

**HEALTH ECONOMICS IN AN IRRATIONAL WORLD -  
THE VIEW FROM A REGIONAL HEALTH ADMINISTRATION IN GHANA**

Thesis submitted in accordance with the requirements of  
the University of Liverpool for the degree of Doctor in

Philosophy

LIVERPOOL

UNIVERSITY

1992

by

**Catriona Jane Waddington**

November 1992

Liverpool School of Tropical Medicine

## Abstract

Health economics in an irrational world -  
the view from a Regional Health Administration in Ghana  
by Catriona Jane Waddington

This thesis confronts the fact that economics makes recommendations based on rational analysis, in a world where organisations patently behave non-rationally.

The literature review looks at two bodies of literature which view organisations in very different ways - organisational models and health economics. Characteristics of organisations in developing countries are also explored. The chapter asks how recommendations derived from economic analysis can be reconciled with organisational realities. More specifically, it asks, "How can a health economist working at sub-national level deal with constraints to rationality?"

The study was conducted through participant observation - the author worked as a regional health economist in the Ministry of Health in the Volta region of Ghana.

Three case studies are presented. Each juxtaposes an economic analysis with other ways of looking at an issue.

Chapter 5 describes the complex resource allocation processes in the Ministry of Health in Volta. Bureaucratic and political aspects of the organisation are illustrated. Resources arrive in the region through several administrative channels. The opportunity cost of the same value of resources differs considerably, depending on the administrative channel.

Chapter 6 presents a cost-effectiveness analysis of two strategies for immunising young children. Although mass campaigns were generally less cost-effective than routine static and outreach clinics, they were preferred by many actors in the system because they offered quick results and opportunities for salary supplementation. The chapter describes how, having identified a cost-effective measure, it is necessary to think about strategies for encouraging its adoption.

Chapter 7 considers attempts to introduce a revolving drug fund in Volta. Many of the expected benefits were not achieved because of problems faced during implementation. Economic predictions about the effects of revolving drug funds should incorporate realistic assumptions about the political situation and about administrative capacity.

The final chapter returns to the themes raised in the literature review. Relevant characteristics of the

public sector in developing countries are discussed. The chapter explores how economic techniques may be combined with organisational skills. If health economics is to effect change, it needs to incorporate some organisational realities into its techniques.



To my Mum and Dad, lovely parents

and to the memory of Professor Ken Newell, who rescued  
this thesis from a variety of political, intellectual  
and emotional coups.

## Acknowledgements

To have three good PhD supervisors may be regarded as fortunate; four good ones as lucky; and five as positively providential.

I was fortunate indeed to have Professor Ken Newell as my first supervisor. Employing me as the newest of new graduates, he encouraged me to try to develop my own style of economics. Wherever my career takes me, I will always be profoundly grateful for his support.

When Ken Newell died, Andrew Cassels became my supervisor. I have benefited greatly from his knowledge of management issues in general and the Ghanaian Ministry of Health in particular. Over the course of several years I have importuned him with many drafts of papers, knowing that I could rely on receiving constructive criticism in reply.

When Andrew Cassels left the School of Tropical Medicine, no-one in Liverpool had the relevant expertise to supervise me. But my good fortune continued. Charles Collins and Andrew Green from the Nuffield Institute for Health Services Studies in Leeds stepped into the breach. They have done more than anyone else to impose order on the chaotic beginnings of the writing up.

My fifth and final supervisor was Liz Barnett, who (with Paula Sugden) kindly sorted out all the administration which converges on a PhD in its final months.

Everything I know about the Ministry of Health in Ghana was learnt because someone took the trouble to explain its intricacies to me. I am particularly grateful to Mr. E.O. Mante, Volta Regional Hospital Secretary, who explained the complexities of FEs to me with the most extraordinary patience. Re-reading my journals, I realise that Mr. Mante's predictions about future developments in the Ministry were remarkably accurate; I am fortunate that he shared his wisdom with me.

I also particularly want to thank:

- the (Acting) Senior Medical Officers (Public Health) with whom I shared an office - Archie Letsa, Frank Nyonator and Eric Amuah.
- Nii Ayite Coleman, who did so much to develop health systems and management in Jasikan district.
- the Ministry of Health pharmacists who, in spite of everything, mustered the energy to implement Cash and Carry in Volta. A special thank-you to Harry

Tayviah, who accompanied me during two months of extremely hot and dusty monitoring visits.

- Nana Enyimayew, the former Regional Director of Health Services, who initially invited me to Volta on the (correct) assumption that I would find it full of interest.

Many other people helped me with their time - particularly to answer my numerous questions and to read drafts of this thesis. I thank them all. I am particularly grateful to the entire Volta Regional Health Management Team who graciously endured my persistent enquiries for two years.

When I showed a draft of this thesis to Ghanaian colleagues, many of them felt uncomfortable that I seemed to be washing Ghana's dirty linen in public. I argued that my aim was to foster understanding, not to criticise. My frustrations with the Ministry of Health are obvious from the text. My respect is perhaps less obvious. I cannot state baldly enough my admiration for the work of many people in the Ministry of Health. Any offence caused to them is most deeply regretted. There is much to learn from their ability to manage constraints and to encourage a questioning environment which is tolerant of inquisitive foreigners such as myself.

My work in Ghana was sponsored by the Gatsby Charitable Foundation. Gatsby has provided long-term and extremely constructive support to the Liverpool School of Tropical Medicine and was instrumental in the introduction of health economics to the School.

I would not have been able to have the time to do this thesis without the support of my colleagues in the International Health Division of the School of Tropical Medicine. The years 1989-92 were turbulent ones in IHD - I am extremely grateful to Hugh Annett, who protected me from the many pressures to be involved with day-to-day administration, and to Hilary Goodman who took over from me when I was in Ghana. I also thank Hilary for her perceptive readings of parts of this thesis.

PhD-writing fosters anti-social working hours and dull conversation. I am lucky that mine was written in a happy home, for which I thank Isla and Phil.

In Ghana, termites ate its screen wires; in Britain, a very fluffy cat enjoyed its warmth and clogged it up with fur. The final acknowledgement is to Toshiba, for manufacturing the sturdy little portable which wrote this thesis.

## Contents

Abstract . . . . .	2
Acknowledgements . . . . .	6
Contents . . . . .	10
List of tables . . . . .	16
List of figures . . . . .	18
Abbreviations . . . . .	19
<u>Chapter 1 How it began</u> . . . . .	22
<u>Chapter 2 What fate for rationality in an irrational world? - a review of the literature</u> . . . . .	27
A Outlining the literature review . . . . .	28
B How do organisations work? . . . . .	31
I Five organisational models - from rationality to anarchy . . . . .	33
II Using the models - descriptions and prescriptions . . . . .	43
C How are organisations portrayed in the health economics literature? . . . . .	49
I What are health economists interested in? . . . . .	51
(a) Defining some terms . . . . .	51
(b) Health economics - what is it about? . . . . .	53
(c) Two debates . . . . .	55
II How are organisations portrayed in the health economics literature? . . . . .	62
D Are developing countries different? . . . . .	81
E Rationality and constraints - confronting the dilemma . . . . .	91
F A summary of the chapter; linkages with future chapters . . . . .	99

<u>Chapter 3 Describing the context - Ghana, its</u>		
<u>Ministry of Health and the Volta</u>		
<u>Regional Health Administration (RHA)</u>		. 101
A	Describing the context - introduction . . . . .	102
B	The general context: the second Rawlings regime, 1981-1992 . . . . .	105
	I Macroeconomic improvement; widespread poverty . . . . .	105
	II Some key policies, 1981-1992 . . . . .	112
C	The organisational context: the Ministry of Health . . . . .	121
	I The organisation of Ministry of Health headquarters . . . . .	122
	II The Ministry of Health's budget, 1980-1991 . . . . .	124
	III National management issues, 1989-1991 . . . . .	129
D	The local context: Volta Regional Health Administration . . . . .	135
E	A brief conclusion - the Ministry of Health and organisational models . . . . .	142
 <u>Chapter 4 The methodology - combining economics and anthropology</u>		
A	Introducing the methodology . . . . .	144
B	Regional Health Economist in Volta - on the job participant observation . . . . .	145
C	Choosing the topics . . . . .	150
D	Combining disciplines - economics and anthropology . . . . .	158
E	Journals and other data collection instruments . . . . .	160
F	Quality controls for qualitative research - validity and reliability . . . . .	164
G	Can qualitative results be generalised? . . . . .	166

<u>Chapter 5 Cutting the Gordian knot: resource</u>		
<u>allocation in the Ministry of Health</u>		. 169
A	Introduction . . . . .	170
B	Where does all the money go? - resource flows in Volta, 1990 . . . . .	173
	I Sources of finance - where does the money come from? . . . . .	173
	II Informal financing . . . . .	185
C	Resource flows - where does all the money go?.	188
	I Salaries . . . . .	189
	II Capital . . . . .	192
	III FEs - financial encumbrances . . . . .	199
	IV Stores . . . . .	225
	V Fees . . . . .	234
	VI Donors . . . . .	236
	VII Conclusion: complex resource flows . . . . .	238
D	The viewpoints . . . . .	238
	I RHA spending team for FEs (Regional Director and Regional Hospital Secretary) . . . . .	239
	II Spending officers for FEs . . . . .	241
	III Divisional heads who were not spending officers . . . . .	243
	IV Health station in-charges . . . . .	245
	V Budget-holders for donor funds . . . . .	247
	VI Donors . . . . .	251
	VII Accountants . . . . .	251
	VIII Auditors . . . . .	252
E	Constraints and how to manage them . . . . .	253
	I The constraints . . . . .	254
	II Managing the constraints . . . . .	260
	III The role of the regional health economist . . . . .	267



