

**NEW PUBLIC MANAGEMENT, COCOA SWOLLEN SHOOT VIRUS DISEASE
CONTROL AND FARMERS OPPOSITION:**

A CASE STUDY OF THE TAFO DISTRICT, EASTERN REGION, GHANA

by

KNUST

Charles Dodoo FCCA, CA(GH), CIA



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of

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DECLARATION

I hereby declare that this submission is my own work towards the CEMBA and that, to the best of my knowledge, it contains no material previously published by another person nor material which has been accepted for the award of any other degree of the University, except where due acknowledgment has been made in the text.

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Head of Department

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Signature

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Date

DEDICATION

This work is entirely dedicated to the Almighty God Jehovah for the gift of life and strength given me up to this time. For you also, my Mom and all my entire family for the care, moral guidance, encouragement and spiritual support up to this time of my life.

KNUST



ABSTRACT

This study presents findings on the control of the Cocoa Swollen Shoot Virus Disease (CSSVD) in Ghana. It examines the resistance posed by cocoa farmers to the control of CSSVD through the destruction of diseased cocoa trees. The study's guiding proposition was that the resistance posed by cocoa farmers to the control of CSSVD could be addressed if a customer-driven approach was used. To explore this proposition, a multiple research method combining interview, Focus Group discussion and policy document analysis was used to gather data. The study was conducted in the Tafo district in the Eastern region of Ghana; the sample consisted of 210 cocoa farmers who participated in semi-structured interviews and 45 respondents who took part in the Focus Group Discussion; and the data obtained was analysed using qualitative and quantitative techniques. The findings indicated that the resistance of the cocoa farmers to the destruction of the diseased cocoa trees was a principal challenge of the CSSVD control in Ghana. The findings also supported that the New Public Management approach to the control of CSSVD will involve the inputs of the cocoa farmers and will therefore reduce their resistance. The study also emphasized the need for education and sensitization of cocoa farmers on issues bothering on the spread and control of CSSVD. The study concluded that to improve the control of CSSVD, a New Public Management approach to the implementation of CSSVD control measures should be adopted to address the issue of resistance by cocoa farmers.

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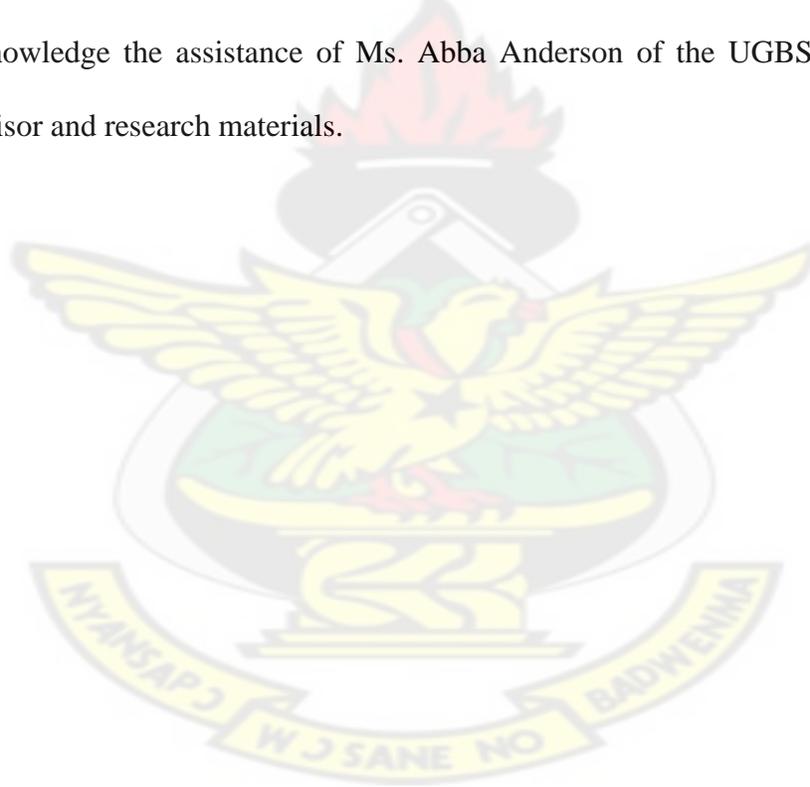
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CHAPTER ONE

1.1 INTRODUCTION

The cocoa industry in Ghana has been faced with a number of challenges, from diseases and insects which has the potential to destroy the industry (Ploetz, 2007) with its adverse consequences for the country's economy. Cocoa diseases in Ghana include cocoa necrosis virus (CNV) genus Nepovirus (Olunloyo, 2008; Owusu 1971; Thresh 1958), cocoa mottle virus (Olunloyo, 2008; Thresh 1958), black pod rot (ICCO, 2009), cocoa swollen shoot virus (CSSV) (ICCO, 2009; Olunloyo, 2008, Hughes and Ollennu, 1994). Insects that destroy cocoa trees and crops include mirids or capsids that damage the plant material by feeding on the sap of cocoa trees and the mealy-bugs that spread the CSSV (ICCO, 2009; Olunloyo, 2008).

Progress has been made in the control of these diseases and insects by the application of chemicals, good agricultural practices, biological means and the eradication of diseased trees (Imperial College London, 2009).

Even though several methods have been used successfully in solving the various problems facing the cocoa industry, the eradication method applied to solving that of the cocoa swollen shoot virus disease has met with fierce resistance from a number of cocoa farmers.

There is the need to adopt the New Public Management approach to help overcome the farmers' resistance and gain their cooperation. The New Public Management (NPM) approach, as espoused on in the literature review, is customer-driven approach which stresses the importance of governmental agencies treating the

public and clients like customers to whom they owe an enhanced service (Rosenbloom et al. 2009).

1.2 RESEARCH PROBLEM

The Cocoa Swollen Shoot Virus Disease (CSSVD) which is spread by the mealybug, has over the years caused a significant reduction in cocoa production in Ghana¹. The most effective method of checking the spread of CSSVD is to eradicate diseased cocoa trees and other symptomless trees within and up to a distance of about 15 meters². Compulsory powers have therefore been given to the department of Agriculture since 1946 to cut down all diseased cocoa trees and nearby ones though these may not appear to be visibly infected (Legg and Owusu, n.d.) as a means of checking the spread of the disease.

Though several approaches have been used in implementing the control of the CSSVD through the destruction of diseased trees over the years, they have all been met with fierce resistance from farmers³.

¹ Though it has been difficult to estimate losses in the production of cocoa due to the CSSVD, Philips put the annual yield losses at about 20,000 tonnes of cocoa (Hughes and Ollenu, 1994; Philips, 1962). According to Hale annual yield losses of cocoa attributable to the CSSVD was 120,000 tonnes (Hughes and Ollenu, 1994; Hale, 1953). Legg (1977) on his part put the estimated annual yield losses between 1946 and 1974 at over £3 650 000 (Hughes and Ollenu, 1994).

² This has been established by Thresh and Owusu (1986), Dade (1937) and Ollenu et al. (1989)

³ Legg and Owusu provide evidence that farmers since the colonial era have resisted the move to cut down the diseased trees with some reported cases of open clashes. A report from the Cocoa Swollen Shoot Virus Disease Control Unit (CSSVDCU) of the Ghana Cocoa Board (COCOBOD) also indicates that the Unit is having problems with farmers opposed to the eradication method of treating the disease (CSSVDCU – COCOBOD) 2007/2008, unpublished).

The main cause of this resistance according to the CSSVDCU – COCOBOD report for 2007/2008, include caretaker farmers fearing loss of land if the cocoa trees were cut off and also the non availability of financial support to replant and maintain the treated farms. Most importantly it recognizes that farmers have resisted attempts at controlling CSSVD because the approaches used in implementing the control programme were not customer-driven.

There is therefore the need to adopt the New Public Management approach, which is customer-driven to help overcome the farmers' resistance and gain their cooperation.

1.3 RESEARCH OBJECTIVES

The main purpose of the study is to examine why farmers are resisting the cutting down of diseased cocoa trees and nearby ones which may have latent infection, as an effective means of controlling the spread of the CSSVD. It also tries to provide evidence to support the use of NPM as an effective approach to address the resistance of farmers to the destruction of the diseased cocoa trees.

The specific objectives of the study will be to;

- Examine the current state of the spread of the CSSVD
- Investigate why farmers resist the destruction of diseased trees as a way of controlling the CSSVD
- Assess the relevance and applicability of the New Public Management concept in solving the farmers resistance to the eradication method of checking the spread of CSSVD

1.4 RESEARCH QUESTIONS

The following research questions will serve as a guide to the study:

1. Why have the farmers opposed and continue to oppose the eradication method of treating the CSSVD?
2. How can the New Public Management approach to controlling the CSSVD succeed where other previous approaches have failed?
3. What does the cocoa industry stand to gain from the control of CSSVD through the NPM approach?

1.5 SIGNIFICANCE OF THE STUDY

A lot of effort has gone into the programme of controlling the spread of CSSVD in Ghana⁴. However, these efforts have been met with fierce resistance from cocoa farmers. This study, in response to the above, attempts to bring out a better understanding of farmers resistance to the eradication method of CSSVD control. The study also intends to provide a new approach to solving the farmers' resistance using the concept of the New Public Management advocacy.

⁴ Some of the measures adopted involved the introduction of block plantings in the 1050's, the plant-as-you-cut scheme, Suhum rehabilitation scheme, and compensation payment to farmers in different ways (Dzahini-Obiatay et al. 2006; Owusu, 1983; Thresh et al., 1988, Owusu, 1978; Legg and Owusu, n.d.). All these have not yielded the desired result and the CSSVD keeps spreading (Dzahini-Obiatay et al. 2006; Sackey, 2009; Hughes and Ollenu, 1994).

Thus, the findings of the study, it is hoped, will help policy makers (Management of CSSVDCU and COCOBOD) handling the control of the CSSVD in designing appropriate approaches to overcome the farmers' resistance and instead get their cooperation in checking the spread of the CSSVD by the current eradication method.

