing their low salaries. The local counterparts' involvement in STM created problems in this regard due to the failure of the foreign counterparts to recognise and respect this somehow non-official local arrangement. Rather the local counterparts now felt compelled, through authorities, to work till late in the evenings (6 or 7 pm) including weekends at times with no extra allowance to compensate and/or motivate them. Similarly, in MSSI the difference in working attitudes was also an issue of contention. In support of this, Anderson (1998) and Powell (2001) identified that cultural difference generates some difficulties in the implementation of educational development projects in developing countries.

These unpleasant tensions in STM and MSSI though unexpected should not be surprising considering that the baseline surveys did not give cognisance to such issues as socio-economic and cultural differences in which relationships between partners are embedded (Anderson, 1998). In this study, the arguments about appropriate working attitudes, for example, are controversial due to the different frames of reference and different socio-cultural backgrounds of the partners. In the context of genuine partnerships therefore, mutual respect, shared culture and teamwork are required to transform instrumental transactions into a socially embedded relationships (Odora Hoppers, 2001, Brinkerhoff, 2002; Goldring & Sims, 2005). Extending the feasibility study therefore, from focusing solely on the design of appropriate educational intervention to understanding the local socio-cultural and

economic context of partners is important. This is ideal because relevant information could be generated and fed into the development of the partnership relationship that will facilitate mutual engagement among partners (Bray, 1999). Based on this reasoning, it is possible to suggest an improvement in the indicated limitations of the baseline surveys to focus also on other factors including the socio-cultural context of the partnerships.

Again, the principal role of foreign experts from Japan in the design and conduct of these baseline studies begs the question of relevance due to the problematic nature of cross-cultural research. Cross-cultural research according to Ramodungoane (2005) refers to a situation in which any difference in the dimensions defining culture (race and language) exists between the researcher and the subject being researched. Cohen et al. (2002: 121) indicated that the influence of researchers in data generation emanates from researcher's race, religion, and biography among others and that even in sophisticated surveys only manipulated data can be gained in certain context. Thus, the appropriateness of the research design with particular reference to the research tools used is questionable. Secondly, the question of how valid and relevant was the data is a legitimate one considering the influence of foreign experience on the generation and interpretation of the data within cross-cultural research. This case is best described by Ramodougoane (2005) when he distinguished between two types of researchers involved in cross-cultural as 'indigenous researcher', who have primary expertise in the cultural context being studied and 'sojourners', who have their primary expertise in another context domain and who attempts to extend their research efforts to different cultural groups.

In the MSSI case, the expertise and role of the local people who were involved in the studies is problematised. It is indicated in the data that Japanese professors conducted the baseline surveys with the support of some local counterparts. This clearly shows that local partners' role was actually a supportive type while the foreign experts assumed the dominant role. Moreover, the level of research expertise of local partners who were involved is uncertain. There is a realistic chance that local people who were

involved had no or limited research capacity given that UP [or any university] was not involved at those early stages of the partnership. As discussed earlier in chapter four, UP was only brought into the partnership later in the development process after the baseline survey had been conducted. Thus, local people's influence in the design, generation and interpretation of the data was minimal, suggesting a predominant role and hence greater influence by foreign experts on the baseline data that informs the project design and implementation.

To the contrary, in the case of STM the involvement of UCC in the baseline survey was certain. However, UCC worked only as a service provider in this case. This still denotes some form of dominance in disguise. With the dominant role of the foreign experts in these surveys, needless to say, that it might have an effect in the generation and interpretation of data. From a psychoanalytical perspective, Cohen et al. (2002: 121) and Van de Vijver and Leung (2000: 34) preconceived and prejudices of cross-cultural researchers leads to their failure to explore new evidence from a neutral point of view. This may lead to inaccurate or irrelevant inferences of a context due to the challenge of contextualising findings by sojourners in manners that will recognise and respect the culture of their research subjects. For example, the interests of teachers during the baseline survey in the case of STM were misinterpreted as interests based on their need for capacity building while it was subsequently discovered that their interest was rather economically driven.

Consistent with this position, Nagao (2004) acknowledged that Japanese experts engaged in JICA projects as consultants or advisors face the tendency of being strongly guided by the Japanese experience. The language barrier that foreign researchers from Japan face somehow complicates further the influences in the context of this study. For instance, Ramodungoane (2005) argues that language barriers may also elicit irrelevant responses or elicit relevant responses, which are discarded by a researcher as irrelevant because it is incongruent to his/her socially constructed mindsets. Examination of how data generation might be different in a cross-cultural

situation as compared to mono-cultural situation in three dimensions: race, gender and language, Ramodungoane (2005) reported that acculturation could influence the generation and interpretation of data and subsequent report compilation.

In the MSSI case for example, the data indicated that the interpretation and compilation of the report was mainly done by Japanese experts. However, the inadequate endowment of foreign languages and cross-cultural communications skills of Japanese experts engaged in the provision of technical assistance is considered a weakness (Nagao, 2004). In this respect, the view that foreign experts should rather assume the supportive role assigned to local partners and give local people the central role in baseline surveys is sound. In favour of this submission, Nagao (2004) recognised the need for local partners to take a leading role in promoting the utility and function of the evaluation schemes. Furthermore, basing the choice of local people for research on their research expertise is commendable in the case of STM and MSSI.

6.2.2 The process of constructing the partnership

Scholarship further suggests that capacity building should be an essential component of all stages of the partnership process (Plummer, 2002, pp. 44-45). The two JICA partnerships (MSSI and STM) seemed to do that fairly well through their local counterpart training in Japan. For JICA, the counterpart training in Japan served as some kind of an incentive to the partners while also developing the capacities of the individuals working within the partnerships (Nagao, 2004). This is an important characteristic of the partnerships under review, especially when considering the claim that it takes capacity to build capacity for long-term targets (OED/WB, 2005). Plummer further suggests that partnership construction should involve planning of the partnership development process, by establishing a basic partnership framework and detailing the partnership strategy. The framework and the construction process observed in these partnerships appeared very much

alike in this respect, with a clearly stated objectives and a strategic work plan referred to as the Project Design Matrix (PDM).

Following the baseline surveys, the partners engaged in the design of the PDM, which constitutes the goals, activities and implementation plan of the intervention, through a formal procedure referred to as Project Cycling Management (PCM) workshops. A closer look at the process of the PCM shows that partners appreciated, first its participatory approach wherein other stakeholders such as teacher unions were involved. Second it's process of problem analysis and objective setting and the design of the PDM, which functioned as the guiding principle for project implementation, were useful for the partnerships. A positive feature of the PDM was its flexibility. The PDM actually went through a series of revisions during the implementation period in both projects under review. However, a major weakness associated with the PCM process and the PDM guideline is located in their failure to accommodate the role of the interactive processes that is essential for mutuality and trust among partners as recommended by several scholars (Odora Hoppers, 2001; Plummer, 2002; Mitchell and Rautenbach, 2005).

Similarly, the commitment of partners to ensuring that JICA's procedures of project development are followed lead to the similarities in the planning and construction processes observed in the two cases. Indeed, the data from STM in chapter five confirm this position when Mr. Yamaki clearly indicated that, "the baseline survey and PCM workshop are compulsory for all JICA projects". This implies that irrespective of the efforts to promote flexibility through dialogue, JICA remains conservative in certain spheres of its operation. This development suggests that the level of flexibility remains circumscribed. Nonetheless, the process of the PCM subsequently led to the development of the PDM, which guided the implementation of the partnership vision and activities. The effective execution of the constructed work plan basically depends on strong leadership and coordination among partners (Goldring & Sims, 2005). To accomplish this condition the partnerships under review established innovative leadership structures to manage the discharge of their activities as discussed in the following section.

6.2.3 Innovative leadership structure within the partnerships

To develop a framework for mutual commitment, MSSI and STM partnerships established and operated under a joint governing body through an innovative leadership structure that allowed power sharing to some extent (Figure 14). The description of the leadership structure as innovative is based on its inclusive nature, comprising top-level leadership (the highest decision-making body), frontline leadership (the implementation body) and a bridge building leader (project site coordinator) whose role is to coordinate between various partners at each level of the leaderships (horizontal coordination) and across levels of leaderships (vertical leadership). This evidence supports Goldring & Sims (2005) argument that partnership can take firm root and flourish under an innovative leadership of this kind. However, Goldring & Sims (2005) further cautioned that the effective execution of such leadership structure must be grounded in the principles of symmetrical power relations, strong commitment and shared learning.

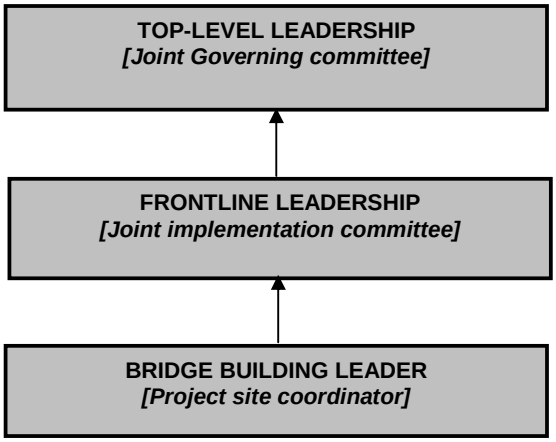

Figure 14: Leadership structure of the Partnerships

The crux of Goldring & Sims (2005) argument is that no matter how well conceived and designed a leadership structure may be, the interactive processes may function in practice to limit it's utility. Indeed, the execution process observed in these partnerships appears to be a victim of this caution because some sort of asymmetrical power relations particularly on issues relating to funds existed. From the data, the balance in the provision of funds

appeared to be matched by a balance in the exercise of control. In both projects this weakness appeared evident as partners asserted that the idea of local ownership was exciting however asymmetrical power relations among partners limited its practicality. Notwithstanding the positive contributions of international partnerships in African education, it is clear that the processes need to reinforce symmetrical power sharing (Goldring & Sims, 2005; Odora Hoppers, 2001; Mkandawire, 1996).