<u>Chapter 6</u>	<u>A cost-effectiveness analysis of strategies for immunising children</u>	. . . . .	269
A	Introducing cost-effectiveness analysis	. . . . .	270
B	Immunisation in Volta - strategies and politics	. . . . .	274
	I The two strategies - mass campaigns and static/outreach (S/O) clinics	. . . . .	274
	II A high political profile - immunisations in 1990	. . . . .	284
C	Defining the question and measuring the variables	. . . . .	289
	I Defining the question for analysis	. . . . .	289
	II Trying to measure "effectiveness" - how many immunisations were given in 1990?	. . . . .	291
	III What costs were included?	. . . . .	299
D	Costs	. . . . .	308
	I How much did immunisations at S/O clinics cost?	. . . . .	308
	II How much did immunisations by mass campaigns cost?	. . . . .	314
E	What conclusions can be drawn from the CEA?	. . . . .	320
F	Perspectives on the CEA - from health stations to headquarters	. . . . .	330
	I The Regional Health Management Team	. . . . .	332
	II District Health Management Teams	. . . . .	339
	III Health stations	. . . . .	343
	IV Ministry of Health headquarters	. . . . .	345
	V UNICEF	. . . . .	346
	VI CEA and other storylines	. . . . .	347
G	Conclusion: cost-effectiveness analysis and its organisational context	. . . . .	348
<u>Chapter 7</u>	<u>Cash and Carry - one region's attempts to introduce a revolving drug fund</u>	. . . . .	356
A	Introduction	. . . . .	357
B	Fees in the Ministry of Health - a brief history	. . . . .	362
C	The economics - rationality through price signals?	. . . . .	364

D	Drug supplies and fees in the Volta region, 1985-1990 . . . . .	368
	I Income from fees - could somebody please explain the rules? . . . . .	369
	II Utilisation - can't pay, won't pay? . . . . .	376
	III Prescribing practices - a severe case of over-prescribing . . . . .	382
	IV Exemptions - "we deserve free drugs: look at our pay" . . . . .	386
E	To be or not to be? - headquarters' hesitant steps towards Cash and Carry . . . . .	392
F	Cash and Carry begins in Volta region . . . . .	397
	I Poor supplies - regions take the initiative . . . . .	398
	II Buying and selling drugs . . . . .	400
	III Exemptions - who will cover the costs? . . . . .	409
	IV National policy - vacuums, contradictions and discouragement . . . . .	412
G	Did the price signal work as intended? - the impact of Cash and Carry . . . . .	416
	I Was the scheme financially viable? . . . . .	417
	II Did drug supplies improve? . . . . .	423
	III What happened to utilisation? . . . . .	427
	IV Did prescribing patterns change? . . . . .	428
	V Did the number of exempt patients change? . . . . .	429
H	The Bamako Initiative . . . . .	433
J	The Viewpoints . . . . .	436
	I Prescribers at government health facilities . . . . .	436
	II Pharmacists . . . . .	438
	III MoH staff as consumers of free health care . . . . .	440
	IV Accountants . . . . .	441
	V Auditors . . . . .	442
	VI Patients . . . . .	443
	VII Donors . . . . .	444
K	Conclusion - confronting the constraints. . . . .	445
	I Identifying and managing the constraints . . . . .	447
	II Are these problems unique to Volta? . . . . .	450

<u>Chapter 8 Conclusions: Economics, economists and the management of constraints</u>		455
A	A return to the literature review	456
B	A return to the organisational models	457
C	Are developing countries different?	461
D	What does economics contribute?	468
E	Managing the constraints	471
F	Contextualising the economic analysis	480
G	Who does economics?	484
G	The end	486
References		489
Bibliography		507
<u>Appendices</u>		509
1	Other approaches to understanding organisations	510
2	A wider (but brief) look at economics and organisations	513
3	Healthy days of life lost	525
4	Ghana - some background information	526
5	Childhood immunisation schedule, Ghana	533
6	Cash and Carry survey of institutions	534
	(a) Selection of facilities for Cash and Carry before-and-after survey	534
	(b) Monitoring Cash and Carry.	536
	(c) Client interviews - Cash and Carry Monitoring	540
	(d) Patients' responses	542
	(e) Prescription on out-patient cards	543
	(f) Cash and Carry - questionnaire for facility in-charges	544
7	Report of a test related to Cash and Carry.	548
8	Drugs to be stocked regularly by RMS, 1990 (excluding infusions)	555

## List of Tables

### Chapter 2 What fate for rationality in an irrational world? - a review of the literature

Table 2.1	The five organisational models	43
-----------	--------------------------------	----

### Chapter 3 Describing the context - Ghana, its Ministry of Health and the Volta Regional Health Administration

Table 3.1	Economic indicators - 1983 and 1989 compared	107
Table 3.2	Ministry of Health budget allocations, 1980-1991	126
Table 3.3	Ministry of Health share of government budget allocations, 1980-1991	128
Table 3.4	Ministry of Health purchasing power - U.S. dollars, 1983-1991	129
Table 3.5	Volta and national health statistics	138

### Chapter 4 The methodology - combining economics and anthropology

Table 4.1	Timetable of research	158
-----------	-----------------------	-----

### Chapter 5 Cutting the Gordian knot: resource allocation in the Ministry of Health

Table 5.1	Sources of finance, 1990 (¢ thousands)	175
Table 5.2	Breakdown of expenditure from government recurrent funds, 1990 (¢ thousands)	182
Table 5.3	Government expenditure on health, various countries, 1990	184
Table 5.4	Distribution of FEs, 1990	202
Table 5.5	Financing of hospitals and District Health Management Teams/health stations, 1990	206
Table 5.6	RHA expenditure - recorded and actual, 1990	223
Table 5.7	Examples of general constraints	256

Chapter 6 A cost-effectiveness analysis of strategies for immunising children

Table 6.1	Comparing mass campaigns and static/outreach (S/O) clinics, 1990 . . . . .	276
Table 6.2	Clinic coverage and dependency on mass campaigns, 1990 . . . . .	282
Table 6.3	Timing of mass campaigns, 1990 . . . . .	287
Table 6.4	Immunisations, children under 1 year, 1990 . . . . .	294
Table 6.5	Percentage coverage by dependency on mass campaigns, children under one year old, 1990 . . . . .	299
Table 6.6	Opportunity costs and marginal opportunity costs of S/O . . . . .	306
Table 6.7	Static and outreach clinics - cost by district, 1990 . . . . .	311
Table 6.8	Static and outreach services - full cost by district, 1990 . . . . .	313
Table 6.9	Cost of mass campaigns, by district, 1990 (¢) . . . . .	316
Table 6.10	Cost per FIC and PIC by mass campaigns, 1990 . . . . .	318
Table 6.11	Mass campaign costs (¢ and percentages), 1990 . . . . .	319
Table 6.12	Mass and S/O unit costs (¢), Volta, 1990 . . . . .	319
Table 6.13	"Destinations" of expenditure on immunisations, 1990 . . . . .	340

Chapter 7 Cash and Carry - one region's attempts to introduce a revolving drug fund

Table 7.1	Out-patient attendance at government facilities in Volta, 1984-1991 (quarterly) . . . . .	380
Table 7.2	Per capita annual out-patient attendance at government facilities, selected years . . . . .	382
Table 7.3	International comparison of prescribing . . . . .	384
Table 7.4	Sources of finance for Cash and Carry, October 1990 - June 1991 . . . . .	418
Table 7.5	Value of drugs collected and revenue, sampled facilities, October 1990 - June 1991 . . . . .	422
Table 7.6	Drugs in stock, before and after introduction of Cash and Carry. . . . .	424
Table 7.7	Patients receiving all prescribed drugs - before and during Cash and Carry, Volta . . . . .	426
Table 7.8	Exemptions before and during Cash and Carry . . . . .	431

## List of figures

### Chapter 3 Describing the context - Ghana, its Ministry of Health and the Volta Regional Health Administration

Figure 3.1	West Africa . . . . .	103
Figure 3.2	Ghana . . . . .	104
Figure 3.3	Aid to the health sector, 1984-1990 . . . . .	110
Figure 3.4	Ministry of Health headquarters, 1989; organisation chart . . . . .	123
Figure 3.5	Real Ministry of Health budget per capita, 1980-1991 . . . . .	127
Figure 3.6	Volta region . . . . .	136

### Chapter 5 Cutting the Gordian knot: resource allocation in the Ministry of Health

Figure 5.1	Sources of finance, 1990, Ministry of Health, Volta . . . . .	176
Figure 5.2	Sources of government finance, Ministry of Health, Volta, 1990 . . . . .	183
Figure 5.3	Payment vouchers per month, 1990 Volta regional Health Administration . . . . .	209