1.6 LIMITATIONS OF THE STUDY

The data for the study was mostly collected from cocoa farmers in the Tafo district of the Eastern region. Despite the fact that it is common to use single sector key informants or respondents in social science research, the fact that the study was conducted on a national scale limited the extent to which the findings could be generalised across cocoa farmers throughout Ghana. The use of qualitative content analysis has its own weaknesses which might also have affected the findings. In particular, the processing procedure had some limitations since it was relatively manual in approach. Also, due to the large size of text transcribed, it was impossible to give equal attention to all the issues that emerged from the interviews, in fact it appeared that more attention was given to those responses that were directly related to the study objectives as outlined in the interview guide. In addition, the coding procedure was generally cumbersome and took several days.

1.7 ORGANIZATION OF THE STUDY/DISSERTATION

The next four chapters of this report have been organised as follows:
Chapter 2 deals with related literature on the New Public Management concept. It discusses the need for and origins of NPM, the drivers and elements of NPM, NPM and the Public sector, NPM in Africa and specifically Ghana and NPM and the cocoa

industry. The CSSVD menace has also been discussed. Other discussions in the chapter include the evolution of the cocoa industry, cocoa and the Ghanaian economy, problems confronting the cocoa industry in Ghana and the management of CSSVD.

Chapter 3 gives a description of the research methods employed for the study. The selection of the research site for the case study, the research design, outline of the research process, study population and data collection instruments have been discussed in this chapter. The chapter also deals with the fieldwork and the mode of eliciting responses from the selected cocoa farmers.

Chapter 4 discusses the Analysis and Interpretation of field surveys. Detailed discussions on key aspects of the data analyzed are done in this chapter. This chapter also provides evidence from the field data to support the reviewed data in the second chapter.

In Chapter 5, the summary of the study is presented along with recommendations and conclusion. Particular attention will be paid to the key findings of the study and to the evaluation of the research questions of the study.

CHAPTER TWO

2.0 LITERATURE REVIEW ON THE CONCEPT OF NPM AND AN OVERVIEW OF THE COCOA INDUSTRY IN GHANA

2.1 INTRODUCTION

In Chapter 1, the research problem, specific study objectives and the structure of the study were presented. As a continuation of the issues raised, this chapter reviews selected theoretical literature on the concept of New Public Management (NPM), to provide a conceptual background for understanding the issues around which the research question being investigated revolve. It therefore reviews the definition, evolution of NPM, drivers of NPM, issues and the concept of NPM, NPM reforms in Sub-Saharan Africa, NPM reforms in a developing country context and the global trend of new public management.

The chapter will also give a brief history of the cocoa industry in Ghana. The importance of the cocoa crop to the economy of Ghana will be discussed. It will highlight some of the major problems faced by the industry and the strategies that have been adopted over the years in resolving them. The chapter will further discuss the farmers resistance to one of the strategies adopted to resolve the problems affecting the industry and end with a discussion of the Eastern Region in the scheme of affairs of the cocoa industry.

2.2 DEFINING NPM

According to Baird (2009), NPM is guided by the principle that the economic market should be used as a model for political and administrative relationships; however, there is no clear consensus in the precise definition of NPM, with different

scholars and practitioners focusing on different aspects. Perera (2007) also asserts that though NPM has caused an enormous amount of upheaval “it is not a theory that is easily definable”. She further explains that NPM embodies several different concepts, loosely intertwined, which have been instrumental in making public sector reforms.

Eagle (2005) also captured the deficiencies that the NPM was supposed to address when she wrote that NPM purports to be designed to fix the problems of government such as low public confidence in bureaucracy, waste, poor program design, and performance deficiencies. Eagle (2005) also traced the roots of the NPM to the long line of administrative reforms carried out in the U.S. which included the use of Zero Based Budgeting (ZBB), Management By Objectives (MBO), Total Quality Management (TQM) and reinvention (2005). All these concepts were aimed at improving the quality of service and making service delivery more customer and client focus. These concepts according to Eagle, were necessary considering the capitalistic nature of the American economy.

Pollitt (2003) defining NPM suggests that NPM looks at public administration in all its forms and shapes and the necessary reforms needed to make it work in consonance with current trends. Rosenbloom et al. (2009) in line with above identified seven salient points of the NPM as:

1. Focus on results
2. Marketization
3. Customer-driven
4. Steering, not rowing
5. Deregulation

6. Employee empowerment and
7. Flexibility.

Asiabaka ((2009) has also explained NPM as a call for a change in the procedural-orientated attitude of public administrators such that there would be a regard for results and not procedures. He therefore views NPM as a wakeup call about the inefficiencies of public administrators and suggests that public administrators need to evaluate the provision of goods and services and consider whether they are being done efficiently and economically.

In the same direction, Rosenbloom et al (2009) emphasise that the defining element of NMP lies in the fact that the provision of goods and services by public administrators should be guided by a customer/client relationship. They explain that even when government provides service and regulation on a monopoly basis or without charging fees, treating the public and clients like customers can enhance public administration's service ethic and efficiency.

Further, customer service initiatives have produced such changes as emulating best practices in the private sector; providing satellite offices in shopping centers for renewing driver's licenses and vehicles registrations; mobile services such as library bookmobiles; and "one-stop shopping" for social services. Overall, they assert that agencies should use their resources to create valued services for customers.

To be customer-driven requires deregulation, employee empowerment and flexibility. These are the threads that weave 'customer-driven' in a market economy. This study will focus on the customer-driven aspect of NPM and combine it where appropriate with employee empowerment and flexibility.

2.3 EVOLUTION OF NPM

There was a public outcry in the late 1960's over the poor performance of the U.S. government (LeCouvie, 2007). According to LeCouvie, there was a public frustration over the Vietnam war, population explosion, environmental concerns and increasing social conflicts within the American society (LeCouvie, 2007). This frustration according to LeCouvie, was felt more amongst the younger generation of scholars who doubted the “efficacy of response by the political or administrative systems to handle the crisis”. (LeCouvie, 2007).

These agitations gained centre stage in 1968 when the first Minnowbrook conference was held at the Syracuse University in the U.S.A. (Wikipedia, 2009). The conference was facilitated by Dwight Waldo with funds from the State of New York. At that conference, young scholars of Public Administration minced no words in voicing their frustrations with the existing state of governance or public administration. It was interesting to note that Dwight Waldo limited the participation in the conference to men under age 35 (Wikipedia, 2009; LeCouvie, 2007). They advocated a new way of doing things. The young public administration scholars at the Minnowbrook Conference I called for the recognition of the following principles as a first step in reshaping the performance of government;

- i. Relevance (Public Administration should deal not only with efficiency and economy, but be relevant to contemporary issues and problems)
- ii. Values (Rejection of the value-neutral concept of public administration in favour of values and issues of justice, freedom, equality and human ethics)

- iii. Social Equity (Attainment of social equity and objectives of distributive justice and equity)
- iv. Change (Rejection of the preservation of the status quo in favour of “injecting new ideas and innovations in the management of public organisations”). (LeCouvie, 2007)

Twenty years after Minnowbrook Conference I, a second conference was held at Syracuse University in 1988. That conference was coordinated by George Frederickson, distinguished Professor at the University of Kansas. The conference was to reflect on the impact of Minnowbrook I (Wikipedia, 2009; LeCouvie, 2007). Minnowbrook II did not throw away the ideals of Minnowbrook I, but recognized the need for modifications in the light of new world challenges such as globalisation and information technology (Wikipedia, 2009; LeCouvie, 2007). Minnowbrook II also stressed on managerialism in public administration with the key concerns of efficiency, economy and effectiveness (LeCouvie, 2007).

The ripples from Minnowbrook I and II manifested in diverse ways in the 1980's through to the 1990's. Depending on the angle from which one viewed public administration, calls were made for reforms. All these various calls for reforms in public administration have been labeled New Public Management (LeCouvie, 2007; Baird, 2009; Shafritz et al. 2007; Rosenbloom et al. 2009).

2.4 DRIVERS OF NPM REFORMS

Whether in an industrialised or developing country, there is some level of consensus that NPM-style reforms evolved because of pressure for change (Minogue, 1995). These changes included:

- 1) financial pressure due to rising government expenditure, coupled with poorer than anticipated economic performance of most countries;
- 2) pressure from citizens on their governments to give them quality service for their money; and
- 3) the pressure for change due to policy makers' realization of the need for new ideas and solutions to the management crisis in government.

In all its forms, the pressure was about change that required a redefinition of the state's role and re-demarcation of the boundary between the public and private sectors; and between government and non-government actors in the economy and in delivering public services (Aucoin, 1990; Borin, 1995; Politt and Bouckaert, 2000).

2.5 THE CONCEPT AND ISSUES IN NEW PUBLIC MANAGEMENT (NPM)

Essentially, NPM and allied public service decentralisation reform was considered very important both to the effective management of Ghana's neo-liberal economic recovery programme and to management of public services aimed at poverty reduction. Among other considerations, this explains why it is deemed necessary to prioritise NPM-style decentralisation in the discussion over the political literature on decentralisation. Indeed, managerial decentralisation formed an important component of NPM reform and seemed to have a wider vision for the countries undertaking it, in that it seeks to link reforms to broader political economy, macro-economic management and social development, (Kiggundu 1998).

Another attraction of NPM-style reform is its emphasis on linking public service reform to good governance. A primary element of good governance is ensuring that citizens have a say in how they are governed: that is, having in place a democratic

framework at both national and local levels, and creating space for citizens to participate in deciding which services they need and the standard or quality of those services. It also entails making service providers responsible and accountable for service delivery to citizens (see Kiragu and Mutahaba, 2006). NPM therefore seek to promote good governance through managerial decentralisation.