Again the leadership structure in the partnerships was considered appropriate in permitting local ownership in which the chairpersons of the leadership categories were representatives of local countries except the bridge building leader. In contrast to the creation of local ownership, Goldring & Sims (2005) argued that shared ownership that demonstrates a strong leadership where two-dimensional power relationships occur: horizontal (power relations across partners) and vertical (decentralization of power within partners), like that of STM and MSSI is essential for success. The notion of ownership in this study was however viewed by some participants as limited due to lack of corresponding power transfer. The existence of limited financial transparency complicated matters in this regard. The financial restrictions by the funding agency created suspicion among partners in the case of STM and reduced partners commitment in the case of MSSI. In support of this, Mitchel & Rautenbach (2005) also found that lack of open access to information hinders development of trust and mutual commitment among partners.

The question that arises from this scenario is ‘what is more important, local ownership or shared ownership or both? There appear to be a dichotomy between local ownership and shared ownership. Local ownership calls for national control and full responsibility of local partners (Samoff, 1999) to a large extent is needed for sustainability (JICA, 2004) whereas shared ownership, a promoter of mutual commitment is also necessary for effectiveness during implementation (Goldring & Sims, 2005). The trade-off between local ownership and shared ownership is however not identified resulting in lack of clarity in literature and may require further investigation in

order to clarify the contrast existing between the two in terms of whether they are substitutions or complementary.

However, it is interesting to note that the financial restrictions observed in this study neither promoted local ownership nor shared ownership. This demonstrates that while the construction of an inclusive leadership structure that appears to promote local ownership is exciting, the implementation did not adequately support this vision. This finding confirms Harkavy's (1998) argument that the operations of a partnership at the practice level might function in ways that may derail its good intentions. From the foregoing discussion, I conclude that indeed for partnership framework to be effectively executed, symmetrical power relations (Goldring & Sims, 2005), transparency and mutual accountability (Mitchell & Rautenbach, 2005) as well as adequate flexibility through pure dialogue (Odora Hopper, 2001) are essential.

6.3 The processes of partnership implementation and practice

Insights into the implementation strategies also showed that in the MSSI project the cascade system of training was employed while in the STM the cluster system of training was used from the onset in delivering professional development. Evidence from this study shows that both partnerships have similarities with regards to their frameworks and contributions, however some hidden contrasts existed at the construction and practice levels as discussed below. As mentioned earlier, the implementation strategies employed for the training of teachers in the two partnerships varied while the training methodology was similar. In this study, I found that, the MSSI project in South Africa adopted the cascade approach (Figure 15a), which was modified during the transition between phase 1 to phase 2 (MSSI Final Evaluation Report, 2006: 1) whereas the STM project in Ghana employed the cluster centre-based training approach from the onset (Figure 15b). The merits and demerits of the two approaches vary and the preference for either alternative may be contextually determined.

The cascade model of training is described as a 'top-down approach' or centre-periphery strategy (Eraut, 1995: 621). The cascade model always has fewer people trainers with greater capacity at the top and therefore uses the pyramid shape structure with more trainers but lesser capacity at the bottom. The cascade model was upheld in MSSI for its ability of, first bringing training interventions closer to school classrooms within the constraints of limited resources, time and opportunities, and second for avoiding the huge transportation cost of bringing teachers together at one single centre (The MSSI final evaluation report, 2006).

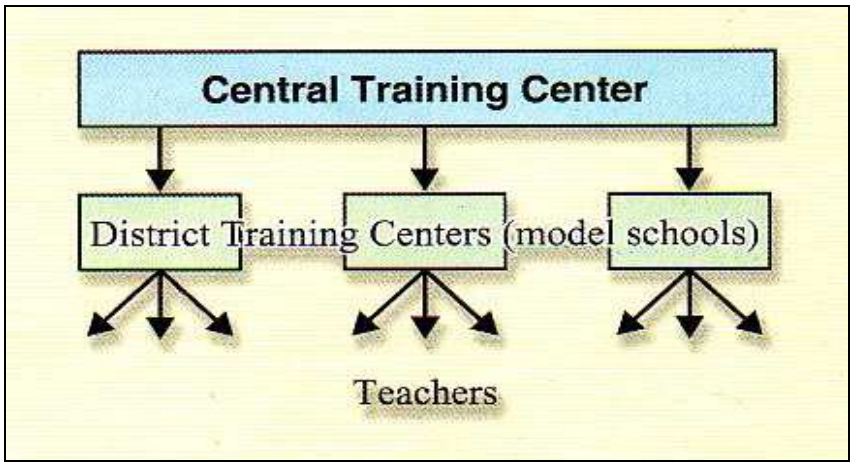

Figure 15a: Cascade system of training (Source: JICA, 2004).

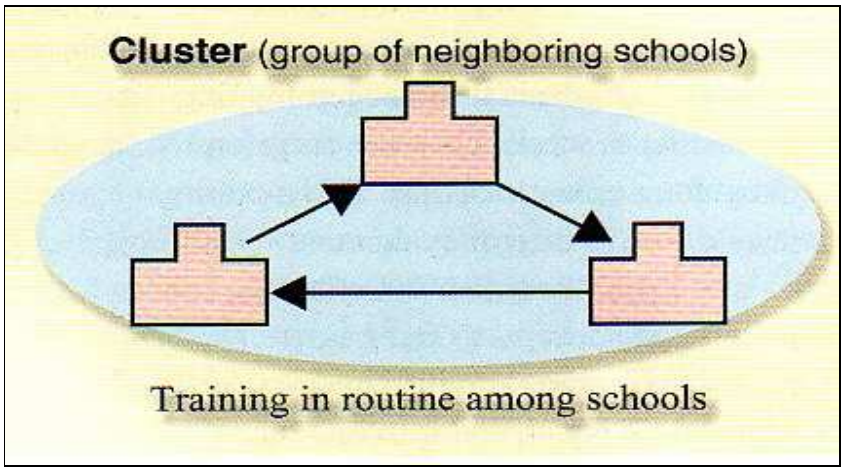

Figure 15b: Cluster system of training (Source: JICA, 2004)

The cluster centre-based training approach in the case of STM was also favoured for its direct training of school teachers thereby avoiding the dilution of content down the ladder. From its experience of previous projects, JICA (2004), indicate that the merit of the cascade model lies in its cost effectiveness.

Furthermore, Gilpin (1997:187) in his work entitled “cascade training: sustainability or dilution?” also praised the cascade model for its use of existing staff as co-trainers. With respect to sustainability, I found that the adoption of the cascade approach was based on its suitability that lies on its cost-effectiveness and use of existing staff as trainers and trainees. This corroborates Gilpin’s (1997:187) argument that the use of participants as both the subjects and agents of training in the cascade approach is an advantage. For similar reasons, I found that the direct centre-based training approach in STM was changed to the cascade model in the ongoing second phase as an attempt to ensuring sustainability. Cluster leaders (CLs) training was introduced to promote the shift from direct centre-based training approach to a cascade approach in which it was anticipated that CLs with the support of their school heads will organise school-based INSET for teachers within a cluster of schools.

However, in this study I found two main weaknesses, first the dilution of information down the cascading ladder and second, the lack of classroom teachers’ involvement in the development of some training materials such as the study guides somehow led to the minimal usage of the materials in the classrooms. In relation to this, Evans (1990: 110) argue that the ‘bottom-top approach’ [direct centre-based training] is ideal as trainees get an opportunity to make inputs as far as the training that they receive is concerned, instead of the top-down approach [cascade model of training] where information is transmitted from the top to the down thereby denying trainees the opportunity to make inputs pertaining to their training. Furthermore, consistent with the weakness of dilution of information observed in this study, Mathekga (2005) also identified the dilution of information due to different interpretations and understanding of information as one goes down the cascade as major

drawback associated with the cascade model of training. Mathekga (2005) traced the source of this weakness to the concentration of expertise at the top-most levels of the cascade structure and hence introducing some elements of power dynamics in cascading.

To avoid these shortcomings, Hayes (1997: 138) suggested the following 5 strategies as a guideline to effective cascading: 1) method of training must be experiential and reflective rather than transmissive, 2) rigid adherence to prescribed ways of training should be discouraged, it should rather be open to reinterpretation, 3) efforts must be made to diffuse expertise down the system rather than concentrate at the top, 4) teachers should be involved in the preparation of training materials and 5) decentralisation of responsibilities within the cascade structure is desirable. The implementation of the cascade model in MSSI appears to have embraced some elements of these guidelines. First, efforts were made to diffuse expertise in the cascade by the visitation and monitoring of the cluster activities occurring at the bottom of the cascade structure by experts from UP to provide technical support.

In this study it is evident that the method of training employed by the partnerships in their training sessions was the lesson study approach (Figure 16) supposedly adopted from Japanese teacher development system.

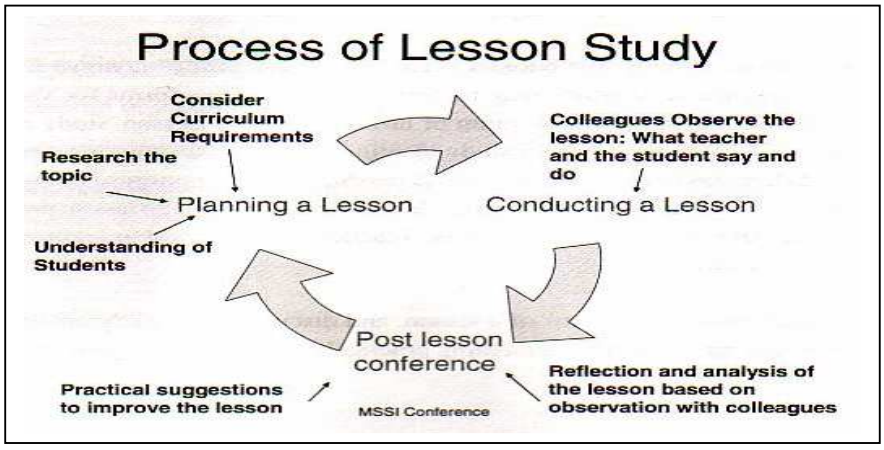

Figure 16: Process of Lesson Study (MSSI, 2005).