### Chapter 7 Cash and Carry - one region's attempts to introduce a revolving drug fund

Figure 7.1	Utilisation 1984-1991 (quarters) . . . . .	381
------------	--	-----

### Abbreviations

AESC	Architectural and Engineering Services Corporation
BCG	vaccine against tuberculosis (Bacille Calmette-Guérin)
BI	Bamako Initiative
¢	cedi (Ghanaian currency; 1990, \$1 = ¢320)
CAG	(Office of the) Controller and Accountant-General
C&C	Cash and Carry
CBA	cost-benefit analysis
CEA	cost-effectiveness analysis
CHAG	Christian Health Association of Ghana
CHN	community health nurse
CHW	community health worker
CMS	Central Medical Stores
CPI	consumer price index
CWC	child welfare clinic
DANIDA	Department of International Development Co-operation, Denmark
DHMT	District Health Management Team
DMOH	District Medical Officer of Health
DPT	diphtheria, pertussis and tetanus (combined vaccine)
EPI	Expanded Programme on Immunization
FES	financial encumbrances (documents for transferring cash from one level of government to another)
FIC	fully immunised child
GDP	gross domestic product
GE	general expenditure
GNP	gross national product

HDL	healthy days of life
HPU	Health Planning Unit
IB	interview book
IMF	International Monetary Fund
IMR	infant mortality rate
J	journal
LPO	local purchase order
MA	medical assistant
MC	marginal cost
MCH	(Division of) Maternal and Child Health
MoFEP	Ministry of Finance and Economic Planning
MoH	Ministry of Health
MR&R	maintenance, repairs and renewals
NGO	non-governmental organisation
NHS	National Health Service (U.K.)
OC	opportunity cost
OPD	out-patient department
ORS	oral rehydration solution
ORU	Operations Research Unit
PAMSCAD	Programme of Action to Mitigate the Social Costs of Adjustment
PHC	primary health care
PIC	partially immunised child
PNDC	Provisional National Defence Council (the Ghanaian government)
PV	payment voucher
QALY	quality-adjusted life year
RDHS	Regional Director of Health Services
RHA	Regional Health Administration



RHE	Regional Health Economist
RHMT	Regional Health Management Team
RHS	Regional Hospital Secretary
RMS	Regional Medical Stores
SDHS	Strengthening District Health Systems
SMO(PH)	Senior Medical Officer (Public Health)
S/O	static/outreach (child welfare clinics)
T&T	travel and transport
TBA	traditional birth attendant
ToF	theory of the firm
UNDP	United Nations Development Programme
UNFPA	United Nations Fund for Population Activities
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

Explanation of Ghanaian terms

**In-charge**            The individual responsible for an institution. In health stations this is a medical assistant, where available.

**Stores**                Covers disposable items and equipment handled by stores personnel. Major items include stationery, linen and dressings.

# Chapter 1

How it began

## Chapter 1

### How it began

"Although the practice of management may be deficient in communicable skills, there is still a useful form of empirical activity in which academicians can engage, although perhaps it would not be considered respectable research by those who take a mistaken view of the successful sciences as their model. That activity is to participate in the trial-and-error process of practising managers - to become a practitioner, at least vicariously - and to assist in the articulation of the practitioner's skill." (Christenson, 1976, p 647; original emphasis)

From 1984 until 1989 I lectured on a variety of aspects of health economics at the Liverpool School of Tropical Medicine. This brought me into contact with international groups of practising health managers. My lectures provoked questions such as:

- \* what use is learning about costs, if accountants won't share financial information with nurses?
  
- \* what can we do about the fact that decision-makers often ignore the findings of economic evaluations?
  
- \* why does the literature about cost recovery say so

little about the under-the-counter charges which exist in so many countries?

- \* what is the point in doing cost-effectiveness analysis at district level when resources are controlled at national level?

Even though my confidence in teaching increased, I never lost the feeling that I was providing inadequate answers to course participants' reasonable questions. Nor could I find satisfactory answers in any literature. The questions were based on common sense; in contrast, economics seemed to offer bland answers based on a theoretical rationality which patently did not exist in practice.

Hoping to learn about the relationship between rational decision-making tools and real-world constraints, I sought a job as a health economist in a Ministry of Health. My plan was to document my work, noting the constraints and what economics could and could not offer.

This thesis is the outcome of the documentation of my two years' work as a health economist with the Ghanaian Ministry of Health.

The thesis has 8 chapters. Chapter 2 reviews a broad range of literature. It tackles questions such as "how do organisations work?" and "how does the health economics literature portray organisations?". It also questions whether the predominantly European/North American literature is relevant to developing countries.

Chapter 3 describes the context in which the study took place - the Ministry of Health in the Volta region of Ghana.

Chapter 4 describes the methodology of participant observation, which combined economics with anthropological techniques.

The three case studies in Chapters 5, 6 and 7 explore the relationship between economic analysis and the ways in which change can be effected in organisations. Chapter 5 describes the resource flows in the Ministry of Health in Volta and the confusing, "irrational" signals given to managers. Chapter 6 presents a cost-effectiveness analysis of two immunisation strategies. Chapter 7 describes a regional revolving drug fund and the many implementation problems.

The thesis concludes with a discussion of how economic techniques can be combined with an

understanding of how public sector organisations work in  
developing countries.

## Chapter 2

### Literature review

## Chapter 2

### What fate for rationality in an irrational world?

#### - a review of the literature

##### A Outlining the literature review

Chapter 1 described the personal dilemma which led to this thesis - how should someone trained in a discipline based on rational decision-making operate in a world where many of the constraints to rationality seem inevitable or justifiable? This chapter begins by expanding the dilemma into a series of statements and questions. The statements represent the underlying assumptions of the thesis. The chapter then explores the literature to see if these assumptions seem justified; it also looks for answers to the questions raised.

(Marshall and Rossman, 1989, ch 2)

The search for relevant answers to my questions led me to a variety of disciplines - anthropology, sociology, political science and economics. I do not claim to review all the issues comprehensively. Rather, this review attempts to weave together a number of subject areas to throw light on some real-world problems.

The statements and questions are as follows:



- 1 Organisations do not always behave rationally. Indeed, it is not really clear what rationality is - there can be many, conflicting objectives within an organisation, all of which seem rational to someone.
- 2 Health economics defines rationality in its own way - it is usually synonymous with economic efficiency.<sup>1</sup>
- 3 Health economics assumes that decision-makers can be persuaded to be more rational (i.e. efficient).
- 4 All decisions are constrained by the environment. It is often said that the constraints are particularly difficult in developing countries.
- 5 How can all the above statements be reconciled? Is there room for a "rational" health economist in a Ministry of Health in a developing country? What tactics exist to reconcile rationality and constraints?

---

<sup>1</sup> A caveat to this is discussed in Section C. Equity is often cited as a "competitor" to efficiency. Efficiency (sometimes "technical efficiency") is used to mean either maximising health for a given budget, or minimising the cost of achieving a given level of health.

The chapter is divided into Sections A-F. These sections are organised along the lines of points 1-5 above. Each main section ends with a boxed summary.

Section B, which asks "How do organisations work?", looks at five models and discusses how they can be used.

Section C tackles the question "How are organisations portrayed in the health economics literature?". It concludes that most health economists do not write explicitly about how organisations work; the implicit assumption is that organisations can be made to behave more rationally. To complement Section C, Appendix 2 takes "A wider (but brief) look at economics and organisations". It looks at how other branches of economics have explored the internal workings of organisations.

Section D points out that this literature review is dominated by writings from Europe and North America. It asks "Are developing countries different?".

Section E, "Rationality and constraints - confronting the dilemma", looks at how rational prescriptions might be reconciled with real-world constraints.

Section F briefly summarises the chapter and links it with subsequent chapters.

The main sections in each chapter end with boxed summaries.

## B How do organisations work?

"Irrationality becomes rationality in an irrational world."  
(Anonymous death row prisoner in the U.S.A., explaining why violence was a way of life for both guards and prisoners on death row. Quoted in Arriens, 1991.)

A district medical officer in Ghana<sup>2</sup> tells the story of visiting a village one day to promote family planning. He talked to the assembled villagers about the advantages of small, spaced families. The villagers expressed confusion - the previous day, an official from the Ghana Education Service had told them that the village was not entitled to a primary school because there were too few children. How, then, could a representative of the very same government be telling them the next day that they had too many children?

The government of Ghana is not the only organisation to work in seemingly contradictory ways. Most individuals have experience of perverse

---

<sup>2</sup> Gameli Seadzi, then working in Jasikan district, Volta region.

organisational behaviour. Organisations can also be slow and frustratingly rule-bound. Why is this so?

This section looks at ways of improving our understanding of how organisations work. This provides a framework for considering the work of health economists, who aim to improve organisational performance by increasing efficiency. The review concentrates on public sector organisations.

The literature on organisations is bewildering. It is a multi-disciplinary field, using a wide range of approaches and classifications. This review does not claim to be comprehensive; one method of analysing organisations has been selected from many possibilities. Other ways of looking at organisations could have been used - five other approaches are described very briefly in Appendix 1.

The decision to use the five organisational models was made for two reasons:

- 1 The models are widely used. This thesis aims to apply organisational theory, not to offer an original contribution to its development. It is thus appropriate to use a popular approach to understanding organisations.

2 The rational model is analogous to the way in which much of the health economics literature implicitly assumes organisations work. The link between the literature on organisations and health economics can thus be made relatively easily.

I Five organisational models - from rationality to anarchy

Five organisational models are considered. The roots of these models lie in political science, though they have also been used by sociologists. More will be said about the uses of these models in B (II). At this stage it is important to realise that the models are complementary ways of looking at the same events. In Allison's phrase, the models offer "conceptual lenses" for looking at the same issues from different perspectives. (Allison, 1971, p 251) These models should not be considered in terms of right or wrong; rather, they should be judged according to how much they contribute to an understanding of what happens in organisations.