In light of this view, the following sections make a foray into the concept of NPM and how it is transferred to developing countries. Minogue (1977) noted that most authors see NPM as something akin to a managerial revolution; a paradigm shift from old assumptions about the state to a new entrepreneurial government, a force seeking to drive out the devalued currency of 'old public administration'. Essentially, NPM seeks to change ideas about the state, government and governance in general.

According to Lane (2000), NPM offers a set of new ideas about how government can get its work done. NPM seeks to transcend a pure theory of bureaucracy (Lane, 2000), where constant 'de-bureaucratisation' is considered a primary task of 'good management' (Aucoin, 1995); and where management of public operations is not seen as the 'administration of law' but as 'administration of services' to effect desired outcomes. In brief, NPM seek to inject private sector, market-oriented and entrepreneurial ideas and practices into the business of government.⁵

More specifically, the application of private sector management strategies is seen as a way to cure traditional public administration of its 'bureau-pathologies' (Aucoin, 1990; Newman, 2002)⁶. Hood (1991) outlined the following as essential characteristics of NPM in a 1991 article:

- 1) reducing bureaucratic rules;

- 2) ensuring budget transparency and identifying the cost of inputs and outputs;
- 3) using a network of contracts, rather than fiduciary relationships;
- 4) disaggregating organisations and their functions, introducing purchaser/provider institutions;
- 5) increasing provider competition;
- 6) Increasing consumer power through enhanced scope for exit and redress (Hood, 1994: p. 3; Dunleavy and Hood, 1994: p. 9⁷).

It can be seen from the above features that the primary goal of new public management is to make public services work better; and the principal strategy suggested is to 'increase management capability by reinvigorating public administration' (OECD, 2005). Unlike earlier reforms, NPM emphasis is not on reducing the role of public sector agencies, but on reorganizing and restructuring it through processes of decentralisation (Elcock and Minogue, 2001).

⁵ See e.g. Flynn 2002; Pollitt and Bouckaert, 2000; OECD, 1995; Hood, 1991. With particular reference to developed countries of the UK, US, Canada, Australia and New Zealand, among others, NPM involves a shift in development ideology towards marketisation or quasi-markets and privatisation in government (Lane, 200; Flynn, 2002)

⁶ Pollitt also argued that the tenets of managerialism have replaced the ethos of public service as the motivating principle for public service (Pollitt, 1990: pp. 6-10, and that it has become almost palpable to refer to the transformation of 'administration' into 'management' (Hughes, 1994; Dunleavy and Hood, 1994). Many writers also refer to these changes as 'New Public Management' (NPM) (Hood, 1990).

2.6 THE GLOBAL TREND OF NEW PUBLIC MANAGEMENT

This section discusses how NPM reforms started in late 1970s in industrialised countries and were transferred to developing countries by multinational organizations. NPM reform is presented here as a new global paradigm or formula for improving public administration and achieving ‘a new form of government that works better and costs less’ (Pollitt, and Bouckaert, 2000; Pollitt, 2002)⁸.

⁷ Borins, S. (1997), ‘What the new public management is achieving: a survey of Commonwealth experiences’, in Jones Schedler, K. and Wade, S. (eds.) *Advances in International Comparative Management, International Perspectives on the New Public Management*. Greenwich, CT: JAI Press, pp. 49-70; Borins, S. and Warrington, E. (1996), *The New Public Administration: Global Challenges: A Report on the Second Biennial Conference of CAPAM*. London: Commonwealth Secretariat

⁸ In their influential book *Reinventing Government*, Osborne and Gaebler (1992) referred to NOM as giving rise to ‘entrepreneurial government’ in the US, arguing that ‘a similar process of modernizing government is ongoing throughout the developed world and it was unavoidable.



According to Pollitt (2000), NPM is generally presented as a formula for improving the old public administration. Farazmand described it as a new ideologically oriented managerial theory; a new 'orthodoxy' of one size fits all in public administration, even though its proponents see it to be a response to the failing and discredited 'old orthodoxy' of the bureaucratic model (Farazmand, 2006: pp. 554-555)⁹.

The OECD notion of NPM pointed to a greater emphasis on results in terms of efficiency, effectiveness and quality of service; a decentralized management environment; alternative service delivery arrangements and regulation; efficiency improvement through productivity targets and competition; and strengthening the strategic capacity of the centre (McCourt, 2002). From a global viewpoint, especially for OECD countries, NPM concerns two central challenges to government administration: 'capacity to respond' to multiple needs of citizens and businesses; and 'capacity to renew' government in order to cope with newly-emerging socio-economic and political realities of the new millennium. As a worldwide public management paradigm, NPM aimed to revive weak government and deficient administrative systems (Borin, 1995; Aucoin, 1990)¹⁰. In addition, it is argued that NPM has risen as an 'intellectual arm' of the corporate globalisation of capitalism, serving goals of profit maximisation and accumulation of capital (Farazmand, 2006: p. 555).

⁹ Cheung (2002) also observed that, most public sector reforms across the globe in the 1980s were construed within the paradigm of NPM, first spearheaded by OECD countries and followed by the US, Australia, and New Zealand, then followed by several Asian and developing countries.

¹⁰ Owen Hughes (1998) argued that NPM represents a paradigm change in the thinking and practice of public administration.

He argued further that certain major political, socio-economic and technological factors are responsible for this paradigm shift (see also Hood, 1991; Cheung, 2002); Minogue et al., 1998; McCourt and Minogue, 2001; McLaughlin, Osborne and Ferlie, 2002). Some examples of this are: budget controls; spurring public sector reforms and improving general economic performance; redefining and restating the mission of government; redesigning new policy instruments; promoting and engaging the private sector; modernising the civil service; educating people about the new role of government; and building strategic capacity to change attitudes and behaviours (Pollitt and Bouckaert, 2000).

2.7 NPM REFORMS IN DEVELOPING COUNTRY CONTEXT

Unlike western industrial countries of Europe and the US, NPM reform started in developing countries as part of a general policy transfer from developed countries, and was made a condition for receiving development aid from international financial institutions (Hope Sr., 2002).

Unlike the *first generation* reforms under structural adjustment which presumed that the ‘good state is a small state’ (McCourt, 1998: p. 176), the *second generation* of reforms sought to rehabilitate the state and public agencies through various policy reform instruments (Levy, 2004). In particular, the IMF, World Bank and OECD-assisted countries advocated total restructuring of public organisations’ governance regime, by conjecturing that there is a positive correlation between ‘good governance’ and ‘good management’ and levels of successful economic performance¹¹.

The World Bank in particular supported a more responsive mix of central and local governance – mixing the strengths of centralised and decentralised strategies for public service delivery. The new emphasis in the NPM reforms from the World Bank’s perspective is, therefore, not on reducing the role of the Third World state, but on reorganising rehabilitating and redesigning it through decentralisation.

In its 1997 World Development Report, *Bringing the State Closer to the People*, the World Bank posited that ‘carefully managed decentralization can do much to improve state capability, creating pressures for better matching of government services to local preferences, strengthening local accountability, and supporting local economic development’. However, the Bank was quick to contend that this strategy would only

work if it was ‘part of a larger strategy for improving the institutional capability of the state’ (World Bank, 1997).

¹¹ See World Bank (1996) World Development Report, *Towards Better and Slimmer Government*

KNUST



2.8 NEW PUBLIC MANAGEMENT REFORMS IN SUB-SAHARAN AFRICA

It could be argued that all public bureaucracies have been severely criticised over the past few decades for being the cause of crises in government. For developed countries, which have the financial means and administrative capability, adjustments have been made through reforms and rethinking about what needed to be done to improve the quality of service at a reduced cost to citizens.

The situation is, however, different for African countries where experiences of severe economic setbacks for the last twenty years made some to describe the 1980s as the 'lost decade' for Africa (ECA, 2003; p. 2). The crises of the 1980s were worsened by rises in oil prices and falls in primary commodity prices for exports, the growing burden of external debt, rapid population growth, long periods of drought, and mismanagement of scarce resources, official corruption and political instability (Ayee, 1997). Structural adjustment and other earlier neo-liberal economic reforms were introduced in the mid-1980s as a response to the crisis with the support of the World Bank and International Monetary Fund (Larbi, 1998; Ayee, 1994; Hope Sr., 2002; ECA, 2003). These reforms were directed not only at stabilising the macro-economy, but also to reform the public administration systems of the implementing countries. Overall, the reforms targeted the functioning and role of post-colonial states in economic development. The reforms also sought, inter alia, to redefine the role of public sector, private sector and non-public sector stakeholders in development as a whole. This first group of reforms produced some positive results but these were later eroded by the negative effects of SAP on social services such as health and education¹².

This situation led to the introduction of a set of reforms under the guise of NPM. The NPM reforms in Africa in particular placed more emphasis on reorganising or re-inventing the public sector through decentralisation. In addition to the three conventional pressures for reform mentioned above, African reforms were also driven by the realisation that the public administration system itself was;

- 1) centralized;
- 2) weak and bloated in size;
- 3) inefficient and unwieldy;
- 4) corrupt; and
- 5) lacking any sense of responsibility and accountability (Ayee, 1997)¹³.

The lessons learned from the SAP experience made the IMF and World Bank realise that countries with weak public administration systems, especially the civil service, are not well prepared to implement NPM-style reform programmes effectively. Therefore, the pressure for NPM-type reforms in Africa (including Ghana) was largely due to weak administration, managerial inefficiencies and economic and governance crises. Also in the case of Africa, Hope and Chikulo (2000) argued that NPM-type decentralization was seen as the means:

- 1) through which governments are able to provide high quality services that citizen's value;

¹² For example, the adverse effects of reforms on the poor in Ghana forced the military government to introduce its Programme of Action to Mitigate the Social Cost of Adjustment (PAMSCAD), with the support of the IMF/World Bank.

¹³ The civil service in particular has been singled out as having contributed to the poor implementation of the SAP/ERP, particularly in Ghana, because it lacks the managerial capability needed to ensure reform success (Ayee, 1992).