The use of this “lesson study” approach in the training of teachers also promoted the decentralisation of responsibility to cluster leaders (CLs) and heads of department (HoDs) who were charged with the responsibility of organising cluster-based and school-based workshops respectively as part of the cascading process at the grassroots level as recommended by Hayes (1997).

The effectiveness of this professional development training approach lies on its collaborative and peer-learning strategies, where a lesson is planned collectively involving a group of teachers, followed by a presentation by one colleague while others observe. A post lesson conference is then held for the purpose of improving the lesson in a collective manner as indicated in figure 3 above. This process shows that Hayes (1997) guideline of making method of training to be experiential and reflective rather than transmissive in nature was also encouraged. However, the involvement of teachers in the preparation of training materials was partial because a very few teachers particularly CLs who were fortunate to be selected for Japan training together with the curriculum implementers (CIs) did participate in the development of training materials.

As indicated earlier, the lack of involvement of teachers in the development of some training materials such as the study guides was also a shortcoming in this respect. Another drawback of the cascading from the data obtained was the rigid adherence to the prescribed procedures within the structure of the lesson study approach, which is evident in the exact adoption and conduct of the lesson study approach in the partnerships. From this observation two implications are identified. First, this shows that the implementation of the cascade system in MSSI was not adequate to circumvent the weaknesses of the cascade model identified above when examined against the recommendations of Hayes’ (1997). Indeed, the dilution of information down the cascade structure was acknowledged by one official who asserted, “the problem with the cascade system was the reduction of training quality from the provincial workshops to the cluster and school level workshops”. Consistent with this finding, Mathekga (2005) similarly observed that the

limited involvement of teachers in the planning of INSET training disrupts the smooth running of the cascading. Second, the exact duplication of this training approach also raises the question of its adaptability to the local African contexts. In the case of STM and MSSI, the verdict is still open on this question.

At the heart of all these processes of planning, development and implementation strategies (as outlined by Plummer, 2002), is the commitment of partners to ensuring pure dialogue and reciprocity in relationships, says Odora Hoppers (2001). Evidence from the STM and MSSI partnership projects as indicated in the preceding two chapters showed that the role of dialogue was enhancing, which together with the leadership structure discussed earlier, stimulated some level of flexibility through a democratic decision-making process. The implication of Odora Hoppers' (2001) hypothesis in the context of STM and MSSI is that the need for baseline surveys, strategic planning of goals and activities through PCM workshops, an inclusive leadership structure and the strategic delivery systems such as the cascade and the lesson study approaches among others can only afford the intended outcome(s) if pure dialogue and mutual respect are maintained.

Many scholars supporting Odora Hoppers' argument affirm that the virtues ascribed to the partnership agenda can only emerge from an open dialogue by local authorities with their external partners about their shared objectives and respective contributions to the common enterprise (Smedley, 2001; Eden & Toner, 2001; Brinkerhoff, 2002; Nocon, 2004). The STM and MSSI partnerships tried to pursue shared goals and commitments with continuous deliberations and consultations both at the top-leadership level through the steering committee meetings and at the frontline-leadership level through the joint committee meetings. This provided the partnerships with an enhancing innovative leadership structures (Figure 14) that promoted dialogue and negotiation and flexibility to some extent as illustrated below.

For instance, in the case of the STM, the PDM was revised to introduce cluster leaders' training and induction training for new teachers while in the

case of the MSSI, the cascade system was changed to include cluster activities. Mr. Duah (STM National coordinator) illustrated this by indicating, “things changed so much, e.g. the PDM was changed after an open discussion, so the flexibility was the beauty part of the whole programme”. Furthermore, data from this study shows that most challenges encountered in the partnerships were effectively addressed through dialogue and reciprocity of respect for other partners. This was discussed by Prof. Kono, when he made the point that: “during the transition between phase I and phase II, was a constraint on its own, so we discussed and restructured the activities particularly the cascade model was modified to incorporate teacher clustering”. Indeed, Baumfield (2001) declared that dialogue and reciprocity between partners is a core principle of good practice in partnerships.

However in the case of MSSI, institutional restructuring in all three partnering organisations was identified as a limiting factor to effective deliberations and discussions among partners. For example, during the project period, the MDE made changes in the officials assigned to MSSI because the 10 districts of the Province were restructured into three regions. Also UP underwent some changes in the leadership of the Joint Centre for Science, Mathematics and Technology Education (JCSMTE), which was directly involved in the project. Similarly, JICA’s responsibility changed from a national office to a regional one, which led to new personnel being dispatched to the MSSI project. The result of this was the introduction of new representatives for all partners, who apparently were new to the initial principles and commitments agreed upon.

According to the participants, these changes limited cordiality and deliberations between partners mainly due to lack of common understandings. In this regard, Bray (1999) made an observation that the turnover of personnel can be a source of frustration as this militates against discussions and decision-taking due to lack of awareness of past decisions, strategies, accomplishments and useful lessons. It is argued that institutions evolve over time and there are bound to be changes in job descriptions, however, Bray (1999) further suggested that institutions need to be mindful and devise ways

of tackling this through proper record keeping, and careful briefing of new personnel brought on board to the partnership arrangement.

In the case of STM, one constraint to pure dialogue was language barrier between partners where partners became suspicious of each other when individuals resort to their local dialects, like Japanese speaking Japanese and Ghanaians speaking a Ghanaian language. From the data, the source of this distrust was traced to limited transparency and issues of skewed power dynamics, which in turn was linked to the exercise of control and restrictions regarding financial issues. Mr. Nkrumah captured this when he made the point that:

> Discussions and listening must go hand in hand... Why should discussion and flexibility only be applicable to planning activities and not to finance? We have to defend our budgets for district activities to be fully accepted, this is a power issue but we discuss a lot. For example during monitoring we needed more funds but they wanted circuit supervisors (CSs) to do that, the problem they refused to see just because of their funds was that CSs are not science oriented, so how can they monitor science lessons. But they thought we wanted more money, you see. So at that time it was discouraging, in fact.

The implication pointed out here is that discussion without listening is not dialogue at all. The lack of listening creates rigidity in the operations of the partnership. This challenge can be explained as the failure of maximising the balance between mutuality and organisational identity, because even though JICA desired such mutuality, it did not want to compromise on some things and thereby controlled and imposed some internal policies and regulatory measures on other partners. Indeed, the Japanese technical assistance efforts have been characterised by rigidity in the modus operandi of aid administration (Yokozeki & Sawamura, 1999; Nagao, 2004).

According to Brinkerhoff (2002) this type of relationship falls short of the characteristics of partnerships, because in partnership mutuality and organisational identity are highly maximised. Contrast to this view, Nagao (2004) described the experience-sharing model within MSSI as a best

practice and characterised it by three distinguishing features viz, symmetrical relationship, centrality of the learning function and importance of managing the cultural factor. The findings in this study agree with the centrality of learning considering the role of the continuous evaluation and monitoring, but question the reality of the symmetry of relationship and management of the cultural factor. The findings in this study show that there was little regard for the cultural factor as opposed to Nagao's (2004) claim. In the same paper, Nagao did support this argument when he described the communication gap between partners as a handicap for meeting the conditions for the smooth functioning of the experience-sharing model, and further identified the variation in work culture among others as a cultural factor that needed much attention.

Similarly, several instances from the data in chapters four and five affirm that the financial restrictions and its associated power dynamics did affect cordiality and discussions. This rigidity in financial administration affected the quality and/or temporal execution of some activities such as the monitoring of trained teachers in the case of STM and the compilation of the final evaluation report and the organisation of the closing conference in the case of MSSI. How can such rigidity promote dialogue or symmetrical relationship? This contrast shows a perception gap between donor agencies and local partners about what is a 'best practice'. Nagao (2004) acknowledged this dilemma when he asserted that what is considered best must be attractive in the eyes of the local partner. Similarly, Green & Curtis (2005) in examining Government-donor relations in Bangladesh revealed that at the implementation level, donors tend to demand compliance leaving little room for local interpretation of needs. These inflexible behaviours explains why, Freire (1972) argued that dialogue cannot be reduced to dominance [an act of one person 'depositing' ideas in another]. How then can dialogue exist without humility or be an act of arrogance [Superiority]? (Freire, 1972).

Indeed, in examining the practices of The World Bank, DFID, JICA and SIDA, McGrath & King (2004) sceptically argued that the power dynamics present in the agencies, more generally, suggests an understanding that silencing critics

and promoting greater dominance is likely to triumph. However, it was interesting to observe from the case of STM that some partners accepted and remained comfortable with being subordinated by other partners for the sake of reaping the benefits. In this regard, Bray (1999) is of the view that harmony can actually exist where all partners clearly perceive benefits with partners operating in mutual trust, which does not necessarily require that partners have equal power or absence of superiority. A classical situation that broadly existed in Hong Kong for example, where in many circumstances subordinate partners are content to be dominated and dominant partners content to be dominant (Adamson & Li, 1999). In scenarios like this where partners appear to mutually agree on ends and means, but one partner is convinced that it is in its interest to follow the more dominant organisation by compromising its organisational identity is described as co-optation or gradual absorption (Brinkerhoff, 2002) rather than partnership. However, the question of whether such perceptions and attitudes are useful and/or desirable remains a puzzle that could be a subject of investigation in future research.

6.4 Comparing the roles of Higher Education Institutions (HEI) in educational development partnerships

In this section, I examine the emerging significance of HEIs in contributing to the educational development partnerships especially in the context of MSSI and STM projects. While the contexts of South Africa and Ghana are very different, there are some useful parallels regarding the role of HEIs in educational development partnerships. Given the contrasting roles of local universities in the two cases (MSSI and STM), the key question that needs to be addressed here is: “whether it is possible for HEIs to pursue genuine partnerships in a manner that will secure their academic and financial needs and at the same time accomplish their role in national development?” Put differently, how can universities become appropriate partners in educational development projects? I discuss this issue in the context of the two partnership arrangements described in the case studies.