The five models - rational, satisficing (sic), bureaucratic, political and anarchic<sup>3</sup> - are adapted from those described by Pfeffer (1981). There are many

---

<sup>3</sup> These names are used to refer to specific models. The models do not necessarily reflect the everyday usage of words such as "bureaucratic" and "political".

versions and variations of the models used here. For example, Handy's four "organisational cultures" - the task, club<sup>1</sup>, person and role cultures - are similar to the models described here. (Handy, 1988, ch 6; 1976, ch 7)

## 1 the rational model

The rational model postulates that decision-making in organisations involves the following activities:

- \* all possible alternatives are considered
- \* complete information about the consequences of all the alternatives is collected
- \* a system of values is applied consistently
- \* a preference is identified.

In short, the rational model presumes the existence of "purposive choices of consistent actors". (Allison, 1971, p 11) It is assumed that there is either a single decision-maker, or agreement amongst decision-makers. (Janovsky, 1979, p 11)

The rational organisation is a learning one. New information is incorporated into decision-making.

---

<sup>1</sup> The club culture of Handy's 1988 book was referred to as the power culture in his 1976 book.

The stages of rational decision-making are very similar to the steps in cost-benefit analysis. Indeed some authors virtually equate the rational model with cost-benefit analysis. (for example, Laver, 1986, ch 3)

A vast literature exists about the rational model. As we shall see, it is the model of decision-making which is implicitly assumed in much of the health economics literature.

## 2 the satisficing model

"Satisficing" is a combination of the words "satisfying" and "sufficing". The term was coined by Simon, who contrasted satisficing with the rational organisation's optimising. (Simon, 1976, page xxxi)

The satisficing model grew out of the belief that rationality is desirable but unattainable. Organisations should thus devise strategies to be "as rational as is reasonable". Rationality is unattainable largely because of the impossibility of having complete information and because of the limited computational abilities of people. Unlike in the rational model, the inhabitants of the satisficing model have limited resources to consider large numbers of alternatives.

Two types of decision-making occur in the

satisficing organisation. Some decisions are not carefully considered - the satisficing organisation simply aims for sub-optimal (or bounded) rationality. For these decisions, precedence and rules are used to achieve sub-optimal outcomes. Such decisions tend to be incremental and piecemeal, avoiding radical change and long time horizons.

The satisficing organisation does select some decisions for careful scrutiny; for these decisions, the organisation behaves as in the rational model.

Like the rational model, the satisficing model assumes that individuals adopt an organisational ethos - they are not only interested in their own private goals. To meet this assumption, organisations must provide their employees with reasonable remuneration, job satisfaction and fair treatment.

How does a satisficing organisation determine which types of decisions are suitable for the application of rational analysis? There is no consensus amongst authors about the criteria; indeed authors contradict each other. Pfeffer, for example, states that the rational model is likely to be applied when:

- 1 there is agreement on the connection between actions and consequences



- 2     there is agreement about goals
- 3     actors work reasonably independently
- 4     power is concentrated
- 5     the decision is unimportant
- 6     resources are not scarce. (Pfeffer, 1981, p 94)

In short, Pfeffer describes a situation where there is little potential for conflict.

Writing specifically about health economics, Lee (1983) disagrees with Pfeffer's last point. Lee considers that economics becomes more obviously useful as scarcity becomes more obvious. He argues that the reason for the rapid growth in health economics since the 1970s has been a growing awareness of the scarcity of resources, relative to the demand for health care. (Lee, 1983, p 2008)

Hogwood and Gunn agree with Pfeffer that highly politicised decisions should not be subjected to rational analysis. In contrast to Pfeffer, however, they believe that rational analysis should concentrate on important decisions. (Hogwood and Gunn, 1984, p 106)

Hogwood and Gunn emphasise that the selection of issues for rational analysis is largely subjective. For issues which are:

"so sensitive politically, or closed or value-laden that analysis would be difficult and/or unlikely to be consumed"

they ask,

"does it seem worthwhile taking the analysis a little further, despite the possibly high political price of doing so?"

(Hogwood and Gunn, 1984, p 106)

There is an art to choosing when to be rational.

Budget-setting is often used as an example of satisficing behaviour. Indeed Simon's ideas about satisficing were partly inspired by his involvement with resource allocation issues. (Bendor, 1990, p 407) A rational model of budgeting demands that each year all expenditure is re-considered and justified - this procedure is known as zero-based budgeting. In practice, most stable organisations retain the bulk of expenditure in the same form as the previous year; relatively small changes are made. These incremental changes are typical of a satisficing organisation - decisions which would entail radical change are avoided. Satisficing simplifies and speeds up decisions. (Wildavsky, 1984, pp 38, 216)

Oforu-Amaah has described satisficing budgetary behaviour in the Ministry of Health in Ghana:

"There are constraints, however, which prevent any government of the day in changing the health budget substantially over a short period of time. Firstly, there is a large body of trained workers, hospitals and clinics, already functioning which take up the recurrent budget. The Government is willy-nilly committed to carrying on financing these unless it decided to retrench workers and close down institutions. Secondly, there are development projects which have been started or which have been substantially executed. Government has to continue the commitment for contractual and other reasons." (Ofosu-Amaah, 1975, p 215)

The rational model - zero-based budgeting in this case - would require that the validity of expenditure on staff, hospitals and new buildings be closely questioned. The satisficing model simply allows them to continue largely unchanged.

### 3 the bureaucratic model<sup>5</sup>

Both satisficing and bureaucratic organisations abandon full-blown rationality. The bureaucratic organisation, however, does not strive as hard as the

---

<sup>5</sup> I have followed Pfeffer's 1981 classification of models, except for dividing his bureaucratic model into two - the satisficing and bureaucratic models. This has separated the sub-optimalising and rule-bound aspects of Pfeffer's bureaucratic model. In general, the area of satisficing and bureaucratic models is the most confusing in the literature. There are a large number of overlapping models - for example bounded rationality, mixed scanning and incrementalism.

satisficing one to make at least some rational decisions. Instead, the bureaucratic organisation relies on standard rules and procedures. These rules are the "second best" way of reaching decisions. It is impossible to have ideal decision-making conditions for all potential decisions; the rules represent the best practice known to the organisation. An organisation's rules result from learning from previous decisions. Bureaucratic organisations are not, however, quick to learn. The system does not adapt to deal with every new piece of information; change occurs slowly. (Bendor, 1990, p 409)

In a bureaucratic organisation, courses of action are considered one at a time - if a course of action does not meet an important goal, it is rejected. A wide range of alternatives is not considered - as soon as a satisfactory course is identified, it is selected. (Pfeffer, 1981, p 22)

Unlike the rational model, the bureaucratic model does not assume that there is an agreed hierarchy of goals. Objectives differ and conflict - the bureaucratic organisation depoliticises issues and ignores contradictions.

#### 4 the political model

The rational, satisficing and bureaucratic models assume that individuals subjugate their own private interests to those of the organisation. The political model rejects this assumption. Actors have their own interests at heart, rather than the welfare of the organisation. Conflict is to be expected; power determines the outcome.

In the world of the political model, there is no such thing as a single rationality. Actors pursue their own, differing rationalities;

".....actions that are rational from one viewpoint can prove exploitative from another." (Morgan, 1986, p 15)

In a political organisation, decisions reflect the preferences of powerful individuals or groups. Coalitions are built to enhance power. Different distributions of power result in different types of political organisation, ranging from dictatorial to pluralist.

#### 5 the anarchic model

As its name implies, the anarchic model paints a picture of organisations functioning in an ad hoc,

unpredictable fashion.

The anarchic model denies the existence of both the rational model's unified interest and the political model's powerful groups. The model is distinguished by the absence of intentional choice related to a goal; preferences of both organisations and individuals are ill-defined. The relationship between action and consequence is unclear. Decision-making is not structured - decisions are avoided, or taken quickly before too much is known to complicate the situation. Individuals and issues sometimes coalesce and then float apart. Decisions are highly situational - what choice is made depends on the exact circumstances. Organisations are decentralised, with little planning or consistency. (Mohr, 1976, p 181; Pfeffer, 1981, p 31)

Descriptions of decision-making in health services sometimes resemble the anarchic model. Doctors are diffused, yet powerful; decision-making is thus highly decentralised. (DHSS, 1983, p 12; Jennett, 1988, p 98; Strong and Robinson, 1990, ch 3)

The five models are summarised in Table 2.1.