- 2) for increasing managerial autonomy, particularly by reducing central administrative controls;
- 3) for demanding, measuring, and rewarding both organisational and individual performance;
- 4) for enabling managers to acquire human and technological resources to meet performance targets;
- 5) for creating a receptiveness to competition and an open-mindedness about which public purposes should be performed by public servants as opposed to the private sector;
- 6) for empowering citizens through their enhanced participation in decision-making and development planning and management;
- 7) for improving economic and managerial efficiency or effectiveness; and
- 8) for enhancing better governance

2.9 Overview of the Cocoa Industry in Ghana

2.9.1 History of the cocoa industry

Cocoa is a native crop of the Amazon basin in South America (Legg and Owusu, n.d.). History has it that it was first brought to the then Gold Coast (now Ghana) by the Dutch missionaries in the early years of the nineteenth century (COCOBOD Executive Diary, 2007). In 1879, Tetteh Quarshie of the Gold Coast, returning from Fernando Po where he had gone to work as a blacksmith brought with him pods of cocoa. Tetteh Quarshie was reported to have started his cocoa farm in Akwapim Mampong in the Eastern Region. Other enthusiastic farmers bought pods from Tetteh Quarshie's farm and consequently the spread of cocoa farms in the Eastern

Region where the Ghanaian rain forest provided the crop with a suitable environment in which it has thrived to date (COCOBOD Executive Diary, 2007; Legg and Owusu, n.d.). Cocoa cultivation subsequently assumed commercial dimensions and spread to all forest areas of the country particularly Eastern, Ahanti, Brong Ahafo, Volta, Central and the Western Regions (COCOBOD Executive Diary, 2009). The crop is harvested twice in a year, the major season starts from October and the minor season from June (COCOBOD Executive Diary, 2009).

In 1891, the country produced 0.036 tonnes of cocoa. As the crop continued to enjoy high patronage from farmers, production of the crop rose to 1,018 tonnes in 1900 and then to 316,650 tonnes in 1936 (Legg and Owusu, n.d.). Recognizing the vital contribution of the cocoa crop to the development of its economy, the then Gold Coast government created the Gold Coast Cocoa Marketing Company in 1947. The company was to provide permanent marketing services to the farmers (COCOBOD Executive Diary, 2007). In 1984, The Ghana Cocoa Board Law (PNDCL 81) was promulgated and it has guided the operations of the COCOBOD till now.

2.9.2 Cocoa and the Ghanaian economy

The COCOBOD News of April 2007 described cocoa as the “cash crop whose foot print is seen in every aspect of life in Ghana.” Cocoa has been the backbone of the Ghanaian economy for more than sixty years. Its foot print runs through the entire economy –farmers, licensed buying companies, transporters, manufacturing, education, health, and foreign exchange earnings (Ghana Review International, 2006; COCOBOD News, 2007; COCOBOD Executive Diary, 2009). The industry employs an estimated 720,000 to 800,000 families at the farmer level spread over six out of the ten regions in

Ghana. This is about one single industry offering the largest direct employment to Ghanaians. The Licensed Buying Companies as intermediaries also bring markets to the farm gates, thus, making life easier for the farmer. A number of processing companies are adding value to the bean before exporting which helps to increase the foreign exchange earnings. The cocoa industry plays a major role in the bulk haulage industry. Transporting cocoa from the hinterlands to the ports by road has made significant contributions to that sector of the economy. So they are all involved in the fixing of cocoa producer price (Ghana Review International, 2006).

On education, the Ghana Cocoa Board scholarship scheme is a household name in all the cocoa growing areas in Ghana. From 1951 when the scholarship scheme was put in place, a number of prominent Ghanaians have benefitted from the scheme. The capital base of the scholarship fund stood at GH¢500,000 in 1996 (COCOBOD Executive Diary, 2009.) The COCOBOD established a Cocoa chair at the University of Ghana with an endowment amount of \$500,000 in 2007 (COCOBOD Executive Diary, 2009.) COCOBOD is very active in the health sector. It has three clinics in Accra, Kumasi and Tafo which caters for the health needs of the general public. The Mampong Akuapim hospital was built by the Board in 1961 in honour of Tetteh Quarshie. The Board has completed a clinic in Sankore in the Brong Ahafo Region and same handed over to the Asunafo District Assembly. Tepa and Trabuom in the Ashanti Region are all beneficiaries of health centres built by the Board. COCOBOD is undertaking another health post project at Sefwi Debiso in Western Region (COCOBOD Executive Diary, 2009.). On foreign earnings the cocoa crop generates about \$1 billion annually (COCOBOD Mini Diary, 2009) and is a major contributor to Government Revenue and

GDP (COCOBOD Executive Diary, 2009.). Cocoa really plays an important part in the Ghanaian economy, but it has not always been rosy for the industry.

In the 1964/65 cocoa season a total of 580,000 tonnes of cocoa were produced (COCOBOD News, 2007). This was about 33% of global market share then which made Ghana the biggest producer of cocoa in that year (COCOBOD News, 2007). The industry went into decline for almost twenty years. Production figures dropped to an all time low of 158,956 tonnes in 1983/84. This was just about 9% of global cocoa production (COCOBOD News, 2007). It was in 1999/2000 that signs of recovery started emanating. In 1999/2000, a total of 436,946 tonnes of cocoa was realized. Cocoa production since 2002/2003 crop year has exceeded 300,000 tonnes as shown in Table 3.1 below.

(2002-2007)

Crop Year	Quantity in Tonnes	F. O. B. in US\$	Value in US\$	Export Duty Paid (GH¢)
2002/03	351,950	1,818.00	639,845,100.00	78,390,300.00
2003/04	642,330	1,561.00	1,002,677,130.00	99,720,000.00
2004/05	533,541	1,471.67	785,196,283.47	64,119,000.00
2005/06	642,650	1,487.18	955,736,227.00	61,600,000.00
2006/07	551,654	1,668.00	920,158,872.00	92,055,200.00

9) Source: Ghana Cocoa Board Annual Reports and Accounts 2002-2007

Table 3.1 shows that raw cocoa beans export earned the country US Dollars ranging from 600 million in 2002/03 to 900 million in 2006/07. This figure does not include processed cocoa exported by the local cocoa processing factories.

2.9.3 Major challenges of the cocoa industry

As stated earlier, the cocoa industry has had its fair share of problems. The industry has been confronted with cocoa diseases, pests and depleting soil nutrients which have adverse effects on production. There have also been problems with haulage, warehousing and sustenance of farmers' interest (COCOBOD News, 2007). A number of measures instituted under the cocoa sector reforms under the Agricultural Sector Adjustment Programme provided solutions to some of these problems (COCOBOD News, 2007). The issue of haulage was addressed by the formation of the Cocoa Hauliers Association responsible for the haulage of cocoa. The Association ensures the efficient carting of cocoa to the ports and ensures the prompt payment of its members (COCOBOD Executive Diary, 2007).

The local purchase of cocoa was privatized. A number of private companies were licensed to buy cocoa. That was to the advantage of the farmers as the companies compete for the farmer's interest. Thus, the sustenance of farmers' interest was taken care of (COCOBOD News, 2007). There has been an earlier move by COCOBOD to motivate farmers with the introduction in 1985, of an award scheme for cocoa farmers on each year National Farmers Day. Prizes such as refrigerators, television sets, farming implements and of late a four wheel pick-up vehicle were given to deserving farmers. COCOBOD used a number of private warehouses till 2008 when it commissioned its own 250,000 tonnes capacity warehouse at Tema. The problem of

soil nutrient deficiency was addressed by the introduction of the Cocoa Hi-Tech programme in 2002/2003. Under this programme farmers are supplied with a package of fungicides, pesticides and fertilizers to help increase their yields per a hectare of farm land (COCOBOD News, 2007).

The cocoa diseases and pest that are of concern to the Ghanaian cocoa farmer are the blackpod, cocoa swollen shoot virus disease and capsid (pest) which damaged the trees and crops (COCOBOD News, 2007; Hughes and Ollennu, 1994; Thresh and Owusu, 1986). COCOBOD with the support of Government instituted a number of programmes to arrest the situation. The Cocoa Diseases and Pests Control Programme (CODAPEC) was initiated in August 2001. Under this programme, cocoa farms which are vulnerable to the black pod and capsid are sprayed with fungicides and insecticides and the costs borne by the COCOBOD. This has effectively put the threat from blackpod and capsid under control (COCOBOD News, 2007). However, the threat from the Cocoa Swollen Shoot Virus Disease (CSSVD) continues to loom on the horizon with no immediate solution in sight (Hughes and Ollennu, 1994).

2.9.4 The menace of CSSVD

2.9.4.1 Global Spread/ Area of Concentration

According to Ploetz (2007) the CSSVD has been found in Benin, Cote d'Ivoire, Indonesia (Sumatra), Liberia, Malaysia (Sabah), Nigeria, Papua New Guinea, Sierra Leone, Sri Lanka, Togo and in present-day Ghana where 200 million cacao trees have been destroyed in attempts to manage the disease. Ploetz (2007) also mentioned unconfirmed reports about the disease in Trinidad. Sackey (n.d.) mentioned reported cases of virus diseases of cocoa "from other parts of the world, including Tanzania

(Zanzibar) in East Africa; Sabah Province of Malaysia, Sri Lanka, Java and Sumatra in Asia; Costa Rica, the Dominican Republic and Trinidad and Tobago in the Americas”. Therefore, according to these two reports CSSVD is supposed to be a cocoa disease across continents. However, other literatures limit the CSSVD to Africa and narrow it down to West Africa in particular. For instance THE INDEPENDENT of the United Kingdom (U.K.) in an article titled “Disease threat to cocoa bean choc horror” by Geoffrey Lean, Environment Editor, Sunday, 18th March 2001 reported that there are five devastating diseases sweeping through the world’s cacao crops. It said that more than half a billion pounds worth of cocoa beans are lost to the plaques on three continents.