The dominant forms of partnership currently evident across HEIs are the short-term consultancies and contracts rather than the true partnership forms (Kruss, 2005). Consistent with this observation, the evidence reported in this study demonstrates these two forms, where UCC in the case of STM in Ghana takes the form of consultancy whereas the UP in the case of MSSI in South Africa breaks the mould with a new form of a significant partnership. The framework provided by Brinkerhoff (2002) suggests that universities can effectively partner with other community agencies by striking a trade-off between mutuality and organisational identity. She reconceptualised partnership in terms of two defining dimensions: mutuality and organisational identity, based on which she developed a framework to distinguish the term partnership from other forms of collaborations such as contracting, extension and co-option (or gradual absorption). These forms of collaboration and/or partnerships are represented in a quadrant as illustrated in Figure 17 below. Depending on the extent of mutuality among actors and maintenance of organisational identity by each actor, an alliance in any of the four quadrants can be plotted and defined as a type of partnership (Brinkerhoff, 2002).

		Mutuality	
		High	Low
Organisational Identity	High	**1** Partnership	**2** Contracting
	Low	**4** Co-optation & Gradual Absorption	**3** Extension

Figure 17: Partnership framework showing types of collaborations (Brinkerhoff, 2002).

The data shows that the local universities played contrasting roles in these two projects. Whereas the university of Pretoria (UP) was a collaborative partner in the MSSI, the university of Cape Coast's (UCC) involvement took

the form of consultancy (or contract), in the STM. The partnership and the contracting quadrants in Brinkerhoof's framework are relevant while those of extension and co-optation may not be applicable to this part of the discussion. Based on this reasoning, it is not only possible but also appropriate to analyse the differences in the forms of involvement by the local universities in the MSSI and STM projects under different dimensions (purpose, structure, process and outcome) as identified by Mitchel & Rautenbach (2005). These authors, who were writing in the context of service learning, identified the three important dimensions in partnership arrangements as 1) the purpose, 2) structure and 3) process. In the *purpose* dimension, partners share and merge resources in addressing common goals in an innovative manner, the *structure* dimension deals with well-defined roles and formalised links whereas the *process* dimension involves autonomous leadership focusing on issues, group decision-making and clear frequent communication (Hogue, 1994 as cited in Mitchel & Rautenbach, 2005).

First, the notion of common purpose as a principle of genuine partnership seems elusive in the case of STM considering the consultative role of UCC. The intentions and expectations of consultative partners are obviously different from other collaborating partners and a common purpose is not always necessary. It is argued that a common purpose is only possible if [university] parties can strike a trade-off between mutualism and their identity, which according to Brinkerhoff (2002) is hardly possible under the contract type of alliances as illustrated in the case of UCC in STM. On the contrary, UP's involvement in MSSI as a partner legitimates the argument that support a common purpose between UP and other partners.

While there is some logic in the idea that genuine partnership has greater chance of ensuring common purpose than contractual forms of collaborations, it is not always cut and dry in the two case examined in this research. However, it is argued that a partner's purpose is strongly linked to the partner's intentions and expectations, which in turn shapes his/her relationships and level of involvement (Mitchel & Rautenbach, 2005). It is therefore possible to consolidate the above argument by examining the

relationship and level of involvement of the universities in partnerships at the structure and process dimensions. It is true that in both cases a university was involved, but the distinction in the form of their involvement is clear as indicated above. It is quite clear from the data that the nature of their participation determined their roles and level of involvement in the projects. In STM the University of Cape Coast was involved as a consultant, contracted mainly for the purpose of their research inputs during the baseline survey, mid-term review and final evaluation studies.

By contrast, in MSSI the University of Pretoria was involved as a collaborative partner, participating in the project activities beyond conducting research, to direct facilitation of workshops in training teachers, financial contribution to the operational cost in terms of transport, expertise and time spent, development of study guides, active participation in decision making at all levels of the leadership structure, visiting cluster activities, independently and with no motive of getting paid. In partnership both mutuality and organisational identity are maximised while in contract specific organisational characteristics and contributions, determined by one organisation, are sought in another, based on organisation identity, to fulfil predetermined ends and means (Brinkerhoff, 2002). The willingness of UP to contribute funds and go beyond the traditional research roles is one possible measure of commitment and readiness to compromise their organisational identity in an effort towards mutualism.

With the participation of UCC, on the other hand, there was no evidence to suggest any extra commitments beside the typical research role of higher education institutions as engines of knowledge. However, it was evident that UCC voluntarily participated in some meetings (Joint Coordinating Committee) when invited as opposed to UP in MSSI whose participation in meetings and may other activities were pursued as mandated by the memorandum of agreement signed by all partners at the beginning. As discussed earlier, this role by UP was not unproblematic for the participants who had to put in a great deal of their time and energy into the partnership. Data from this study also suggests that the balance between mutualism and organisational identity by UP in MSSI was not as ideal as described in theory.

The following statement by one official of MSSI from the MDE illustrates this point**:**

> Some partners were not flexible, some personalities thought of themselves as having more knowledge and expertise than others when it comes to issues of teaching methodology, development of study guide materials and research, and wanted to be recognised as such…as academics. This affected our cooperation and relationships, which affected their commitments [UP] at some stage particularly in the second phase, but it wasn't so serious.

This demonstrates that the UP involvement in the partnership was not without its own challenges. Consistent with this evidence, Mitchel & Rautenbach (2005) reported that universities face the difficulty of marrying academic skills with needs of communities. In spite of this, the UP example in MSSI provides a useful response to the original question of whether it is possible for HEIs to pursue genuine partnerships in a manner that will secure the kind of academic and financial imperatives and at the same time accomplish their function in national development?" Accordingly, the contrast between the mutual benefits generated in the STM and MSSI cases further illustrates the possibilities in this regard.

The envisaged outcome in partnership, rather than contractual forms of collaborations, is that partners will work as a team to generate mutual gains. The involvement of University of Pretoria in MSSI as a collaborative partner suggests overwhelming benefits far beyond financial imperatives. These benefits encompassed the generation of research funds to the centre, the promotion of collaborative research between Japanese universities and UP (Nagao, 2004), and easy entry and access to data sites for research, to the benefit of both lecturers and students. Also, partners including UP benefited from exchange programmes for professors and staff as well as students between Japanese universities and UP (Nagao, 2004). With the support of the MDE, through the skills development fund, some teachers subsequently enrolled at the university. More importantly, a good working relationship between the university and the Mpumalanga Provincial Department of Education was established as a basis for further collaboration.

By contrast, the gains yielded through UCC's involvement in STM, as a consultant did not go beyond the financial benefits typical of consultancy. However, a relationship was established between Japanese professors and UCC staffs. The comparative advantage presented in the two cases, reveal that involvement of HEIs in educational development partnership may results in more substantive yields over the long term (Kruss, 2006). In the context of university-industry partnership, Kruss (2006) made similar observations and challenged universities that it is possible for them to pursue new form of partnerships in a strategic manner to achieve the academic, financial and national developmental benefits as one of their functions. From the data presented in this study, a fourth dimension – *'outcome'* - is possible with the reasoning that Mitchel & Rautenbach (2005) three dimensions (*purpose, structure, process*) are linked and geared towards achieving some outcomes that are mutually beneficial. The STM and MSSI cases demonstrate that involvement of HEIs, as partners in educational development partnerships can be both an opportunity and a challenge. The key seems to lie in each HEI's ability to find a proper balance between engaging in partnerships for short- and long-term benefits.

6.5 Key lessons and Implications for future perspectives

The results discussed in this study suggest at least four key lessons that are worth considering. First, the need for partnership in professional development of teachers is imperative, although these are often narrowly conceptualised. The common conception of partnerships as 'bringing of resources together' is limiting considering that partnership engagement may go beyond the resource agenda to the interactive processes such as mutual respect, power relations and nature of dialogue among others to promote a common interest (Dorado & Giles, 2004). Indeed, the WCEFA framework for action captured mobilization and utilization of resources, and learning as the two main rationales for partnership (WCEFA, 1990: 58). However, genuine partnership is far more demanding than the mere contribution of assets [resources and expertise] in partnership arrangement and the context of partners' actions and

interactions should also be considered (Odora Hoppers, 2001; Dorado & Giles, 2004). Consistent with the evidence in this study, some of the literature strongly suggests that we have to move beyond the general call by Jomtien declaration for partnership creation to a stage of providing a framework for understanding how partnership should be practiced to privilege the very prospects espoused in the worldwide call in 1990. To this end, Bray (1999) argued that partnerships should rather be viewed as a relationship between individuals and institutions and not the resources, which constitute one of the products of the relationship.

Second, the supply-driven educational partnership initiatives in Africa can only yield very modest dividends in the short-term. For long-term sustainability of these initiatives, stimulation of demand is required. It is argued that stimulating demand among teachers may be as important as generating the supply of professional development opportunities for teachers (Oyelaran-Oyeyinka, 2005). One major principle of partnership according to Bray (1999) is that partnership needs long-term commitment to be sustained in the face of short-term setbacks. Ensuring this will require a demand-driven professional development where teachers will themselves seek for opportunities to build their capacities. Jongmans (1996) suggests that stimulating demand for INSET among teachers, may require a new INSET legislation that will shift the costs for INSET to schools rather than institutions that provide INSET. A major challenge however, may be with the assumptions that schools can express their INSET needs more clearly. To effectively do this, teachers need to operate as teams and schools have to change their cultures and diminish the gap between the responsibility for educational and management tasks in schools to allow the school management team and teachers to function jointly (Jongmans, 1996). However, the current bureaucratic power dynamics in educational sectors in many African nations does not promote such conditions. Further research is needed in this regard, to explore ways and means of stimulating demand-driven educational development partnership.