Table 2.1 The 5 organisational models

Dimension	RATIONAL MODEL	SATISFYING MODEL	BUREAUCRATIC MODEL	POLITICAL MODEL	ANARCHIC MODEL
goals, objectives, preferences	consistent within and across social actors; willingness to make goals explicit	reasonably consistent	moderately consistent, though poorly articulated; conflict avoided	usually consistent within actors; inconsistent, pluralistic within organisations	unclear, ambiguous, may be constructed ex post to rationalise action
power and control	centralised (or unnecessary because of consensus)	not necessarily centralised	not necessarily centralised; reliance on rules	shifts as coalitions and interest groups form and reform	very decentralised
decision process	orderly	set procedures; efforts concentrated on some decisions	rule-based; standard operating procedures	disorderly; characterised by push and pull of interests	ad hoc
rules and norms	norm of optimisation	precedent; some attempts at sub-optimisation	precedent; tradition	conflict legitimate and expected	participation in decisions is segmented, episodic
informational and computational requirements	extensive and systematic	concentrated on specific decisions	reduced by the use of rules and procedures	available information used or withheld strategically	haphazard collection and use of information
beliefs about relationship between action and outcome	known at least to a probability distribution	known in some cases	uncertain, but this is accepted	disagreements about relationship between action and outcome	unclear, ambiguous
decisions	carefully analysed; consistent	some rule-bound; some carefully analysed	follow from rules and routines	result of bargaining and interplay among interests	not linked to intent; result of persons, solutions and problems intersecting
ideology	efficiency and effectiveness	striving for reasonable levels of efficiency and effectiveness	stability, fairness, predictability	struggle, conflict, winners and losers	informality, randomness

Source: Pfeffer, 1981, p 31; adapted.

## II Using the models - descriptions and prescriptions

In this thesis, the models are regarded as complementary; they are also used both descriptively and prescriptively. In the same way that allopathic, ayurvedic and homeopathic medical systems may all

contribute something to the diagnosis and treatment of a disease, the various models offer different ways of looking at the same organisation. The models can be used to describe how an organisation functions (the diagnosis) and then to prescribe how improvements might be made (the treatment).<sup>6</sup>

Elmore describes this use of complementary models for description and prescription:

".....certain kinds of problems are more amenable to solution when using one perspective than when using another. It is conceivable that in certain times and settings, the use of management controls is clearly appropriate, while in other circumstances only bargaining is appropriate. In some instances, wholesale delegation of discretion is the obvious course of action to follow, while in others firm control of discretion is necessary. The point is that models can help analysts and decision-makers distinguish among different kinds of problems. Using management controls in a system in which power is extremely diffuse, for example, is like using a crescent wrench to turn a phillips screw. The problem is to understand when certain tools of analysis and strategies of action are likely to pay off and when not.

---

<sup>6</sup> Hogwood and Peters expand the medical metaphor of diagnosis and treatment in "The pathology of public policy" (1985).



None of these approaches requires complete agreement on the nature of the models or on the existence of a single model that captures all essential features of the process. They require only a willingness to treat certain parts of a complex process as analytically separable, plus a high tolerance for ambiguity." (Elmore, 1978, pp 227-8)

Allison and Handy also use the models both descriptively and prescriptively. (Allison, 1971, pp 268-9; Handy, 1988, ch 6)

Whilst the bureaucratic, political and anarchic models are most commonly (though not exclusively) used descriptively, the rational and satisficing models are often used prescriptively. Many authors argue that because so few (if any) rational organisations exist, the rational model is irrelevant prescriptively. (for example Garnett, 1976; Richardson and Jordan, 1979) Others argue that the model does have prescriptive value, as it signposts the direction in which organisations should be going. For example, Leach, in an article entitled "In defence of the rational model", maintains that the rational model is the only one which offers an alternative to the preservation of the status quo. The other models merely offer explanations of why change is difficult to achieve. Rationality is not redundant because of the existence of constraints; rather, advocates of rationality should recognise these

constraints and work within them.<sup>7</sup> Organisations can thus learn and improve. In effect, Leach endorses satisficing, which he regards as a realistic modification of the rational model. (Leach, 1982)

Prescription involves a value judgement. Should rational decision-making be recommended, given all the constraints? How can one benefit from the inspiration of the rational model, whilst living in the real world of the constraints highlighted by other models? Advocates of the rational model have to think about the process of fostering rationality. They have to realise what is not feasible and what will involve alienating vital support. They have to develop their own constituency and opportunistically sell their rationality by using it at appropriate times. In short, the organisation's short- and longer-term "repertoires" have to be gauged, to assess what changes are desirable and feasible.

Constraints can be either accepted or challenged. It is important to achieve a balance between the importance attached to descriptive and prescriptive functions of the models. An over-emphasis on description can result in an acceptance of the status quo -

---

<sup>7</sup> The phrase "constraints to rational decision-making" demonstrates the special place of the rational model. A constraint is something confining and restrictive; it prevents something happening. "Constraint" implies that rational decision-making would occur if only the constraints were not there to hinder it.

constraints are accepted, rather than challenged. Writing about the Ministry of Health in Kenya, Janovsky said,

"The existing structures clearly do not encourage change. To effect structural change which fosters creative learning, the new leadership will need to encourage and permit initiative. Herein, however, lies the limitation of the descriptive model, if it is not coupled with the inspiration of normative [prescriptive] notions as to what should and perhaps could be." (Janovsky, 1979, p 133)

A similar point is made by Allison in the "Afterword" to his book about the Cuban missile crisis. He warns that constraints should not be regarded as permanent and unyielding. If an organisation produces constraints, he argues, a re-structuring of the organisation might reduce some of these constraints. (Allison, 1971, pp 268-9)

There is thus a dilemma between vision and pragmatism, between challenging and accepting constraints. The horns of this dilemma are that challenging constraints might be unsuccessful, but that accepting constraints limits the possibilities of change. The dilemma is encountered several times in this thesis.

Models<sup>6</sup> are a tool for understanding the repertoire of an organisation - the constraints to, and opportunities for, change. The models alert us to ask questions such as:

- \* does the organisation have clear objectives?
- \* how much information is available and used?
- \* are alternative courses of action compared when making decisions?
- \* who is powerful?
- \* are rules frequently invoked?

Rational techniques may lead to useful prescriptions. However, constraints must be identified and either challenged or incorporated into the recommendations for change.

The review now moves on to assess the potential usefulness of a particular tool for prescribing change - health economics.

---

<sup>6</sup> This is the first of the boxed summaries. They appear at the end of each major section.

C How are organisations portrayed in the health economics literature?

".....organization theory has developed a distinctive set of interests; though many of its practitioners have backgrounds in economics, sociology and psychology, the questions addressed by organization theory relate only tangentially to these disciplines. The result has been a separation from these parent disciplines and a tendency within the latter to ignore organizational questions." (Davies, 1979, p 413)

Health economics is an applied branch of economics. It aims to investigate, and hence improve, resource allocation in health care. Health care is often provided in the context of large organisations such as government bureaucracies, insurance companies and hospitals. We might reasonably expect, therefore, a discussion in the health economics literature of how change is effected in organisations; after all, change is what health economists hope to achieve. But Davies' statement in the quotation at the beginning of this section holds true - there is a tendency within health economics "to ignore organizational questions".

This section is not a summary of the main concerns of health economics. Rather, it concentrates on health economists' perceptions of how decisions are made in

organisations.

The section is in two parts. Part I begins by explaining the use of the terms "health economists" and "the health economics literature". It then asks "what are health economists interested in?" and briefly looks at the main topics considered by the discipline. Two current debates are scrutinised to see what they reveal about how economists perceive organisations.

Part II asks "how are organisations portrayed in the health economics literature?" It poses questions derived from the discussion of organisational models. The aim is to find out how health economists believe organisations work. In particular, it asks what economists have to say about the dilemma between accepting or challenging constraints. This dilemma was first encountered in the previous section on organisational models.

In summary, this section argues that the health economics literature portrays economists as disinterested advisers, who use their economic tools to help decision-makers make more rational decisions. Rationality is generally equated with [economic] efficiency.<sup>9</sup> The literature recognises that in practice there are constraints to rationality. These constraints

---

<sup>9</sup> See footnote 1.

are described in very general terms such as "political" or "organisational". Discussion of the constraints is generally sketchy and the implications are rarely considered. Very little advice about how to deal with these constraints exists beyond "don't do health economics in certain situations".

In the language of the organisational models described earlier, health economics portrays itself as a prescriptive tool for enhancing rationality. Constraints are recognised, but "as much rationality as possible" is prescribed. Satisficing is implicitly adopted, with the hope that organisations will learn to be more rational over time.

## I What are health economists interested in?

### (a) Defining some terms

This section frequently refers to "health economists", "the literature on health economics" and "the health economics literature". These phrases require some explanation.

The "literature on health economics" and "the health economics literature" are used synonymously to mean books and articles written specifically from a health economics viewpoint. Particular attention has

been paid to two textbooks - "The economics of health care" by McGuire, Henderson and Mooney (1988); and Mills and Gilson's "Health economics for developing countries: a survival kit" (1988). These are probably the most widely used health economics textbooks for the U.K. and developing countries respectively. As such, they are felt to be particularly influential.

Although it may seem rather sweeping to talk about "the literature" as if it were a consistent body of work, I believe it is justified. The issue discussed here - how health economics views organisations - is not the main topic of the texts surveyed. There is relatively little diversity in the treatment of organisations. Moreover, health economics is a fairly new subject - no significant radical viewpoint has emerged from within the subject. Any challenges to the orthodoxy are noted in this review.

The term "health economists" is defined as "people who do health economics". This is scarcely profound. The point is that the term is used to refer to people as they are revealed through their writings on health economics. "This health economist believes that organisations are rational" refers to what is revealed in his or her writings. The economist may, in private, be strongly of the opinion that the organisations responsible for the local rail service, street cleaning,



or indeed health services, are far from rational.

(b) Health economics - what is it about?

Health economics texts cover a fairly consistent range of topics. These are conventional economic subject areas applied to health care, which is a most unconventional commodity. The most peculiar aspect of health care is that there is often considerable doubt about how effective it is. Patients are more uncertain than health professionals; a lot of demand for health care is thus channelled through health professionals. In contrast, the "utility" or "effectiveness" of conventional commodities (such as pens or bananas) is generally quite clear; consumers can make their own choices about what they demand.