The report, listing the diseases acknowledged that “a fourth, ‘swollen shoot’, has taken up residence in Africa, and the fifth, ‘vascular streak dieback’, is confined to Asia”. (Independent, co.u.k. 2001). Also the International Cocoa Organization, ICCO, in an article on its website titled “Pest and disease related damages to cocoa crops” reported that “Cocoa Swollen Shoot Virus (CSSV) is found in West Africa, particularly Nigeria and Ghana. CSSV was identified in Ghana in 1936...” (internationalcocoaorganisation.net, 2009). Olunloyo (n.d.) further acknowledged that the CSSV disease is limited to the cocoa growing countries in West Africa. Olunloyo (n.d.) mentioned Cote d’Ivoire, Ghana, Nigeria and Togo (Partiot et al. 1978; Posnette 1940, 1947). It appears that the presence of CSSV in other parts of the world did not cause havoc like it did in West Africa particularly Ghana. So, not much attention was given to its eradication.(Adejumo, 2005; Dongo and Orisajo. 2007).

2.9.4.2 CSSVD Spread in Ghana

The CSSVD was detected first in the Eastern Region of Ghana (Sackey, n.d.; Olunloyo, n.d.). According to Thresh (2003), there was evidence to suggest the presence of the disease in the 1920's in Ghana (Posnette, 1947; Hughes and Ollennu, 1994; Dale 1962). Thresh quoting from Posnette indicated that “large patches of dead and dying trees were seen in one of the main cocoa-growing areas” (Thresh, 2003; Posnette, 1947). The CSSVD was, however, first reported in Ghana (Gold Coast) in 1936 (Thresh, 2003; Dade, 1937; Olunloyo, n.d.; Hughes and Ollennu, 1994; Thresh and Owusu, 1986). The disease caused serious losses to the cocoa industry in the Eastern Region which was then the predominant cocoa growing area in Ghana. According to Thresh et al. (1988) between 1936 when the disease was first reported and 1948, millions of cocoa trees were destroyed by the disease. The Eastern Region was severely affected by the disease. A large area of the region in which the disease had become endemic was described as Area of Mass Infection (AMI) in 1985 (Hughes and Ollennu, 1994). At that time another area surrounding the AMI was designated Cordon Sanitaire. This was supposed to be an area under strict CSSVD control to serve as a buffer between the AMI and other parts of the cocoa growing areas to check the spread of the disease (Hughes and Ollennu, 1994; Dzahini-Obiatye et al., 2006).

The severity of the CSSVD in Ghana was acknowledged by most researchers associated with the disease. For instance the International Committee on Taxonomy of Viruses, based at the Columbia University, New York, U.S.A. reported on the Cacao swollen shoot virus and indicated “Isolate Description, Location: Ghana”, (ICTVdB Management [2006]). Also writing in the African Journal of Biotechnology, Adejumo

admitted that “the effect of the virus currently in Nigeria is relatively weak compared to the virulent strains found in Ghana.”(Adejumo, 2005). Consequently, the disease has spread from the Eastern Region to all the cocoa growing regions in Ghana –Ashanti, Brong Ahafo, Central, Volta and Western (Hughes and Ollennu, 1994; Dzahini-Obiatey et al., 2006). It was, thus, appropriate that “active research on CSSVD in West Africa has been concentrated in Ghana” (Dongo and Orisajo. 2007). Acknowledging the magnitude of the spread in Ghana, Hughes and Ollennu (1994) admitted that “with the rate of discovery of new outbreaks in relation to the present rate of treatment, it is unlikely that CSSV can ever be fully controlled . . .”

2.4.9.3 Causal Agent of CSSVD

The West Africa Cocoa Research Institute (WACRI) was established in Tafo, Ghana in 1944. Other participating Governments in the activities of WACRI were Nigeria, Sierra Leone and the United Kingdom who provided the funds to set up the research centre (COCOBOD News, 2007). WACRI was in the front line of the research work into the causes of CSSVD till it was dissolved in 1962 after the independence of Ghana and Nigeria. A report of a Technical Mission to The Gold Coast in 1949 acknowledged that the “excellent research work by WACRI has shown that the following mealy bugs are vectors of swollen shoot. . .” (1949). The Cocoa Research Institute of Ghana (CRIG) took over from WACRI (COCOBOD News, 2007).

It has been established that the “swollen shoot disease is caused by a mealybug-transmitted virus that occurs in all the main cocoa growing areas of West Africa . . .” (Thresh et al. 1988). According to Thresh et al, (1988) “new outbreaks tended to occur around existing ones and then spread to give clearly defined expanding foci.” The

mealybugs feed on an infected cocoa tree. They then move on to healthy ones and infect them by the same feeding mechanism (Olunloyo, n.d.; Strickland 1950; Cornwell 1955; Thresh 1958). The mealybugs move in three ways. They can walk on their own, be carried away by a wind current or be carried along by ants (Olunloyo, n.d.; Strickland 1950; Cornwell 1955; Thresh 1958). The spread of the disease can be described as a radial spread or long distance spread. If the vectors move at relatively short distances between trees from one canopy to the next during feeding, the resultant spread of the disease is known as radial spread or short distance spread (Olunloyo, n.d.). On the other hand long distance spread, or jump spread, is caused by movement of viruliferous vectors over long distances. This is usually by wind, resulting in isolated new outbreaks up to some kilometers away from previously existing outbreaks (Olunloyo, n.d.). Olunloyo (n.d.), made an interesting observation about the mealybug and the ant parasites. “The most common and most important mealy bugs in CSSV transmission” according to Olunloyo (n.d.) are, “*P. njalensis*, *P. citri* and *F. virgata*.” These mealybugs secrete “honey dew.” The ants feed on the “honey dew” and in turn protect the mealybugs from attack by molds and from rain by building tents over the mealybugs. The ants then move the young nymphs to fresh feeding sites. With that new mealybug colonies are formed, thereby perpetuating their destructive activities.

2.9.4.4 Treatment of CSSVD – General

A lot of attention has been devoted to the study of CSSVD. It has engaged the attention of researchers since it was discovered in 1936. In 1948, a Commission of Enquiry into the Swollen Shoot Disease of Cacao in the Gold Coast (Colonial No.236. 1948; Technical Mission, 1949) released a report. Their report urged the immediate

investigation on the possibility of using chemicals to control the spread of the disease. Following from the Commission's report and subsequent developments, a mission of seven scientists, including four representatives of British Chemical Industry arrived in the then Gold Coast in 1949 to look into the possible use of chemicals in the control of the CSSVD (Technical Mission, 1949). Some chemicals popularly identified as effective in the control of the mealybugs in Nigeria were Elocron 75 WP, Uden 20 EC and Dursban 48 EC (Adejumo, 2005; Idowu, 1989). However, there were disadvantages associated with the use of chemicals. These include the possible toxicity to human beings, the evolution of resistant pest strain, and tainting of beans in treated cocoa, apart from being costly and unaffordable to farmers. Thus, the use of chemicals did not gain much ground. Another effort made was in connection with the use of resistant varieties. Tolerant progenies with resistance to cssv and clones were distributed to farmers for replanting especially in areas of mass infection (Adejumo, 2005; Atanda, 1972). Biological control was also introduced.

This involved the use of protected cocoa trees using the mild strains of the cssv against more virulent and related strains (Adejumo, 2005; Adegbola, 1973; Broadbent, 1964). This method was found to be of limited use as a means of control. It was feared that the virus, though mild in cocoa, may damage other crops. There was also the possibility of mutation into virulent strains if widely disseminated on millions of plants (Adejumo, 2005; Broadbent, 1964). Commenting on the limited use of chemical and biological control, Sackey (n.d.) explained that there are as many as 16 species of mealybugs involved in the transmission of cssv. Biological control would require a detailed study on each of these mealybugs (Sackey, n.d.). The Imperial College in

London (2008) acknowledged the various CSSV treatment/control measures that researchers have come up with. It made mention of the use of the resistant varieties in replanting and the introduction of “systemic organophosphate insecticides” to control mealybugs. The Imperial College of London (2008), however, cautioned that the use of the insecticide is hazardous and not “currently recommended.” Physical control/Rehabilitation of cocoa farms is one approach which has gained acceptance within the scientific community (Adejumo, 2005; Adegbola, 1971; Thresh, 2002). According to Thresh (1988) “the removal of diseased plants from within crop stands is usually termed roguing. This is a well known means of virus disease control achieved by eliminating initial sources of infection from which further spread can occur.” Thresh (1988) noted that roguing is widely applicable. He said this method has been “used in attempts to control or at least contain diseases of diverse crops in both temperate and tropical regions.”

Thresh (1988) explained further that this approach is most effective against viruses that do not spread quickly or far in any considerable amount (Putter, 1980). In Nigeria, the eradication/removal of infected trees –roguing- has been the basic method of control for CSSV infected trees since 1946. This involved the uprooting of all the obviously infected trees and surrounding area of up to 30 m (Adejumo, 2005; Adegbola, 1971). This exercise was followed by replanting with improved virus tolerant/resistant varieties. The gradual removal of infected trees over a number of years and their replacement with improved varieties in the shade of old trees or coppicing of the old trees was recommended (Adejumo, 2005; Adegbola, 1989; Adeyemi, 2000). However, Ollennu et al. (1989) and Thresh (1988) emphasized that successive campaigns of

eradication have failed so far due to the use of cocoa cultivars with moderate tolerance as planting material after eradication (Adejumo, 2005).

2.9.4.5 Treatment of CSSVD in Ghana

Numerous literature on CSSVD have acknowledged the fact that the eradication method, roguing, despite the tedious nature of the exercise, is the most effective method of controlling the spread of the CSSVD (Adejumo, 2005; Adegbola, 1971; Thresh, 2002; Imperial College London, 2008; Hughes and Ollennu, 1994; Dzahini-Obiatay et al., 2006; Posnette, 1943). In the light of this knowledge, a massive nationwide campaign began in 1941 (Legg and Owusu n.d.) to carry out the roguing exercise. This involved the “location and removal of diseased cocoa trees in over 1.62 million hectares of forest and cocoa farms” (Legg and Owusu n.d.).