Third, the initial construction of a partnership becomes insignificant provided that the partners practically engage in genuine partnership. The practice of

dialogue, which characterises genuine partnership, may lead to flexibility and reconstruction as the partnership unfolds (Odora Hoppers, 2001). This evidence contrasts with the general perception that the quality of the initial construction of a partnership intervention determines the quality of achievement (OED/WB, 2005). Somehow, the process of implementation also matters. Nonetheless, awareness of the social and economic characteristics of partners as well as transparency among partners is required for effective dialogue in partnership (Mitchell & Rautenbach, 2005). The present study revealed that balancing the need for outcomes with the required sensitivity to the social and economic context of local partners proved to be very challenging. In this regard, Hall (2002) caution that to be effective, partnership approaches need to be people-centred, sensitivity to and respect for people experiences and perceptions under different contexts should be prioritised.

Finally, getting the institutional and policy context right for sustainability of partnership efforts is much more challenging than usually alleged. In this study, success was unequivocally expressed in the case of STM whilst in the case of MSSI it was highly inconsistent across partners. Interestingly, the data obtained indicated that in the first phase of MSSI, in which sustainability was not emphasised, as is also the case with the STM, the project was generally described as successful. Then when it came to its second phase, where sustainability was then emphasised, success was contradictorily expressed as minimal. A major factor identified as a drawback to sustainability is dependency on foreign resources and expertise in the case of STM and lack of institutional capacity in the case of MSSI. This finding corroborates the previous observations that the current practices of foreign dependency (Harvey & Peacock, 2001; Powell, 2001, King, 2004, Hubbard, 2005) and lack of institutional capacity (OED/WB, 2005) are unlikely to support sustainability of projects. Meanwhile it is argued that success without sustainability is not real success at all. In relation to this, Hubbard (2005) observed that donor trust to recipient countries tends to be low where dependency and low capacity exist. Further studies will need to focus on identifying the type and level of capacity and its associated implications required for project sustainability.

6.6 Conclusion, Limitations and Recommendations for future research

6.6.1 Conclusions

In this study, I explored the frameworks, the processes of construction and practice of the educational development partnerships and their associated consequences, using the STM and MSSI in Ghana and South Africa as case studies. Through a literature review and an empirical investigation, this research draws the following conclusions as its major contribution to the scientific scholarship on educational development partnerships:

- Partnerships are key but are often narrowly conceptualised. The common conception of partnerships as 'bringing of resources together' is limiting considering that partnership relationship may go beyond the mobilisation of resources to the interactive processes within which partners transact among themselves.

- Partnership initiatives in Africa need to recognise that supply-driven professional development opportunities may only yield very modest dividends in the short-term unless demand for them is stimulated. It is shown in this study that the interest and commitment of actors in the partnership, which may be a measure of their demand, is essential for sustainability.

- The initial construction of a partnership becomes less significant if actors practically engage in genuine partnership given that dialogue may lead to flexibility and reconstruction as the partnership evolves. However, to promote pure dialogue, overcoming the challenge of symmetrical power sharing and mutual respect in the partnership relationship is imperative.

- Finally, it is possible for universities to pursue new form of partnership, rather than their traditional consultancy or contract forms, in a strategic manner to achieve the financial and

academic imperatives and still accomplish their function in national development.

6.6.2 Limitations of this study

In this section, I examine some of the limitations of the present study and draw on their implications for further research. First, it is important to note that this research has relied mainly on interviews with six officials from each of the partnerships (*n*=12) and that, teachers and learners who are the ultimate beneficiaries of these projects were not included. Hence the sample size and composition could be a limitation to the views described in the present study. However, what still makes the findings in this study valid and reliable is the strategic and purposeful sampling approach that was used. One criterion that governed the selection of participants was to include officials from different levels within the partnership structure and most importantly those officials that were involved in the partnerships from their inception to termination. They were identified as a key source of information about the projects with a wider understanding of the vision and activities of the partnerships. Furthermore, the data was methodologically triangulated through the use of document analysis and observations, which were used as supplementary data collection strategies to the interviews. Another study that looks at the accounts of the teachers and maybe learners also may further enrich what we already know from the present research.

The present study was a case study of the STM and MSSI partnership projects funded by JICA. The obvious limits of case study research relate to the generalisability of the findings. Notwithstanding this limitation, the information and issues raised in this study remains useful and valid considering the in-depth insight provided and will remain a useful piece for JICA and other donor agencies engaged in educational partnerships. Taking some of the themes that have emerged here and examining them in the context of other projects may help to generate more applicability of the findings.

While the present research primarily intended to investigate the opportunities and constraints associated with the construction and practices of the JICA funded STM and MSSI projects, not all aspects were intensively explored, as they are unlimited. Thus, there is a need for future research on these interesting aspects as discussed in the subsequent section on recommendation for further research.

6.6.3 Recommendations for future research

First and foremost, further research on educational development partnerships should include all representatives within the partnership arrangement, encompassing officials responsible for administration and technical experts responsible for implementation as well as the teachers and/or learners who are the direct beneficiaries of the partnerships. Such an inclusive, larger sample size in future research may privilege the generation of data that will provide a much more holistic and broader picture of the partnerships than what is painted in the present study.

For generalisation to be possible, comparative studies on the construction, practices and consequences of partnerships across different development partners such as DFID and USAID or JICA and CIDA among others is imperative. Further research is also required to investigate the wider economic implications of having a supply driven professional development opportunity as opposed to, creating a balance between the supply and demand sides of the professional development equation. There is seemingly an urgent need to explore strategies that will promote this balance. Similarly, future research needs to identify ways and means of reducing, if not eliminating, the current economic dependency of educational development projects on foreign donors (Sifuna, 2000).

Another interesting aspect that needs to be investigated relates to the need to re-directing the focus of research on partnerships generally. Most of what has been written on this topic is evaluative and diagnostic in nature. While it is important for collaborators to take note of the failures and accomplishments

documented in these studies, it is necessary that research investigate the developments and processes that produce those results.

Finally, in contrast to the popular argument in favour of symmetrical power relations and mutual respect in genuine partnership (Odora Hoppers, 2001; Brinkerhoff, 2002; Plummer, 2002; Bray, 1999), there exist a tendency of some African partners holding the opinion that it is in their interest to assume a subordinate position. The justification and practicality and implications of this hypothesis appear to be another important area for further research on partnerships.

6.7 Closure

The take home lesson, thus far highlighted in this dissertation, is the revelation that no matter how well intended and designed a partnership arrangement is, its subsequent implementation can adversely be affected by the practices at both the individual and organisational levels. The characterisation of the implementation process of the partnerships described in this dissertation is a mixed bag of stimulating and limiting factors. It therefore presents a crucial responsibility to collaborators to deliberately devise mechanisms that will maximise the former and at the same time minimise the latter. The ability of collaborators including JICA to view the praises and the criticisms of the projects in this study in a positive way and continue to adapt based on the lessons learned is commendable.

The significance of this study is that both policymakers and donor agencies involved in partnership arrangements as well as researchers need to rethink the conceptualisation of the term partnership (Oyelaran-Oyeyinka, 2005) and re-examine the policy and institutional context (Anzar et al. 2004; Hall et al, 2002) under which such educational development partnership ventures thrive. Achieving this warrants a closer look at the processes rather than the mere evaluative nature of most research work on partnerships.

REFERENCES

Adamson, B. & Li, T. (1999). Primary and Secondary Education. In Bray, M. & Koo, R. (Eds), *Education and Society in Hong Kong and Macau; Comparative perspectives on continuity and change.* Hong Kong: Comparative Education Research centre, the University of Hong Kong: 35-57.

Association for the Development of Education in Africa (ADEA) (1999a). *Programme success and management of Primary In-service Education Programme (PIEP) and Provision of Education Physical Utilities (EFU) in Lesotho.* Washington DC: USAID.

ADEA (1999b). *Teacher management and Support Programme: Analysis of major achievements.* The Working Group on the Teaching Profession: Teacher Management and Support (TMS). Commonwealth Secretariat, UK.

ADEA (1999c). *Community Mobilization in School Mapping and Community Participation in the Management in The Gambia.* British Overseas Development Administration (ODA), UK.

Aldous, C. (2004). Science and Mathematics teachers' Perceptions of C2005 in Mpumalanga secondary schools. *African Journal of Research in Science, Technology and Mathematics Education,* **8** (1): 65-76.

Alexander, E. (2005). *An investigation into the implementation of Computer-Assisted education (CAE) in the underprivileged areas of the Easten Cape: A case study of Butterworth High school.* Unpublished masters' thesis (Med). Pretoria, University of Pretoria.

Anderson, G. (1998). Toward Authentic Participation: Deconstructing the Discourses of participatory reforms in Education. *American Educational research Journal,* **35**(4): 571-603.

Anzar, U., Harpring, S., Cohen, J. & Leu, E. (2004). *Retrospective Pilot study of USAID funded Education Projects in Malawi.* Washington DC: USAID.

Arnstein, S.R. (1969). 'A ladder of Citizen Participation'. *Journal of the American Institute of Planners*, **35**(1): 216-224.

Asian Development Bank (ADB) (1997). Emerging Asia: Changes and Challenges. Manila: Asian Development Bank.

Austin, J. E. (2000). Strategic Collaboration between nonprofit and business. *Non-profit Voluntary Sector Quarterly*, **29** (10): 69-97.

Australian Committee for the Review of Teaching and Teacher Education (2003). *Review of Teaching and Teacher Education.* Interim Report: Attracting and Retaining Teachers of Science, Technology and Mathematics, Australia.

Bailey, K. D. (1987). *Methods of Social Research (3rd Edition).* New York: The Free Press, A division of Macmillan: 177.

Baumfield, V. (2001). *The North East School Based Research Consortium: an overview of the changing nature of the roles and relationships between the universities, schools and LEAs.* British Educational Research Association, University of Leeds.

Bennett, S. (2005). *An investigation into curriculum alignment in building construction curricula.* Unpublished masters thesis (MEd). Pretoria: University of Pretoria.