The standard subject areas in health economics texts are:

- 1 definitions of health, health care and health economics. Health economics is presented as a rational "way of thinking" that can result in useful advice to decision-makers.
- 2 the supply of, and demand for, health care.
- 3 hospitals as "firms". (see Appendix 2)

4 equity (in health and health care).

5 economic appraisal<sup>10</sup> and its component parts, the measurement of costs and output. Economic appraisal aims to identify efficient strategies. Efficiency entails maximising health for a given budget or minimising the cost of achieving a given level of health.

6 methods of financing health care.

The vast majority of empirical studies relate to the last two topics - economic appraisal and financing methods. An informal group of health and development economists, meeting to discuss WHO's priorities in health economics, also identified these as the two most important areas:

".....the group felt that priority in-country support should be given to intra-sectoral resource allocation [mainly economic appraisal], where lay the greatest opportunities to improve efficiency and equity, followed by financing issues....." (WHO, 1989, p 4)

---

<sup>10</sup> Economic appraisal is a generic term covering cost-benefit, cost-utility and cost-effectiveness analyses. Cost-utility analysis uses quality-adjusted outcome measures. (Gerard, 1992)

The case studies in chapters 6 and 7 illustrate aspects of the topics economic appraisal and financing health care. Most of the examples in this chapter are related to economic appraisal because the health economics literature most often alludes to decision-making in this context.

This review now considers two current debates within health economics. These issues - how to measure the output of health care and the equity/efficiency trade-off - reveal much about how economists view decision-making.

(c) Two debates

Debate 1 To QALY or not to QALY?

In order to identify efficient strategies, economists had to develop a measure of the output of health services. Fierce debate has raged around measures such as lost productivity; healthy days of life (HDLs) lost; and quality-adjusted life-years (QALYs). Two of these measurements are discussed here - QALYs and the HDLs-lost index, which is of particular interest because it has been applied to Ghanaian data.

The national Health Planning Unit (HPU) was established in the Ghanaian Ministry of Health in 1976.

According to one of its senior members:

".....the HPU developed a rational approach to health planning..." (Morrow, 1983, pp 272-3)

Economics was central to the thinking of the HPU, which was interested in identifying cost-effective disease control strategies. The "rational approach" mentioned by Morrow involved comparing strategies according to the number of HDLs saved per cedi<sup>11</sup> expended. The number of HDLs lost for each disease was calculated using estimates of incidence; case fatality; and duration and extent of disability. (Barnum, 1987, p 833)

The calculation of HDLs saved per cedi expended could not be done with routine data. Instead, the HPU made "best estimates" from a variety of sources - existing data; a commissioned sample of the census; special surveys; and interviews with experienced clinicians. (Morrow, 1983, p 283)

The HDLs saved per cedi expended was said to be the crucial measure for decision-making. However, the published sources about the work of the HPU only give details of the epidemiological information - the HDLs lost due to various diseases. The top five diseases were

---

<sup>11</sup> The cedi (¢) is the Ghanaian currency.

malaria, measles, childhood pneumonia, sickle cell disease and severe malnutrition. Details of the top 25 diseases are given in Appendix 3. (Ghana Health Assessment Project Team, 1981, p 76; Morrow, 1983, p 284)

It was claimed that the HDLs-lost index removed the political element from priority-setting:

"By comparing the amount of healthy life saved per cedi expended, health programme priorities could be established on a technical basis." (Morrow, 1983, p 285)

Such depoliticising of decisions and playing down of conflict are typical of the rational model.

In 1987, Barnum reviewed the HDLs-lost approach, citing a number of examples of its use outside Ghana. His paper is a detailed statement of how the index could be improved; he does not doubt its potential usefulness:

"An important motivation for the development of techniques of quantitative assessment.....stems from the need for a measure of cost-effectiveness that can be used to establish priorities among different programs in the allocation of limited resources." (Barnum, 1987, p 833)

An obvious question is, "to what extent did the

HDLs-lost index affect actual resource allocation?" The literature is silent on this point.

A sizeable literature<sup>12</sup> has grown up around a more recent measure of health - the quality-adjusted life-year, or QALY. As its name implies, the QALY measures the number of years of life gained from an intervention, with an adjustment for the quality of this life.

The debate about whether or not QALYs are a useful decision-making tool strikes at the heart of how economics views organisations. Supporters of QALYs believe in the possibility of a rational or satisficing health care provider. Anarchic or political providers would ignore QALYs, except when it was expedient to use them. A bureaucratic provider might learn over time to use allocative rules based on cost-per-QALY.

Alan Williams has been instrumental in the development of the QALY in the U.K. He defends its usefulness in a debate with Carr-Hill in the International Journal of Health Services (Williams, 1991; Carr-Hill, 1991a, 1991b). Williams claims that, when it comes to choosing health care priorities,

---

<sup>12</sup> For example Birch, 1987; Carr-Hill/Williams, 1991; Gerard, 1992; Gudex, 1986; McGuire et al., 1988; Mills and Gilson, 1988; Smith, 1987; Williams, 1985.

"there is at present no serious contender for this role other than the cost-per-QALY approach". (Williams, 1991, p 367)

In the debate, Williams describes the role of policy analysts. They clarify objectives, constraints and problem statements; they collect available data, whilst highlighting gaps in the available evidence. In Williams' world, policy analysts are quite separate from decision-makers - politicians, managers and clinicians - who have been given authority by the community to make decisions on their behalf and who are accountable to the community.<sup>13</sup> In this scenario, the QALY is a useful tool to help policy analysts to clarify goals and the implications of decisions; and to make value judgements and assumptions explicit.

Opponents of QALYs (such as Carr-Hill) claim that, far from clarifying value judgements and assumptions, QALYs hide them. The calculation of QALYs is seen as a technocratic process whose complexity disenfranchises many people from participating in a debate about health care priorities. Antagonists of QALYs also argue that it is unhelpful to try to combine complex outcomes into a single index. How can one combine the bonding and health effects of breast-feeding; or the moral and quality-of-life (for parents and baby) aspects of abortion? QALYs should not become a substitute for debate amongst

---

<sup>13</sup> Note the assumption of democracy.

different viewpoints. Gerard argues that QALYs simply cannot deal with some types of outcome - cost-utility analysis, she says, is "in trouble" as soon as there are any objectives which cannot be expressed in terms of QALYs. (Gerard, 1992, p 4)

In the Carr-Hill/Williams debate, Carr-Hill's criticism is based on the contention that Williams confuses a prescriptive model of decision-making (what the role of policy analysts ought to be) with a descriptive model (how it really is). Carr-Hill argues that decision-making is always messy, involving conflict and a lack of clarity; it is dangerous to claim that "clean" decision-making is possible. Carr-Hill wants the messiness to be explicit; otherwise he believes that QALYs will serve to discourage democratic debate. (Carr-Hill, 1991b, p 371)

Health economists have devoted much energy to developing a single measure of the outcome of health services. The belief in the usefulness of the measure rests on the assumption that decision-making can be made more rational.

## Debate 2 What do we want - efficiency and/or equity?

Having seen the efforts which have been made to subsume multiple values in one index, it is perhaps



strange to find that a good deal is said in the health economics literature about the potential conflict between equity and efficiency. Equity is widely accepted as a legitimate concern; indeed it seems to have been widely adopted as a health economists' value. This has not happened for other values such as, for example, community involvement<sup>14</sup>, democracy or positive discrimination. The equity/efficiency trade-off is generally described along the following lines:

- 1 in general, decision-makers favour both efficiency and equity; however, they are vague about the practical implications.
- 2 economists can point out the impact of various strategies on equity and efficiency.
- 3 decision-makers must then make the necessary trade-off.

For example, describing an appraisal of various forms of acute in-patient services for the people of Fife, Scotland, McGuire et al. state:

"The appropriate decision-makers must decide, however, how

---

<sup>14</sup> Economists tend to regard community participation as a means to an end - more efficient health services. However community participation can be regarded as an objective in its own right. (Bermejo and Bekui, 1991, p 1)

much it is worth paying to achieve equity, for what sort of equity the health service should strive, how much weight should be attached to costs falling on patients, how much weight should be attached to under-utilisation, and in what services Health Boards/Authorities should be self-sufficient." (McGuire et al., 1988, p 125)

In other words, multiple, conflicting objectives fit into the rational model, as long as a decision-maker can be relied upon to make consistent choices based on explicit criteria.

## II How are organisations portrayed in the health economics literature?

This section considers seven questions about the health economics literature. The questions are derived from the discussion of organisational models. The questions are:

- 1 What sort of decision-maker is portrayed?
- 2 Are conflicting objectives recognised?
- 3 Who should generate alternative strategies?
- 4 How are constraints portrayed?
- 5 What strategies ("prescriptions") are suggested for dealing with constraints to rationality?
- 6 What is said about imperfect information and uncertainty?

7 What are the interests of health economists themselves?

The health economics literature is ambiguous and incomplete about these matters. Organisations are, after all, not the main subject matter. Health economics texts consider particular variables such as cost and effectiveness. They explain how to measure efficiency and equity and the tools which are available for identifying more efficient resource allocation. The literature is not primarily concerned with how decisions are made in practice.