Beginning in 1944 a systematic programme was put in place to locate and demarcate swollen shoot outbreaks (Legg and Owusu n.d.; Thresh, 2003). This continued through 1946 (ICCO Q & A, 2009; Dzahini-Obiatay et al., 2006). This was followed by a programme of action in 1948 to educate farmers on the need to have the infected cocoa trees in their farms destroyed (Legg and Owusu n.d.). The farmers were encouraged to replant the land (Legg and Owusu n.d.). Meanwhile, in 1946 the Department of Agriculture was given compulsory powers to destroy infected cocoa trees (Thresh, 2003; Legg and Owusu n.d.). To help facilitate the cooperation of farmers, a compensation scheme was put in place in 1948 (Legg and Owusu n.d.). Compensation of cash payment for tree cut and for tree replanted were introduced (Legg and Owusu n.d. Beeton Scheme, 1948; Watson Report, 1948). These interventions by Government did not, however, go down well with the farmers. There

was a fierce resistance to the roguing method introduced by the Government (Legg and Owusu n.d.; Thresh, 2003). As stated elsewhere in this report, the resistance on some occasions resulted in open clashes. According to Legg and Owusu, the resistance by the cocoa farmers to the roguing method contributed to the intensification of political resistance to the colonial government (Legg and Owusu, n.d.; Beckman, 1976). A number of farmers have continued to oppose the roguing approach to the CSSVD control to date (Thresh, 2003). Sounding somewhat despaired, Ollenu et al. (1989) said:

“The strategy now being implemented continues to be based primarily on eradication and this is likely to be the situation for some years to come. However, there is considerable scope for decreasing rates of reinfection in the worst-affected areas by using Inter-Upper Amazon hybrids that are partially resistant to infection and by planting large blocks away from known sources of infection. There is no immediate prospect of further innovations because suitable insecticides to control mealybug vectors and planting of varieties that are truly resistant or tolerant of infection are not yet available.”

Ollenu et al. (1989) advised that the systematic approach of mapping out the areas infected by CSSVD be continued without letup. The mapping should be accompanied by a determined effort to eradicate discovered outbreaks promptly. They cautioned that, a relaxation of these will result in the derailment of the CSSVD control programme. This can be achieved only if a better way is found to deal with the problem of farmers' opposition (Dzahini-Obiatay et al., 2006).

2.9.5 Overcoming Farmers Resistance

A number of measures have been put in place to overcome the farmers opposition to the eradication method of controlling the spread of the CSSVD. As stated earlier, a compensation scheme was put in place in 1948 (Legg and Owusu n.d.). In 1957, grants to farmers were increased (Legg and Owusu, n.d.; Revised Grant Payment

Scheme: Quartey-Papafio, 1961). Another scheme involved what was called “plant-as-you-cut” scheme. This scheme required the government to cut diseased trees, replant and maintain the farms for three years after which it is returned to the farmers (Dzahini-Obiatey et al., 2006; Thresh, 2003; Legg and Owusu n.d.). Extension services under which farmers were visited by technical advisors have been in existence for a long time (Dade, 1937). Education of farmers has been a feature of this programme from inception (Dzahini-Obiatey et al., 2006; Thresh, 2003; Legg and Owusu n.d.; Dade, 1937). Commenting on their response to farmers opposition of late, the managers of the CSSVD control programme indicated that they have instituted educational programmes which focus on CSSVD problems and cocoa technologies in relation to replanted farms (CSSVDCU, 2007/2008, unpublished). This report from CSSVDCU also mentioned the use of farmers’ rallies, radio programmes and cinema van as some of the measures currently put in place to help obtain the needed cooperation from the farmers in the control of the spread of CSSVD. The report concluded that, these measures resulted in some successes. Number of farms treated increased from 693 the previous year to 3,500 in the year of the report – 2007/2008 cocoa season (CSSVDCU, 2007/2008 unpublished).

2.9.6 EASTERN REGION OF GHANA

“Cocoa production in Ghana started from the Eastern Region, Akwapim Mampong as noted earlier in this report. The region used to be the leading producer of cocoa until the CSSVD attack from the 1920’s through to the 1930’s (Sackey, n.d.). The devastating effect of the CSSVD in the Eastern Region is evidenced by the existence of a large area of cocoa declared as ‘Area of Mass Infection’. Another area bordering on this area was also declared as a ‘Cordon Sanitaire’ (Hughes and Ollennu, 1994). A number of experiments on the control of CSSVD have consequently been carried out in the region (Hughes and Ollennu, 1994). Other interventions aimed at revamping the cocoa industry has

taken place in this region. An example is the Suhum Cocoa Rehabilitation Project in the region (Ollennu et al. 1989). The importance of the region to the cocoa industry was affirmed by the setting up of the West Africa Cocoa Research Institute (WACRI) in Tafo which is in the Eastern Region, in 1938 with funding from the British Government. WACRI has changed to the Cocoa Research Institute of Ghana (CRIG) since 1962 after the attainment of independence by the colonies forming WACRI especially Ghana and Nigeria.” (COCOBOD News, 2007).

2.10 CONCLUSION

The literature review showed how the NPM approach promises to address the resistance of farmers to the control of the CSSVD in Ghana. By emphasizing on customer-driven solutions, new public management appears to direct attention to the problem of non-compliance that has become apparent in academic research on policy implementation, and in this case, the control of CSSVD.

The chapter has explored the history of the cocoa industry. It has highlighted the importance of the cocoa industry to the economy of the country. Problems facing the industry have been examined and the threat from the CSSVD identified as of very significant interest. This has been discussed in relation to the attitude of farmers in controlling the spread of the disease. It has also been clear that the Eastern Region has played an important role in the sustenance of the cocoa industry.

CHAPTER THREE

3.0 METHODOLOGY

3.1 INTRODUCTION

This section deals with the details of the research methods employed during this study. Emphasis was placed on the approaches used in the research and the instruments used for the data collection during the research. Other areas covered here include the administration of the research instrument, the data collection procedure and the elements of the data analysis.

3.2 SELECTION OF RESEARCH SITE

Time constraints as well as the proximity of the Eastern Region of Ghana were primary determinants for its selection as the research area. Additionally, the region was selected because it has been a key area for cocoa production in Ghana since the early 1920's (Legg and Owusu, n.d.) and was where CSDSDVG was first detected (Dade, 1937).

3.3 RESEARCH DESIGN

The research design of this study was based around the case study. The choice of case study research design was based on the fact that it is a useful research strategy for policy and public administration research (Yin, 1994) Yin also provides that it is useful in investigating a phenomenon in-depth, especially when 'how' and 'why' research questions are being asked.

3.4 OUTLINE OF THE RESEARCH PROCESS

Before undertaking field work in the case district, the relevant literature on CSSVD, the cocoa industry in Ghana and NPM were reviewed. This review helped to

isolate the research problem and questions and further provided the basis for developing a conceptual guide for the study. Both the theoretical and conceptual literature helped to clarify the research question and associated research propositions. The literature search also helped with the interpretation, discussion analysis of the data.

3.5 STUDY POPULATION, SAMPLE AND RESPONDENTS SELECTION

In terms of CSSVD Control, the Eastern region has been zoned into 11 districts: - Kade, Osino, Tafo, Asamankese, Bawdua, Suhum, Nankese/Oyoko, Kibi, Nkawkaw, Oda and Akroso. However the availability of CSSVD Control Unit's staff in the Tafo district to assist with the field work informed the researcher's choice of the Tafo district for the study. Two hundred and ten (210) farmers actively engaged in cocoa farming in the Tafo district were randomly selected for the study. To ensure that the sample was representative of the cocoa farmers in the district and to give every cocoa farmer in Tafo a fair chance of being part of the study, the district was further divided into seven areas and 30 cocoa farmers randomly selected from each area.

3.6 DATA COLLECTION INSTRUMENTS

a. Field Reports

At various strategic meetings to assess the progress of work in the field, non attainment of targets have for the greater part of the time been attributed to 'farmer opposition'. The researcher had read quite a number of field reports in his position as an auditor trying to determine the reason(s) for non attainment of targets. The common theme that runs through the reports was 'farmer opposition'.

As part of the management team in charge of the programme, the researcher also took the position that something is missing in the approach to providing a solution to

the problem. The researcher therefore made verbal enquiries from the field staff on the researcher's rounds through the various regional offices as to the nature of and the reason(s) for the farmer opposition that had become a chorus in the field reports.

Some reasons were provided and explanations offered included issues with the land tenure system, the age of the farmer and the farm itself, family inheritance and inadequacy of compensation levels.

These have informed the preparation of the field questionnaire. Thus, the questionnaire used in the field was to confirm or otherwise the various reasons put forward by the field staff.

b. Questionnaire

The ease of administration and the fact that it takes relatively less of the respondent's time were considered in choosing questionnaires as the main primary data collection instrument. To aid in the administration of the questionnaires within the seven areas of the Tafo District, seven field officers from the Tafo District office of the CSSVD Control Unit were selected.

Two meetings were then held with the selected field assistants to discuss the questionnaire. This was to give the field officers a bird's eye view of the project. Additionally, these discussions served as a substitute for pre-testing. Necessary revisions were, therefore, made to the questionnaire with inputs from the field staff. This also informed the number of respondents, that is the number of cocoa farmers that each field staff could give a questionnaire to and elicit a response from within the three weeks time frame set for the field exercise.

c. Focus Group Discussions (FGDs)

Three FGDs were also conducted early in the study in Etukrom, a community in the district. Key participants were the cocoa farmers drawn from across the Tafo District. The membership of each FGD was at least five and not more than fifteen (15) cocoa farmers. The aim was to explore and confirm the general understanding of key concepts critical to uncovering NPM as a viable alternative to addressing farmers' resistance of the CSSVD control measures. Key concepts explored during FGDs included CSSVD, controlling the spread of CSSVD, resistance to destruction of diseased trees, NMP and expected changes that will occur as a result of NMP.