Bies, A., Moore, A. & DeJaeghere, J. (2000). Consultancies and capacity building: Consideration of mutual fit, mutual learning and mutual benefits. Paper presented at the *Annual Meeting of the Association for Research on Non-profit Organisations and Voluntary Action,* New Orleans, Louisiana.

Bray, M. (1998). Financing education in developing Asia: themes, tensions, and policies. *International Journal of Educational research,* **29**: 627-642.

Bray, M. (1999). Community Partnership in Education: Dimensions, Variations and Implications. [Online]. Available url: http://o-www1.worldbank.org.innopac.up.ac.za/ education/globaleducationreform/pdf. Accessed 25 November 2006.

Bogdan, R. C. & Biklen, S.K. (1992). *Qualitative Research for education.* Boston: Allyn & Bacon.

Brinkerhoff, J.M. (2002). Government-Nonprofit partnership: A defining framework. *Public Administration and Development,* **22**(1): 19-30.

Chabilall, J. A. (2004). *A socio-educational study of the impact of HIV/AIDS on the Adolescent in child-headed households.* Unpublished masters thesis (MEd). Pretoria, University of Pretoria.

Chapman, D. (1992). Investigative Strategy in International Technical Assistance Projects. In Nick Smith (ed) *Investigative Strategies in Program Evaluation.* Monograph number 56 in the New Directions for Program Evaluation Series. San Francisco: Jossey-Bass.

Chapman, D. (1998). The Management and Administration of Education Across Asia: Changing Challenges. *International Journal of Educational Research,* **29**(7):603-626.

Chapman, D. & Adams, D. (1998). The quality of education in Asia: The perennial priority. *International Journal of educational research,* **29**(7): 643-666.

Chapman, D. W. (2001) Assessing Direction for Educational Development Assistance. *International Review of Education*, **47**(50): 459 – 476.

Chishimba, C. & Rasekoala, E. (2001). An African Renaissance in Science Education: a UK-South Africa Partnership. *International Institute for Capacity Building in Africa (IICBA)* – Newsletter, **3**(1).

Cohen, L.; Manion, L. & Morrison, K. (2002). *Research Methods in Education.* (5th Edition). New York: Routledge.

Creswell, J. W. (2003). *Research Design: Qualitative, Quantitative and mixed Methods Approaches (2nd ED).* California: Sage Publication.

De Rebello D. (2003). *International IAU Conference on Education for a Sustainable Future: Shaping the Practical Role of Higher education for a Sustainable development.* Prague: Charles University, Czech Republic.

Department of Education (DOE) (2004). *National Strategy for Mathematics, Science and Technology Education: Creating tomorrow's Stars Today. Implementation Plan 2005 – 2009, South Africa.* Pretoria: Government Printer.

DFID (1997). *Eliminating World Poverty.* White Paper of the Department for International Development, London, UK.

DFID (2004). *Research Imfundo Partnership for IT in Education.* DFID, South Africa.

Dorado, S. & Giles, Jr. E. (2004). Service-Learning Partnership: Paths of Engagement. *Michigan Journal of Service-Learning*, **Fall**: 25-37.

Economist, 26 June 1999. How to Make Aid Work. In Chapman, D. W. (2001) Assessing Direction for Educational Development Assistance. International Review of Education. Vol.47 (50 2001. pp.459 – 476.

Eden & Toner (2001). Sustaining a professional development school partnership: Hearing the voices, heeding the voices. *Action in Teacher Education,* **23**(3): 27-32.

Edwards, M. (1997). Organisational Learning in Non-governmental organisations: What have we learned? *Public Administration and Development.* **17**: 235 – 250.

Edwards, M. (1999). International Development NGOs: Agents For Foreign Aid or Vehicles of International cooperation? *Nonprofit and Voluntary Sector Quarterly,* **28**(4): 25 – 37.

Eisners, E. W. (1991). *The Enlightened Eye. Qualitative Inquiry and the Enhancement of Educational Practices.* New York: Macmillan.

Eraut, M. (1995). In-service Education. In Anderson, L. W. (ed). *International Encyclopedia of Teaching and Teacher Education.* (2nd Edition). Columbia: Pergamon.

Fowler, A. (1999). Bad aid to NGOs: a case of partnership or conspiracy? *Alliance*, **4**(1): 20-23.

Francey, R. (1997). Private Water? A Bias Towards the Poor Private Sector Participation in the Water and Sanitation Sector: Water Resource programme, Occasional paper, No. 3, DFID, London. In Plummer, J. (2002) (ed). *Focusing Partnerships: A Source Book for Municipal Capacity Building in Public-private Partnership.* UK and USA: Earthscan Publications Ltd..

Freire, P. (1972). *Pedagogy of the oppressed.* London: Penguin books.

Garet, M. S., Birman, B.F., Porter, A.C., Desimone, L., Herman, R. & Yoon, K.S. (1999). *Designing effective professional development: Lessons from the Eisenhower program.* Washington, DC: U.S. Department of Education.

Gilpin, A. (1997). Cascade Training: Sustainability or Dilution? In McGrath, L. (Ed). *Learning to train: Perspectives on Development of Language teachers Trainers.* Hemel Heamstead: Printice Hall.

Goldring, E. & Sims, P. (2005). Modeling Creative and Courageous School Leadership Through District-Community-University Partnerships. *Educational Policy,* **19**(1): 223-249.

Green, L. & Curtis, D. (2005). Bangladesh: Partnership or Posture in Aid development? *Public Administration and Development,* **25**: 389-398.

Hall, A., Sivamohan, M.V.K., Clark, N., Taylor, S., & Bocket, G. (1999). Why Research Partnerships Really Matter: Innovation Theory, Institutional arrangements and Implication for Developing New Technology for the Poor. [Online]. Available url: http://ciat-library.ciat.cgiar.org/paper_pobreza/039.pdf. Accessed 25 November 2006.

Hall, R. (2002). Implementing inclusive educational practices through partnerships. *South African Journal of Higher Education*, **16**(3): 31-37.

Harkavy, I. (1998). School-Community-University-Partnerships: Effectively integrating community building and education reform. Paper presented at the *conference on connecting Community Building and Education Reform: Effective School, Community, University partnerships.* Washington, DC.

Harvey, S. & Peacock, A. (2001). The lifecycle of a South African Non-governmental Organisation: Primary Science Programme 1983-1999. *Comparative Education*, **37**(2): 213-229.

Hattinggh, A., Rogan, J. M., Aldous, C., Howie, S. & Venter, E. (2005). Assessing the attainment of learner outcomes in Natural Science of the New South African Curriculum. *African Journal of Research in Science, Technology and Mathematics Education*, **9**(1): 13 – 24.

Hayes, D. (2000). Cascade and training teachers' professional development. *English Language Journal,* **54**(2): 135-145.

Hogue, T. (1994). *Community based collaboration: Community wellness multiplied.* Oregon State: Oregon Center for Community Leadership 'Collaboration Framework' developed by the National Network for Collaboration.

Hubbard, M. (2005). Aid management: Beyond the New orthodoxy. *Public Administration and Development,* **25**: 365-371.

Hulme, D. & Edwards, M. (1997). *NGOs, States and Donors: Too close to for comfort?* St. Martin's Press in association with save the children: New York; 3-22.

International Labour Organisation (ILO) (2002). *Learning and training for work in the knowledge society.* [Online]. Available url: http://www.ilo.org/public/english/employment/skills/download/report4.pdf. Accessed 25 November 2006.

Japan International Cooperation Agency (JICA) (2005). *JICA Annual Report: Feature, JICA reforms Phase 2.* Japan: JICA.

JICA (2004). *Annual Evaluation Report: Achieving More Effective Cooperation.* Japan: JICA.

JICA (2002). *Global Issues: Education. Access for All to quality Basic Education. INFO-KIT.* Japan: JICA.

Joint Evaluation Team (2006). *Final report of the Joint Evaluation of the Mpumalanga Secondary Science Initiative.* Mpumalanga, S.A: Mpumalanga Department of education (MDE).

Jones, K. & Bird, K. (2000). 'Partnership' as a Strategy: Public-Private relations in Education Action Zones. *British Educational research journal*, **26**(4): 491-506.

Jongmans C. T. (1996). In-service Teacher Training for Agricultural Education in the Netherlands: From supply to Demand. *International Journal of Educational Development,* **16**(1): 89-95.

Kanter, R. M. (1994). Collaborative advantage: the art alliance. *Harvard Business Review*, **72**(4): 96 – 108.

Kilbourne, L., Decker, L.E., & Romney, V.A. (1994). *Rebuilding the partnership for public education.* Charlottesville: university of Virginia. Curry School of Education. Mid-Atlantic Center for Community Education.

King, K. (2004). The external Agenda of Educational reform: A challenge to educational Self-reliance and Dependency in Sub-Saharan Africa. CICE, Hiroshima University. *Journal of International Cooperation in education*, **7**(1): 85-96.

King, K. (1998). New Challenges to International Development Cooperation in Education. Hiroshima CICE. *Journal of International Cooperation in Education*, **1**(1): 3-16.

Kruss, G. (2006). Working partnership: The challenge of creating mutual benefit for academics and industry. *Perspectives in Education*, **24**(3): 1–13.

Lancy, D. F. (1993). *Qualitative Research in Education: An Introduction to Major Traditions.* New York: Longman.

Leburu-Sianga, F. & Molobe, E. (2000). *ADEA Prospective Stocktaking Capacity Building Study: A Focus on Human Resource Development.* Ministry of Education, Botswana.

Levesque, D. (2002). Whose money? Whose education system? *International Journal of Educational Development,* **22**: 687.

Lincolm, Y. & Guba, G. (1985). *Naturalistic Inquiry.* California: Sage Publication: 187-220.

Linn, M.C., Shear, L., Bell, P. & Slotta, J.D. (1999). Organising principles for science education partnerships: case studies of students' learning about 'Rats in space' and 'Deformed frogs'. *Educational and Technology Research & Development,* **47(**2): 61-84.