1 What sort of decision-maker is portrayed?

Health economists take pains to portray themselves as disinterested advisers; they do not take decisions, but merely advise decision-makers. It is the decision-maker who has to specify values and goals. Very little is said about who these decision-makers are - they are usually referred to simply as "politicians". The implicit assumption, however, is that they are potentially rational.<sup>15</sup>

An example of the separation of analyst from decision-maker is given by McGuire et al. (1988, p 41)

---

<sup>15</sup> This issue is explored further in question 5 - "What strategies ("prescriptions") are suggested for dealing with constraints to rationality?"

Obstetricians may believe that the main function of ante-natal care is to enhance the health of the newborn, whereas mothers believe that information and reassurance about the well-being of the foetus are of extreme importance. Under such circumstances, an economist should not decide on the relative importance of these different viewpoints. S/he should not proceed with an economic analysis without knowing the decision-maker's relative valuation of the objectives of health and information/reassurance.

The decision-maker is supposed to take a global perspective - i.e. to make decisions "on society's behalf". This reflects economics' concern with global efficiency. The existence of this global decision-maker is rarely explicitly discussed or questioned. The assumption is that "politicians" make decisions on behalf of the entire society. This assumption is unwarranted, even in democracies. Politicians are often poor representatives of their constituents' values. The notion of a global decision-maker is even more untenable in countries with military or one-party governments.<sup>16</sup>

In practice, many economic appraisals only consider government costs. This is an implicit recognition that global decision-making does not usually happen. (McGuire

---

<sup>16</sup> Political parties were banned in Ghana during the period of this study (1989-1991).

et al., 1988; Mills and Gilson, 1988) In other words, the absence of a decision-maker with a global perspective is one constraint to rationality which is widely recognised by health economists.

## 2 Are conflicting objectives recognised?

"In economic appraisal of alternatives for health care resource allocation, there should be an explicit statement of the objectives ....." (McGuire et al., 1988, p 105)

Table 2.1, which summarised the organisational models, showed that a rational organisation is united in a set of explicit objectives. To varying degrees, the other models all encompass the possibility that objectives might be inconsistent within an organisation. There might be little explicit discussion of objectives, so that overt conflict is avoided.

Economic appraisal seeks to identify the most efficient way to achieve a clear objective. If objectives are unclear or conflicting, the decision-maker is required to clarify the objectives in a consistent fashion. Economic appraisal is thus inconsistent with the kind of events described in the anarchic and political models.

The discussion of QALYs and the equity/efficiency

trade-off has already illustrated how health economists seek to "tidy up" objectives.

### 3 Who should generate alternative strategies?

Because economists are not supposed to make value judgements, they expect external help with some stages of analysing an issue. One such stage is specifying alternative strategies for analysis. That this is a political, not technical, stage is well recognised in the literature. McGuire et al. state that this stage,

".....is not for economists alone, which re-emphasises the multidisciplinary nature of appraisal." (McGuire et al., 1988, p 103)

As was the case for setting objectives, there is a playing down of the possibilities of conflict and manipulation - for example the deliberate exclusion of an alternative not favoured by a powerful individual.

### 4 How are constraints portrayed?

Many health economists recognise that there are constraints to taking decisions on entirely rational grounds. However, these constraints are often only mentioned at the end of technical discussions about the identification of rational solutions. Two examples are

given below. Many more could have been cited. These quotations also give hints about how the constraints might be handled. This is discussed in Question 5.

(a) "Since cost-benefit or cost-effectiveness analysis is economic evaluation of public projects or programs, it must inevitably take place in a political climate. While the economic tool of cost-benefit analysis implies a delineation of goals and an articulation of values, the imperatives of the political process may call for a blurring of differences and potential conflicts, in order to facilitate the buildings of coalitions aimed at the accomplishment of particular ends.....

.....the exceptionally capable practitioner of economic cost-benefit analysis must know how and when to make an allowance for the existence of a political cost-benefit calculus. " (Klarman, 1974, p 347)<sup>17</sup>

(b) "An appraisal may be used as the basis for determining that a particular service development should take place, but whether it will take place and whether to enable it to take place requires the modification of the options usually depends upon a host of managerial considerations, arbitrary constraints

---

<sup>17</sup> This quotation illustrates the "phenomenon of the last paragraph" - constraints are often only mentioned at the very end of a work which assumes that economic appraisal is useful. The quote is from the end of a 27-page article on the application of cost-benefit analysis to health services.

(that may vary from place to place), the placating of vested interests in the status quo, the reassurance of those who feel threatened and the gaining of their active support. While such considerations may lie beyond economic appraisal - at least as currently practised - they can sabotage the implementation of more cost-effective procedures unless appropriately dealt with. An ideal appraisal in the decision-making approach would, by virtue of the closeness of the liaison between analysts and research customers, anticipate such problems and incorporate them (or at least strategies for coping with them) in the analysis. Currently, however, this is ignored in economic appraisals in the health services." (Blades et al., 1987, p 471; original emphases)

The quotations assume that promoting efficiency is for the general good; constraints are portrayed as negative and as barriers to efficiency. Blades et al. equate constraints with "problems" which "sabotage" rational decision-making.

The two quotations above mention "the political process", "coalitions", "managerial considerations", "vested interests" and even "arbitrary constraints". Such terms are reminiscent of the language of the bureaucratic, political and anarchic organisational models. However the implications of the existence of the constraints are not explored.



5 What strategies ("prescriptions") are suggested for dealing with constraints to rationality?

"A powerful politician may have promised to secure a hospital for his constituency and he is likely to get it. Any theoretical distributional aim may be modified by short-term political pressures. These are the realities of life in any society." (Abel-Smith, 1976, p 180; quoted in Lee, 1983, p 2014)

In the section on organisational models, we saw that people differed in their views on how to effect change. Some favoured systematic analysis and logical argument; others emphasised the importance of power and bargaining. A dilemma faced those who wanted more rationality but realised that their efforts had to be concentrated on certain decisions - when to accept and when to challenge constraints? How do economists tackle this dilemma?

The quotations in Question 4 included some ideas about how to deal with constraints. The suggestions are distinctly vague - for example, "modify the options"; "incorporate them in analysis"; and "know how and when to make an allowance for the existence of a political cost-benefit calculus". Some authors offer somewhat more specific advice about how to deal with constraints to rational decision-making. Individual economists differ

in their reactions to the constraints. Three viewpoints can be discerned - the econocrats, the liberals and the pragmatists.

(i) the econocrats

Some authors encourage health economists to do battle against the constraints. These writers might be called econocrats, a term coined by Self:

"Econocracy, as I use the word, is the belief that there exist fundamental economic tests or yardsticks according to which policy decisions can and should be made." (Self, 1975, p 5; original emphasis)

Econocrats campaign for their vision of a more rational health service. In their view, economic appraisal should challenge the fickle use of power. Two quotations are given to illustrate the econocrats' point of view:

- (a) "Certain decisions are perceived to be "political" and therefore not worthwhile subjecting to economic appraisal. This view ignores the fact that appraisal might influence "political" judgements if the costs or benefits of favoured options were discovered to be very different from what was expected. The existence of political factors in a decision is not sufficient reason to abandon the appraisal framework."

(Ludbrook and Mooney, 1984, p 15)<sup>18</sup>

- (b) "It may be that social decision-makers are irrational in deciding about health care provision, or they may be constrained by the vested interests that dominate health services, or by powerful political forces or allegiances. However, rather than making the cost-benefit approach redundant, such problems make the approach yet more useful owing to its merits of being comprehensive, systematic and explicit. The process of working through all the stages of economic appraisal, using consistent criteria, and reporting the results of every stage, may, by generating further information, lead to less 'irrationality', less uncertainty, more carefully considered choices, and thus better resource allocation." (McGuire et al., 1988, pp 100-1)

Econocrats also operate by changing or removing constraints. This can be done by re-organising a system, so that actors have new incentives. In the U.K., many econocrats have favoured the split between the provider and the purchaser of health services, as this introduces the price incentive which is central to *laissez faire* economics. In developing countries, the World Bank has favoured user fees and private institutions. Again, the rationale for this is the replacement of organisational

---

<sup>18</sup> Even Ludbrook and Mooney accept some constraints. Their book concentrates on the usefulness of economic appraisal at sub-national level, arguing that economics will be thwarted at national level because of the multiple, conflicting goals.

constraints with the price signal.

(ii) the liberals<sup>19</sup>

Whilst liberal health economists recognise constraints, they nevertheless recommend health economics as a useful and worthwhile input into a decision-making process which has conflicting goals. Appleby acknowledges multiple objectives - however, he argues that economic appraisal is useful because it might lead to more informed decisions:

"Cost effectiveness analysis should not be seen as having the power of veto but rather as providing one part of the information (in addition to political, social, medical, and philosophical criteria) necessary to achieve truly informed decisions about using society's resources." (Appleby, 1987, p 326)

Drummond and Mills also recognise multiple, and potentially conflicting, objectives:

".....while studies may identify the potential gains in economic efficiency, it may be that other government objectives take precedence on occasion. Therefore it is not

---

<sup>19</sup> "Liberal" is used here to mean both "tolerant, open-minded" and "broadening the mind in a general way, not only training it in technical subjects". (Oxford Paperback Dictionary, 1979, p 364)

irrational to reject study results providing the implications (in inefficient use of resources) are fully understood."