The discussions were then examined in relation to the key concepts of the study. Insights from the FGDs informed the designing of the questionnaire used for the study. More important is the fact that the FGDs provided insider information on the existing situation in the fight against CSSVD, the efficacy of the current approaches to control CSSVD, as well as the expected outcome of implementing NMP. Given that the key informants are active cocoa farmers who are directly involved in the control of CSSVD, it is believed that their input into the discussion brought to light factors that over the years have impeded effective implementation of CSSVD control measures. Particular emphasis will be on the core variable and how they influence actions and inaction during implementation of CSSVD control measures.

3.7 FIELDWORK AND ADMINISTRATION OF THE QUESTIONNAIRES

A questionnaire comprising 43 questions in English was administered to the sampled cocoa farmers. Although a total of 210 responses were expected based on the sample size, 230 questionnaires were sent out into the field in case replacements were needed. Each of the seven areas in the district was assigned to a field staff who was

required to administer approximately thirty questionnaires in the area. The field staff visited respondents at their work farms and administered the questionnaire or assisted respondents to fill in the questionnaire.

Regular research meetings were held, and during this time the field staff discussed their experiences and carried out field editing together by cross-checking that all the questions were completed and answers clearly circled. The principal researcher also assisted the field staff as and when necessary, e.g. with problems of locating interviewees and finding replacements for refusals, and this was done through daily visits and supervision. At the end of the survey period, a total of 192 (out of 210), i.e. nearly 91.3% of the questionnaires, were successfully administered and collected.

3.8 DATA ENTRY AND ANALYSIS

The primary data was screened to ensure accuracy, consistency and reliability. The responses from open-ended questions were extracted and assigned codes before data entry. The Statistical Package for Social Sciences (SPSS) software was used for data entry, processing and analysis. The frequencies which were generated formed the basis of calculating descriptive statistical values like means, percentages, ratios, rates, standard deviations and variance. Cross tabulations of variables was done to show relationships. Attempt was made to determine the relationship between some variables.

CHAPTER FOUR

4.0 DATA PRESENTATION AND DISCUSSION

This chapter is devoted to the presentation and discussion of the research findings. The chapter is divided into five sections. Section 1 discusses the findings in relation to why farmers oppose the eradication method of treating the CSSVD. Section 2 presents findings on the current state of spread of the CSSVD and section 3 gives the farmers perception of the CSSVD and its treatment. Sections 4 and 5 deal with the relevance and applicability of the NPM concept and ends with the summary and conclusion.

The New Public Management (NPM) has various concepts which make a single definition of it rather problematic (Baird, n.d.; Perera, 2003). Like the base from which it evolved, public administration, New Public Management has been difficult to define. Attempts to define Public Administration have been described as “temporarily mind-paralyzing” (Rosenbloom et al., 2009) or a “mental paralysis” (Bhattacharya, 2006). To that end this study focused on the customer-driven aspect of NPM. This aspect of the NPM was dealt with in the field survey and had found enormous support from the field results.

4.1 UNDERSTANDING FARMERS RESISTANCE TO CUTTING DOWN OF DISEASED TREES

A direct question was posed during the field work on whether farmers have ever opposed the cutting down of their diseased trees. From Table 4.1, 32.1% of respondents answered that they had ever opposed the cutting down of their diseased cocoa trees. A follow up question was posed to find out the reason(s) for their opposition. From Table

4.2, the greater number of respondents, 32.1% attributed their opposition to the delays in the payment of compensation on the cutting down of the trees. 27.7% of the respondents also attributed their opposition to the fear of losing the farms to the respective landlords once the trees have been cut down. This was in relation to tenant farmers who formed 19.1% of the respondents. (as shown in Table 4.3). Furthermore, in relation to the reasons for their opposition, 23.4% of the respondents attributed their action to inadequate compensation. These reasons seem to suggest that the farmers opposition has more to do with personal factors rather than technical factors.

Table 4.1 Statistics on Extent of Farmers Opposition in Tafo District

Ever Opposed	Frequency	Percentage
Yes	63	32.1
No	133	67.9
Total	196	100

Source: Field work, 2009.

Table 4.2 Reasons for Farmers Opposition to Tree Cutting in Tafo District

Reason for Farmers Opposition	Responses	
	Frequency	Percentage
Delays in compensation payment	44	32.1
Fear of loss of farm	38	27.7
Inadequate compensation	32	23.4
Have little or no education on the	18	13.1

disease		
Heritage worth preserving	3	2.2
No reason	1	0.7
Other	1	0.7
Total	137	100

Source: Field work, 2009.

Table 4.3 Nature of Cocoa Farm Land Ownership in Tafo District

Land ownership	Frequency	Percentage
Land Lord	112	57.7
Family Inheritance	45	23.2
Tenant	37	19.1
Total	194	100

Source: Field work, 2009.

4.2 CURRENT STATE OF SPREAD OF CSSVD

The field work aimed at examining the current spread of the disease. This examination was carried out by finding the number of farmers whose farms have ever been affected by the CSSVD. From Table 4.4, 82.8% of respondents have experienced an attack of CSSVD on their farms. This shows that the disease is widespread and deserves to be given the needed attention.

Table 4.4 Extent of CSSVD Spread on Farms in Tafo District

CSSVD Attack	Frequency	Percentage
Yes	164	82.8
No	34	17.2
Total	198	100

Source: Field work, 2009.

4.3 UNDERSTANDING FARMERS PERCEPTION OF AND ALTERNATIVE METHODS OF CSSVD CONTROL

The study explored an understanding of the farmers' perception of the CSSVD. The study linked the farmers understanding of the CSSVD to the possibility of the farmers having an alternative method of controlling the spread of the disease apart from the cutting down of the diseased trees. This was done by a question on the awareness of the disease combined with the incidence of the disease on individual farms. Table 4.5 indicates that 95.7% of respondents were aware of the disease. This is quite a high percentage of awareness. Table 4.4 above also showed that 82.8% of respondents have had an incidence of CSSVD attack on their farms. So farmers have a fairly good idea of the nature of the CSSVD.

Table 4.5 Incidence of CSSVD Awareness in the Tafo District

Awareness of CSSVD	Frequency	Percentage
Yes	200	95.7

No	9	4.3
Total	209	100

Source: Field work, 2009.

A question was posed on the treatment methods employed by those whose farms were affected by the CSSVD. Table 4.6 indicates that 75.7% of them employed the cutting down of diseased trees approach. 20.3% left their farms without any remedy. This is an indication that the farmers have no known alternative to the cutting of diseased cocoa trees as a means of controlling the spread of the CSSVD.

Table 4.6 Methods Employed in the Treatment of CSSVD on Farms

Treatment Method	Frequency	Percentage
Cutting down diseased cocoa trees	115	77,7
Left farm untreated	33	22.3
Total	148	100

Source: Field work, 2009.

Suggestions elicited from the respondents as to the best approach to eradicating or controlling the disease also revealed that 70.5% of respondents were in favour of the cutting down of diseased trees. A further 22.0% did not answer directly, but their responses suggest that they were in favour of the cutting down of the diseased trees. Some responses from the 22.0% just mentioned included responses like give farmers

more education pay more compensation and provide disease free seedlings to farmers. It can, therefore, be suggested that they were in favour of the eradication method.

4.4 RELEVANCE AND APPLICABILITY OF NEW PUBLIC MANAGEMENT CONCEPT

This key point of the study was tested in various ways. First there was the question about why farmers oppose the cutting down of diseased cocoa trees. From Table 4.2 shown earlier, the reasons given by 96.3% of respondents were all administrative. Major reasons given were the delays in the payment of compensation, fear of loss of farm in the case of tenant farmers, inadequate compensation and little or no education on the disease. These are administrative issues that the application of the New Public Management (NPM) concept of customer/client driven can help solve. A question relating more education to easing farmers resistance was posed as a follow up question to those who indicated that they have ever opposed the treatment of their farms. Table 4.7 shows that 65.8% of respondents agreed that more education would have softened their stand on the disease.

Table 4.7 Positive Impact of CSSVD Education on Farmers Opposition

Responses	Frequency	Percentage
Yes	75	65.8
No	39	34.2
Total	114	100

Source: Field work, 2009.

A question asked what COCOBOD needs to do for greater cooperation from farmers. Table 4.8 indicates that 78.6% of respondents called for more farmers education. This is in harmony with the results shown earlier in Table 4.7. Farmers also called for personal contacts. This certainly will happen if there are more farmers educational programs. This is also in keeping with the NPM with the customer/client focus. There is also the call for speedy processing of compensation to farmers. This also calls for the NPM approach to speed up the process.

Table 4.8 What COCOBOD Should do to Facilitate Farmers Co-operation

Things to do	Frequency	Percent	Valid Percent	Cumulative Percent
More farmer education	158	75.6	78.6	78.6
Personal contact	21	10.0	10.4	89.1
Speed up compensation process	13	6.2	6.5	95.5
I will simply not co-operate	9	4.3	4.5	100.0
Total	201	96.2	100.0	
Missing System	8	3.8		
Total	209	100.0		

Source: Field work, 2009.

The various points raised above and as shown in the tables especially Table 4.8 all lend support to the NPM as a solution to the farmers opposition. This was also supported by the focal group discussions held at Etukrom.

4.5 SUMMARY AND CONCLUSION

Table 4.8 above shows that a personal interaction between COCOBOD staff and farmers will ease the farmers opposition to the cutting down of diseased cocoa trees in the control of the spread of the CSSVD. Table 4.8 has also shown that an improvement in COCOBOD's administrative system making it more human centered will further ease the farmers opposition to the control of the spread of CSSVD by eradication of diseased trees. The null hypothesis that customer/client service, one of the key concepts of New

Public Management is applicable in solving the problem of farmer opposition to the eradication of diseased cocoa trees as the major control measure of the spread of CSSVD is therefore supported.