Loucks-Horsley, S., Hewson, P.W., Love, N. & Stiles, K.E. (1998). *Designing Professional Development for Teachers of Science and Mathematics.* The National Institute for Science Education. California: Corwin press, Inc.

Malena, C. (1995). Relations between Northern and Southern Non-governmental development organizations. *Canadian Journal of Development Studies,* **16**(9): 7-29.

Merriam, S. B. (1988). *Case study research in education: a qualitative approach*. San Francisco: Jossey-Boss publishers.

Mathekga, A.M. (2005). *The impact of in-service training: A reassessment of the cascade model.* Unpublished masters thesis (MEd). Pretoria: University of Pretoria.

Mason, J. (2002). *Qualitative researching* (2nd ed). London: Sage Publication Ltd.

Maxwell, S. & Riddell, R. (1998). Conditionality or contract: perspectives on partnership for development. *Journal of International development*, **10(**2): 257-268.

McGrath, S. & King, K. (2004). Knowledge-based aid: a for agency comparative study. *International Journal of Educational Development*, **24**: 167-181.

McLaughlin, C. & Black-Hawkins, K. (2004). A School-University Research Partnership: understandings, models and complexities. *Journal of In-service education*, **30**(2): 265-283.

McMillan, J. H. & Schumacher, S. (2001). *Research in Education: A Conceptual Introduction.* (5th Edition). New York: Longman Inc.

McMillan, J. H. & Schumacher, S. (2006). *Research in Education: Evidence-Based Inquiry.* (6th Edition). Boston: Pearson.

Ministry of Education (MOE) (1996). The Development of Education: National report presented at the *International Conference on Education, 45th session*, Geneva.

Ministry of Education and Sports (MOES) (1999). *The Ugandan experience of Universal Primary Education (UPE).* MOES, Uganda.

Ministry of Foreign Affairs (1997). *Japan's Official Development Assistance: Summary 1997 Association for the promotion of International Cooperation.* Tokyo, Japan.

Mitchell & Rautenbach (2005). Questioning service learning in South Africa: Problematising partnership in the South African context. A case study from the University of KwaZulu-Natal. *South African Journal of Higher Education,* **19**(1): 101-112.

Mkandawire, T. (1996). Economic Policy making and the consolidation of democratic institutions in Africa. In Havnevik, K. & van Arkadie, B. (eds.), *Domination or Dialogue? Experiences and prospects for African Development Cooperation.* Uppsala: The Nordic Institute of African studies: 24-48.

Mouton, J. (2004). *How to Succeed in your Master's and Doctoral Studies: A South African Guide and resource Book.* Pretoria, Van Schaik Publishers.

Mpumalanga Secondary Science Initiative (2005). *Lesson Study Guidebook: Lesson Introduction in Physical and Life Sciences*. S.A: Mpumalanga department of Education (MDE).

Nagao, M. (2004). Could Japan be a Good Mathematics and Science Teacher For Africa? CICE, Hiroshima University. *Journal of International Cooperation in Education*, **7**(1): 53-70.

Nocon, H. D. (2004). Sustainability as process: Community Education and Expensive Collaborative Activity. *Educational Policy*, **18**(5): 710-732.

Odora Hoppers, C. A. (2001). Poverty Power and Partnerships in Educational Development: a post-victimology perspective. *Compare*, **31**(1):21-38.

Offenheiser, R., Holcombe, S. & Hopkins, N. (1999). Grappling with globalisation, partnership and learning: a look inside Oxfam America. *Nonprofit and Voluntary Sector Quarterly*, **28**(4): 121-139.

Operation Evaluation Department (OED) (2005). *An independent review of World Bank Support for capacity building in Africa: the case of Benin, Gambia, Ghana, Malawi and Mozambique.* Washington DC: World Bank.

Oyelaran-Oyeyinka, B. (2005). Partnership for Building Science and Technology Capacity in Africa. A paper prepared for the *Africa-Canada-UK Exploration: Building Science and Technology Capacity with African Partners.* Canada House, London, UK.

Plummer, J. (2002). *Focusing Partnerships: A Source Book for Municipal Capacity Building in Public-private Partnership*. UK: Earthscan Publications Ltd: 44-45.

Pollack, E. (1995). Partnership: buzzword or best practice? *Chain Store Age Executive,* **71**(8) (sect.2): 11A-12A.

Powell, M. (2000). A comparative study of TVET Projects- implementation experience from Jamaica and The Gambia. *International Journal of Educational Development,* **21**(5): 417– 431.

Ramodungoane, J.T. (2005). *The influence of cross-cultural interviewing on the generation of data.* Unpublished masters thesis (MEd), University of Pretoria, South Africa.

Reimers, F. (1994). Education and Structural Adjustment in Latin America and Sub-Saharan Africa. *International Journal of Educational Development*, **14**(2): 119-129.

Ring, P.S. & Van De Ven, A.H. (1994). Developmental processes of cooperative interorganisational relationships. *Academy of Management Review,* **19**(1): 90-128.

Rugh, A. & Bossert, H. (1998). *Involving communities: Participation in the delivery of education programs, Advancing basic education and Literacy project.* Washington DC: Creative associates, Inc. and Academy for Educational Development.

Sack, R. (1999). *'Making partnership work'.* Paris: Association for the development of Education in Africa.

Samoff, J. (1999). Education Sector Analysis in Africa: Limited National control and even less National ownership. *International Journal of Educational Development*, **19** (4): 249 –272.

Selke, M.J. (1996). Cultural analysis of school-university partnerships: Assessing dynamic and potential outcomes. Paper presented at the *annual meeting of the American Association of colleges for Teacher education*, Chicago.

Shaeffer, J. (1992). Collaborating for Educational Change: The role of parents and community in school improvement. *International Journal of educational development,* **12**(40): 277 – 295.

Sifuna, D. N. (2000). Partnerships in educational assistance to African countries: Rhetoric or reality? CICE, Hiroshima University. *Journal of International Cooperation in Education*, **3**(2): 3-21.

Smedley (2001). Impediments to partnership: A literature review of school – university links. *Teachers and Teaching*, **7**: 189-209.

Soanes, C. & Stevenson, A. (2004). Concise Oxford English Dictionary (11th Edition). Oxford: Oxford University press.

Sparks, D. (1994). A paradigm shift in staff development. Education week, 42. In Loucks-Horsley, S. et al, (1998). *Designing Professional Development for Teachers of Science and Mathematics*. California: Corwin press, Inc.

Tabulawa, R. (2003). International Aid Agencies, Learner-centred Pedagogy and Political democratisation: a critique. *Comparative Education*, **39**(9):7-26.

Tellis, W. (1997). *Application of case study methodology. The qualitative report, 3(3) September 1997.* [Online]. Available url: http://www.nova.edu/sss/QR/QR3/tellis2.html. Accessed 18 March 2005.

Terre Blanche, M. & Durrheim, K. (1999). *Research in Practice.* Cape Town: UCT Press.

Tett, L., Crowther, J. & O'Hara, P. (2003). Collaborative partnerships in community education. *Journal of Education Policy,* **18**(1): 37-51.

Tjikuua (2001). Science Education in Namibia. Namibia.

UNESCO (1998). *World Declaration on Higher Education for the Twenty-first Century.* Paris: UNESCO: 1.

UNESCO (1997). *UNESCO-PROAP Data Bank, 1997.* Manila: Principal Regional Office for Asia and the pacific.

UNESCO (1994). *Education for All Summit of Nine high population Countries: Final report for UNICEF, UNFPA and UNESCO.* Paris: UNESCO.

UNICEF (1998). *Education for All? Regional Monitoring Report No. 5.MONEE Project, CEE/CIS/Baltics.* Florence: UNICEF International Child Development Centre.

USAID (2001). *Overview of USAID Basic Education Programs in Sub-Saharan Africa III.* Technical Paper No. 106.

USAID (1998). *USAID's Strategic framework for Basic Education in Africa.* Washington DC: Bureau for Africa, USAID.

US News and World Report (1999). *How to Make Aid Work.* US News and World Report, June 26: 23-27.

Van De Vijver, F.J.R. & Leung, K. (2000). Methodological Issues in Psychological research on Culture. *Journal of cross-cultural psychology*, **31**(1): 33-51.

Watkins, K. (2000). The Dakar challenge: delivering on the promise of the EFA. NORRAG News, pp. 18 –22. In Odora Hoppers, C. A. (2001). Poverty Power and Partnerships in Educational Development: a post-victimology perspective. *Compare,* **31**(1): 21-38.

Williams, M. (1991). *In-service education and Training.* London: Cassell Educational Limited.

Wohlgemuth, L. (1998). *Partnership Africa: a new Swedish approach in NORRAG News 22.* Centre of African Studies, University of Edinburgh: 42-43.

Working Party on the impact of Bank policies, instruments and operational practices on capacity building in Africa, (1996). *Partnership for capacity building in Africa.* Wishington, DC: World Bank.

World Bank (1999). *Assessing Aid: What Works, What doesn't and Why? A World Bank Policy Research report.* Oxford: Oxford University press. [Online]. Available url: http://www.worldbank.org/research/aid. Accessed on 25 November 2006.

World Bank (2000). *The World Bank Partnerships for Development.* The Creative Communications Group for the World Bank, Washington D.C. USA.

World Bank (2005). *An Independent Review of World Bank support to Capacity Building in Africa: The case of Ghana.* Washington DC: World Bank.

World Conference on Education For All (WCEFA) (1990). *World declaration on Education For All.* WCEFA Inter-agency commission, New York.

World Health Organisation (WHO) (1989). *Development of indicators for monitoring programs towards health for all by the year 2000.* Geneva: WHO.

Yin, R. (1994). *Case study research: Design and methods* (2nd Ed). Thousand Oaks, CA: Sage Publishing.

Yokozeki, Y. & Sawamura, N. (1999). Redefining strategies of assistance: recent trends in Japanese assistance to education in Africa. In King, K. & Buchert, L. (Eds). *Changing International Aid to education: Global Patterns and National contexts,* Paris: UNESCO.