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CHAPTER FIVE

5.0 SUMMARY, RECOMMENDATIONS AND CONCLUSION

5.1 SUMMARY

The results of the survey have shown that CSSVD is spreading nationwide. The “cordon sanitaire” (an area free of CCSVD) which is supposed to serve as a buffer between the ‘Area of Mass Infection’ and the scattered-outbreaks, is gradually becoming another area of mass infection. The Western Region is becoming notorious for the outbreaks of the CSSVD. An area within the Western Region, Essam, is now an area of mass infection which has attracted international attention (Reuters, 2008).

The devastating effect of the disease need not be overemphasized. Quite a number of cocoa farmers are aware of the existence of the disease and have either been victims of it or have witnessed its devastating effects on the farms of others. The field work has also shown that the cocoa farmers have no local cure for the disease or any better way of checking the spread of the disease. It is obvious that to check the spread of the CSSVD, the eradication method remains the most viable option though expensive (Thresh 2003; Posnette, 1943; Thresh and Owusu, 1986). Thus, the eradication of diseased cocoa trees and nearby ones which may appear to be free from infection remains the key to controlling the spread of the CSSVD.

The field results also revealed one interesting thing. The research survey showed that the percentage of farmers resisting the eradication method of checking the spread of CSSVD is in the ‘significant minority’. However, their resistance to the eradication of diseased cocoa trees within their farms no matter how small their farm size, have a significant impact on the whole treatment process. Treating and replanting

of cocoa around an infected farm is like the proverbial bathing the “pig in the mud”. The treated farms when replanted will be definitely reinfected. It is, therefore, very important that the farmer resisting the eradication of diseased cocoa trees be handled with professional care, a real customer indeed. The study has shown that majority of the farmers appreciate a close relationship with the government officials providing technical assistance such as the COCOBOD technical field staff. This collaboration, according to the study has proved to be helpful in overcoming farmers resistance in a number of cases. The study has further shown that farmers are calling for such collaborative initiatives to be continued and expanded.

5.2 RECOMMENDATIONS

The New Public Management concepts hover on themes like market competition, business like approach to things, private sector methods and customer-driven. All these point to one direction, in the opinion of the researcher, and that is customer care. To make significant progress in checking the spread of the CSSVD, customer care as envisaged under the New Public Management concept is the key. One of such customer, in this particular instance, the ‘one’ farmer who has refused to cooperate in the eradication of the diseased cocoa trees is the one who needs to be treated as a customer and his/her interest in the matter adequately addressed. It is the belief of this researcher that, this will require the involvement of Senior Personnel.

Much as the CSSVD Control Unit has District Officers, the Management staff should not divorce themselves from the farmer resistance problem when it is reported. The Senior Personnel in this regard may be the Regional Manager and if need be together with another Manager from the Head Office. The Farmer at the centre of this

issue will appreciate how valuable the office considers his contribution to the success of the industry. This is likely to make a positive impact on the farmer in question. This approach, the researcher believes will minimize the incidence of “farmer opposition” in the work of the CSSVD Control Unit.

Another aspect of the New Public Management which has a bearing on this matter is what Rosenbloom et al.(2009) described that it led to “*providing satellite offices in shopping centers for renewing driver’s licenses and vehicle registrations; mobile services such as library bookmobiles; and “one-stop shopping” for social services.*” What this means in this context is that, for farmers who have agreed to cooperate with the CSSVD Control Unit to have their farms treated, the treatment should be carried out with minimum inconvenience to the farmers. For instance compensation payments should be prompt and virtually done at their door step. Critics may already be up in arms over what they will call ‘control measures’. However, NPM has emphasized points like deregulation, employee empowerment and flexibility. Thus, a combination of factors goes into customer care to make public administration responsive to the needs of the citizenry as demanded by the proponents of NPM. The current situation where compensation payments take months to reach the farmers should give way to a prompt settlement system without needlessly sacrificing prudence.

The third point worth noting is the introduction of what the researcher will call ‘Innovative Extension Services’. It is appreciated that extension services have been in existence from the colonial days (Dade, 1937), till they were disbanded in the late 1990’s. The researcher is also aware of efforts being made by COCOBOD to bring back the extension services to augment the field work being undertaken in respect of

cocoa production. What the researcher recommends to be done differently this time round is the active participation of farmers in the formulation of policies in respect of the CSSVD control programme. The Farmer Field Schools programme started in Indonesia is a classic example of the nature of the collaboration being called for.

The Farmer Field Schools (FFS) started in Indonesia was aimed at bridging the gap between agricultural professionals such as researchers and extension personnel on one side and the actual farmers on the other side. The FFS is initiated by an extension staff, who will normally be a government staff with requisite and adequate technical knowledge. Most important is that the person should be skilled in growing the crop concerned. So the farmer is looking up to a 'fellow farmer' for education and discussion, and not someone who has no experience in that field to instruct him. According to Gallagher (1999) "some people have called this the 'Farmer respect course' in that field staffs come to realize how difficult farming is, and why farmers do not immediately 'adopt' their 'extension messages". About 25 farmers in one locality form a group. Meeting days are agreed upon by the group. The idea is to practicalise the technical know-how that the agricultural professionals want to transfer to the farmers. The school site selected is an actual farm to be agreed on by the participants. The facilitator is not at the school as the 'Mr./Madam Know All', but rather to gradually lead the group to establish certain basic agricultural truths for themselves. Professor Asiabaka (1994) in his comments about the role of the FFS stated that;

"The common explanation of failures technologies as a result of non-adoption was that farmers were ignorant. The cure was more extension teaching (Chamber, 1983). This strategy divided farmers into innovators and laggards. This categorization is extreme to say the least. But the truth is that when farmers do not adopt they do so because they are wise, not because they are ignorant."

On the need for a participatory approach as emphasized by the NPM, Asiabaka (1994) noted that “there is need therefore for the promotion of participatory multidisciplinary research where the need for empowerment of the farmer will be paramount.” Asiabaka (1994) discussed the need to decentralize service provision to small scale farmers in Africa and the possibility of privatizing and contracting out extension services and indicated that the debate is ongoing in connection with farmer participation and other empowerment models.

The researcher is not asking for this approach to be embraced wholly into the Ghanaian context, but that the underlying tenets be looked at within the context of the New Public Management. It is in this regard that the researcher called for an ‘Innovative Extension Services’ within the ambient of the New Public Management. The researcher is aware that there has been some level of cooperation between the CSSVD Control Unit of COCOBOD and the Sustainable Tree Crops Program in Ghana. It appears, however, that CSSVD Control Unit on its own has not done much to use the FFS approach in handling the farmers resistance to the control of the spread of the disease (West Africa “Farmers Field Schools”, 2008).

5.3 CONCLUSION

Cocoa production is an important economic activity in Ghana. The industry is faced with challenges from pests and diseases. The black pod and the capsid diseases are currently being handled under the mass spraying campaign and this appears to be making meaningful progress. The Cocoa Swollen Shoot Virus Disease is, however, proving to be a major challenge to researchers and the authorities. The eradication method proposed for the control of the disease is facing formidable challenges. The

challenges include financial resources being utilized in handling the project, the seemingly slow success rate being achieved by the eradicating teams and the continuous spread of the disease and most importantly the resistance from farmers to the control measure.

More work needs to be done to find viable alternatives to the eradication method. There is the need to explore further ways not only for farmers to cooperate with the eradication method but for them to accept the technique as part of their regular farming practice to ease the burden on the Cocoa authorities.

Finally, the study has provided evidence to support the use of the New Public Management approach as a way of ensuring the cooperation of cocoa farmers in the destruction of diseased cocoa trees to control the spread of the CSSVD.



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APPENDIX 1

QUESTIONNAIRE

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APPENDIX 2

Extracts from Focal Group Discussions at Etukrom

Ques. There is a disease called swollen shoot disease, do you have some in your area?

- Ans.*
- i. Yes and it has destroyed all my yield (*Adjei Baafi*)

 - ii Yes and sometimes the seedlings provided have already been infected by the disease (*Adu Amu*)

Ques. What do you suggest can be done to either eradicate or curb the outbreak of the disease?

- Ans.*
- i. Uprooting the affected trees on the farms.

 - ii Uprooting the trees is good but not enough, because the disease is in the soil and hence affects replanted seedlings. (*A.D. Antwi*)

 - iii The disease might seem to be concentrated at a particular area but in actual fact it covers a wider area than assumed hence the entire area must be treated.

 - iv Replanting must be done after two years and not the usual practice of six months.

Ques. When farms are to be treated, usually some of the farmers oppose this practice.

Do you have such problems here and why?

Ans. i. Compensation grant is not adequate in terms of the years the cocoa tree will mature . The amount given should therefore be increased in order for the farmers to co-operate (*Kabasa*)

Ques. What will you prefer? Affected trees should be cut and be paid for or the trees should be left untreated and not paid for?

Ans. i. Payment often delays and this affects our livelihood and in addition amount offered is not sufficient. If it can therefore be increased and also paid on time, farmers will co-operate.

ii. Some farmers share boundaries with other farmers, and when several farms are affected, a farmer will not allow his farm to be treated hence the outbreak of the disease to other farm areas after replanting.

iii Cutting down the trees is good, but the amount paid should be increased.

iv. Formally, a kind of medicine is smeared on the surface of the tree after cutting and it therefore takes time for the disease to resurface.

v. At times we cannot replant the seedlings ourselves due to “manpower” problems.

We suggest that labourers be employed to perform the replanting for us.

- vii. Replanting grant is not adequate for us (farmers) to pay labourers for replanting. The government should create employment for such people and allocate some of our grant to them.

Ques: What advice can you add to help treat the cocoa swollen shoot disease or prevent it in order to achieve our aim?

- Ans. i. The only solution to achieve our aim is to uproot the trees.
ii. After the trees are cut, medicine should be smeared on the stumps.