LIST OF APPENDIXURE

Appendix A

JICA science and mathematics projects in Africa (Source: JICA, 2004)

Country	Project title	Project approach	Project period
Egypt	1. Development of creativity lessons for primary education (DCL).	Type 3 (Dissemination of teaching guides)	1997.12 -2000.11
	2. Improvement of Science and Mathematics Education in Primary Schools in Egypt (ISME)	Type 3 (Dissemination of teaching guides)	2003.4 - 2006.3
Kenya	3. Strengthening of Mathematics and Science in Secondary education (SMASSE I)	Type 1 (Cascade system)	1998.7 – 2003.6
	4. Strengthening of Mathematics and Science in Secondary education (SMASSE II)	Type 1 (Cascade system)	2003.7 – 2008.6
Ghana	5. Improvement of Educational Achievement in Science, Technology and Mathematics in Basic Education (STM)	Type 2 (Direct cluster system)	2000.3 – 2005.2
South Africa	6. Mpumalanga Secondary Science Initiative (MSSI I)	Type 1 (Cascade system)	1999.11 – 2003.6
	7. Mpumalanga Secondary Science Initiative (MSSI II)	Type 1 (Cascade system)	2003.4 – 2006.4

Appendix B

Perspectives of the five evaluation Criteria (Source: JICA, 2004)

Criteria	Description
Relevance	Relevance relates to the legitimacy and appropriateness of aid projects. Primary attention is paid to such questions as whether the expected effects of the project (purpose and overall goals) meet the needs of the intended beneficiaries and provide proper solutions to the problems and issues in the area or sectors concerned, whether the project is consistent with the partner country's policies, whether the approach of the project is reasonable, and whether the project should be funded by ODA.
Effectiveness	Effectiveness relates to the question of whether the implementation of the project has actually benefited (or will benefit) the intended beneficiaries and the target society.
Efficiency	Efficiency is a criterion concerning the relations between the project costs and its outputs. The main question asked to judge the efficiency of a project is whether the achievements degree of output can (or will) justify the costs (inputs), in other words, whether there was no alternative means that could have made the same achievements at a lower costs, or whether it was impossible to make greater achievements at the same costs.
Impact	In judging the impact of a project, the longer-term effects of the project are studies. These include unintended positive and negative impacts.
Sustainability	Sustainability is a criterion that examines whether the effects produced by the project have been sustained (or are likely to be sustained) even after the completion of cooperation.

APPENDIX C

INTERVIEW SCHEDULE

Date……..Place……

The purpose and significance of the research is as stated in the letter of informed consent you have just read. Be informed that, with your permission the interview will be audio taped and transcripted later to be used for the purpose of the research only. All information and your identity will be dealt with confidentially.

[I] Framework [organisational / policy]

1. Tell me who you are and what your daily tasks/duties are at JICA/UP/MDoE.
   1.1 How familiar are you with MSSI/STM?

2. Let's talk about the MSSI / STM projects. When and How was MSSI/STM initiated?
   2.1 Who are the key players in MSSI/STM?

3. In your view, what were the major goals of the MSSI / STM project?

4. Describe the nature of collaboration within the MSSI/STM project.
   4.1 How do you view the partnership in terms of the level of stakeholders' participation?

5. As stakeholders, what do you do within the partnership?
   5.1 What roles do stakeholders play?
   5.2 In your case, what roles and contributions do you play within the project? Please be specific and show some examples.

6. Talk about the organisation and operation of the partnership.

7. How are decisions made within the partnership?
   7.1 How does the decision-making process look like?

8. Please, comment on the management of the partnership.
   8.1 How does the leadership style look like?

9. How did/do you regulate the partnership?
   9.1 What key principles are put in place for the regulation of the partnership activities?

10. How are the activities of the partnership coordinated among partners?

11. How is the effectiveness / success of your activities measured / determine?

[II]Construction/Practice [nature of negotiations, power & relationships]

1. Please comment on the formulation of the partnership goals / objectives. Were all partners involved in the formulation process?

2. Before implementation, did you have very good understanding or knowledge about the objectives, activities and your roles as a partner?

3. With regards to your expectations at the beginning of the project, is it happening exactly as the way it should?

4. Do you often meet as stakeholders?
   4.1 If so, how often and what do you talk about in your meeting?
   4.2 Please comment on the nature of discussion in your meetings.

5. In your own opinion, how do perceive the commitment of partners. So what is your assessment of your performance (commitment and contributions) within the partnership – [A, B, C, or D. / what percentage?] Why?

6. What about the other partners, do you think they worked as expected of them? Again what is your assessment of the performance of the other stakeholders within the partnership, [A, B, C, or D. / what percentage?] Why?

7. What are the challenges of working with other partners? Why?
   Did you ever at one time felt like staying outside or withdrawing from the partnership? Why?

8. Please share with me, what is the nature of the relationships between you and other partners? Any evidence to support your view?

9. In your own view, do you think you treat each other as equal partners?
   9.1 In your own opinion, do you think all voices (needs/suggestions/ideas) are equally heard at meetings? Explain why?

10. Among the three partners, which of the partners is/are regarded as superior / most important within the partnership? Explain further on this stand.

11. How will you describe the nature of communication among partners?

12. During meeting or organisation of activities, I guess different views sometimes emerge, tell me what are the common occuring differences, how are such conflicts resolved?

13. How will you best describe the level of involvement of partners in the partnership?

[III] Consequences [opportunities and constraints]

1. Tell me, what excites you most about the partnership? Why?

2. What is the most disturbing issue about the partnership? Why?

3. In what ways does the MSSI / STM project improve science education in the province / districts? Please explain.

   3.1 What is the impact of the partnership project on students' performance? Can you provide some practical evidence?

4. What is your view with regard to MSSI / STM project ownership?

5. Have you had any experience of been involved in other similar INSET programmes before? If yes, how different is MSSI/STM compared to the others?

6. So, what lesson(s) have you learned most from your participation in the partnership?

   6.1 What sort of factors facilitates or constraint the activities of the partnership?

   6.2 What sort factors hinder the activities of the partnership? Support your view with specific examples.

7. It seems to be that teachers keep on saying that they have too much to cover and cannot do all those activities / practicals lessons the project advocates, what have you to say in this regards?

8. Am I right to say that the contributions or support of the project really counts and relevant? What change has the project brought? In what? Be a little specific.

9. How do you feel about the effectiveness of the project? What is your general evaluation of the project? [Assign: A, B, C, or D /using percentages].

10. What kind of MSSI/STM support is most useful to teachers or learners?

    10.1 Do you hear positive responses / comments about the project from

teachers when you interact with them?

11. What, in your own view, are the opportunities offered by the partnership? What are the constraints of this partnership?

12. MSSI/STM will come to an end, after its termination which component(s) of the partnership do you think will be sustained / institutionalised? Why and how? Please explain.
    12.1 How did you feel when you heard that MSSI/STM is coming to an end?

14. In your own perspective, what word(s) best describes your experience in the partnership? Why these word(s)?
    14.1 Personally, do you wish to continue in the activities of the partnership? Why / Why not?

APPENDIX D

LETTER OF INFORMED CONSENT

RESEARCH TOPIC: Development assistance partnerships for teacher development in africa: a comparative study of the Japanese government funded science education programmes in Ghana and South Africa

Dear Participant,

You are invited to participate in a research project aimed at exploring the opportunities and constraints embedded in educational development partnerships for capacity building of science and technology teachers in Africa. The research will focus on the policy/ organisational framework, practice and consequences of such partnerships using the case of Japan International Cooperation Agency (JICA) funded Science, Technology and Mathematics (STM) and Mpumalanga Secondary Science Initiative (MSSI) projects in Ghana and South Africa respectively. The results of this study are intended to contribute to a better understanding of the design and implementation as well as the consequences of educational development partnerships in Africa.

Your participation in this research project is voluntary and confidential and you may decide to withdraw at any stage should you wish not to continue with an interview. The interview will take a form of conversation between you and the researcher for about 1 to 1½ hours. With your consent the conversation may be recorded on audiotape, if you so wish, for the purpose of the study. Under no circumstances will the identity of interview participants be made known, formally or informally, to any of the stakeholders involved or not involved in the research process. Should you have any comments / questions and / or suggestions please contact me at the Joint Centre for Science, Mathematics and Technology Education, Faculty of Education, University of Pretoria or on phone no: 0721147862 or through email: bukzac2000@yahoo.com

Thank you for your cooperation in this regard.

Yours Sincerely,
Bukari Zacchaeus.

CONSENT

I agree to participate in the research on “Development assistance for teacher development in Africa: A comparative study of the Japanese government funded science education programmes in Ghana and South Africa”, as described in the accompanying letter.

NAME OF PARTICIPANT:……...

SIGNATURE OF PARTICIPANT:……DATE…….

APPENDIX E

ETHICALCLEARANCE CERTIFICATE

ANNEXURE D

UNIVERSITY OF PRETORIA

FACULTY OF EDUCATION

RESEARCH ETHICS COMMITTEE

CLEARANCE CERTIFICATE	**CLEARANCE NUMBER : CS06/03/07**
DEGREE AND PROJECT	MEd Curriculum and Instructional Design and Development Development assistance partnerships for teacher development in Africa: a comparative study of Japanese government funded science education programmes in Ghana and South Africa
INVESTIGATOR(S)	B Zacchaeus
DEPARTMENT	Curriculum Studies
DATE CONSIDERED	24 March 2006
DECISION OF THE COMMITTEE	APPROVED

This ethical clearance is valid for 2 *years from the date of consideration and may be renewed upon application*

CHAIRPERSON OF ETHICS COMMITTEE	Dr C Lubbe
DATE	24 March 2006
CC	Dr LC Jita Mrs Jeannie Beukes

This ethical clearance certificate is issued subject to the following conditions:

1. A signed personal declaration of responsibility
2. If the research question changes significantly so as to alter the nature of the study, a new application for ethical clearance must be submitted
3. It remains the students' responsibility to ensure that all the necessary forms for informed consent are kept for future queries.

Please quote the clearance number in all enquiries.