(Drummond and Mills, 1989, p 92; original emphasis)

This quotation raises the spectre of numerous unimplemented economic appraisals. Might there be a way of recognising in advance when "other government objectives [will] take precedence"? This question is confronted by the pragmatists.

### (iii) the pragmatists

The pragmatists try to identify situations in which economics is (un)likely to be influential.<sup>20</sup>

In addition to excluding questions of "political or moral judgement" (p 124), Mills and Gilson list other criteria for judging when to use economic appraisal. The technique is appropriate if:

- " - the volume of resources at stake justifies the study
- there are clear alternative uses for the resources to be evaluated
- the technology underlying each alternative is sufficiently well understood
- a reasonable length of time is available for the study

---

<sup>20</sup> For a description of "pragmatism" by non-economists, see Hogwood and Gunn on "issue filtration". (1984, ch 6)

- decision-makers are receptive to the results of the study and have not already made up their minds." (Mills Gilson, 1988, p 90)

In other words, circumstances are auspicious for rational decision-making if there is the opportunity for genuine and informed choice. These criteria are not unlike those of Pfeffer (1981) which were given in the discussion of the satisficing model. He too, for example, required that there be "agreement on the relationship between actions and consequences" - in the language of Mills and Gilson "the technology is understood".

Mills and Gilson differentiate between situations where political considerations are more or less dominant. Discussing programme budgeting, they say that a useful guide for deciding what constitutes a programme is that:

- " - where decisions are primarily a matter of political or moral judgement, the activities to be compared should be in different programmes (e.g. improvement of child care facilities versus psychiatric services)
- where the decision is a technical one of how best to achieve a particular objective, the activities to be compared should be in the same programme (e.g.

improvement of curative or preventive services for children)." (Mills and Gilson, 1988, p 124)

The implication is that different strategies should be employed for decisions within and between programmes. Between programmes, the decision is essentially political. The economist can provide information on expected costs and benefits, in the hope that they might be considered. Within a programme, decisions are more technical and there is more scope for full economic appraisal.

Ludbrook has documented the existence of pragmatism - economic appraisal is in practice avoided for certain "political" decisions. Ludbrook devised a questionnaire about the reasons for using, or not using, economic appraisal. This was distributed to U.K. National Health Service staff who had undertaken a correspondence course in health economics. (Ludbrook, 1986, p 21) Two of the questions were:

"Has your Health Authority/Board taken decisions without the use of appraisal, but where you think that economic appraisal might have been useful?" (original emphasis)

and

"For each of the above examples, can you say why economic

appraisal was not carried out?" (Ludbrook, 1986, p 23)

84 examples were cited in response to the first question. Of the 81 reasons given in answer to the second question, 31 were categorised as "political factors". This was the most frequently recorded category. Appraisals were not conducted when it was recognised that political considerations would dominate the ("rational") economic evidence.

Dando (undated) wishes that her training in health economics had been more pragmatic. She describes a process in which a decision was made that was not in line with the stated objective of cost reduction.<sup>21</sup> She argues that a political element in this decision was inevitable and that if there had been more awareness of this in the original analysis, a more rational decision might have been possible. Political considerations should have been incorporated into the "economic" analysis. She concludes:

---

<sup>21</sup> Dando describes the process of deciding whether to re-build or re-locate a hospital which was expensive to run. Cost was initially said to be "the deciding factor" (p 75). However the Health Authority's final decision was not taken on the grounds of cost. When this decision was challenged, new factors were introduced. For example, a new benefit was mentioned - the "cross-fertilisation" of ideas when consultants worked in two hospitals. (p 77) This goal, or value, had never previously been mentioned as a consideration. In fact, Dando argues that this was just a smoke-screen for the real issue - consultants were concerned about their careers.



"The political dimension in organisations is critically important and as such should be regarded as an acceptable topic for discussion and training at all levels". (Dando, undated, p 78)

Dando regrets the tendency to hide and deny political activity when teaching and talking about health economics. Suggestions that she should not write up her case study of hospital re-location were based on the belief that the health authority should try to appear as a rational organisation.

Although endorsing pragmatism, Mills and Gilson (1988) warn that health economists are sometimes too quick to accept constraints. Writing about the general area of health sector financing and expenditure, they specify some constraints which have too readily been assumed to be inviolable. This has limited the scope of economic analysis by hindering consideration of some alternative forms of health care. In particular, they mention:

- " - bureaucratic reluctance to encroach on the organizational territory of co-providers of finance and services (unless formally instructed to)
  
- the independence of decision making enjoyed by many providers, which takes priority over the need to

coordinate and integrate health policy." (Mills and Gilson, 1988, p 99)

Health economics should sometimes be proactive and consider challenging some traditional constraints. Lee (1983), whilst recognising constraints and the need to react to the demands of various actors, also exhorts health economists to do some more radical work which "shows the way".

In the discussion of organisational models, the dilemma between challenging and accepting constraints (or between vision and pragmatism) was encountered. A similar, though less well defined, debate exists within health economics. Econocrats challenge constraints; pragmatists accept them up to a point.

6 What is said about imperfect information and uncertainty?

Mirroring the distinction between pragmatism and econocracy (and between the bureaucratic and rational models), authors differ in their reaction to the existence of imperfect information and uncertainty.

Most economists argue that economic techniques are valid even when there is very little information or in conditions of extreme uncertainty. In such circumstances

economic appraisal helps to structure decision-making. When information is not available, this should be admitted, assumptions should be made, and then sensitivity analysis should be applied to the assumptions. Sensitivity analysis involves substituting alternative assumptions into the appraisal to see how sensitive the conclusions are to particular assumptions. For these authors, incomplete information is not seen as a problem for economic appraisal. Such authors in effect endorse the satisficing model. (see, for example, Drummond et al., 1987, p 31; McGuire et al., 1988, p 121; Mills and Gilson, 1988, pp 86-7)

7 What are the interests of health economists themselves?

Health economists claim that they are disinterested analysts, hoping to influence decision-makers. In contrast, the political and anarchic models of organisations suggest that all actors in an organisation have their own interests. Not surprisingly, few texts are explicit about the interests of health economists themselves.

One obvious area of self-interest is obtaining and keeping a job. Leidl (1988) has no illusions that health economics has clearly defined, consistent, rational goals. Just like other workers, health economists can

end up perpetuating their own jobs.

Whether unwittingly or not, the supposed "rationality" of health economists is sometimes exploited for political ends. For example, in the context of the debate about selective versus comprehensive primary health care, Mills and Gilson state:

"[Some critics argue] that economic evaluation techniques have been used inappropriately to impose the value judgements of specialists on the community as a whole." (Mills and Gilson, 1988, p 87)

Two writers have reviewed economic appraisals to see if health economists really are functioning as disinterested advisers to decision-makers. Alban (1987) contacted 35 people who had conducted economic appraisals. Of these 35, only 23 stated that the appraisal was undertaken "to influence directly what was happening". (p 16) The remaining 12 must have had goals other than influencing decision-makers to act more efficiently; Alban suggests that publication was one significant goal!

Gerard reviewed 36 cost-utility analyses and considered whether or not they had been "of policy relevance". She found that:

"23 respondents (63.9%) considered that their results had been made available, beyond simply publishing them, to relevant health care decision-makers. However, only 18 of these researchers (50.0%) were aware of any influence that the results had had." (Gerard, 1992, p 10)

This confirms Alban's conclusion that health economists have other, undefined interests - they certainly do not act merely as disinterested policy advisers.

Much of the health economics literature is rather unclear about how decisions are made. Constraints are acknowledged, but the implications are not usually explored. The same dilemma emerges as in the section about organisational models - how to enhance efficiency [i.e. rationality], whilst recognising that it is constrained?

D Are developing countries different?

".....we give poverty an extended meaning. Low-income countries are poor for reasons other than lack of money. Their poverty extends to information, trained manpower, and public institutions. The poor nation is not one that finds itself in temporarily straitened circumstances, like Germany and Japan after World War II, which needed only the chance to get going again. Rather, the poor country finds it hard to increase its wealth rapidly because its population lacks skills, its

information base is bad or nonexistent, and its governments are unable to mobilize resources. The whole life of the society is affected by scarcity." (Caiden and Wildavsky, 1974, p 47)

So far, the vast majority of the reviewed literature has been from Europe or North America. Do the above discussions also apply to developing countries?

As we have seen, health economics tends to be rather vague about the context of decision-making. For this reason, there is little difference between the health economics literature on industrialised and developing countries, beyond an acknowledgement that information and skills are scarcer in the latter.

The organisational literature is more explicit about differences between rich and poor countries. The literature on developing countries stresses that the constraints to rationality are even more formidable than they are in industrialised countries.<sup>22</sup> Most of the constraints are not qualitatively different; they are simply more extreme. Some constraints, however, are specific to developing countries - most notably the role

---

<sup>22</sup> There is disagreement about the causes of these constraints and hence about possible solutions. Dependency theorists argue that the extremity of the constraints is because of the dominance of industrialised countries in North-South relations. (see, for example, Conyers and Hills, 1984, p 34)

of donors.

Six particular constraints to rational decision-making in developing countries have been identified.<sup>23</sup> These areas overlap.

- 1 civil servants pursue personal, not organisational, goals
- 2 information is extremely scarce
- 3 there is a shortage of skilled people
- 4 there is very considerable uncertainty
- 5 donors complicate decision-making
- 6 resources are scarce.

- 1 civil servants pursue personal, not organisational, goals

"The dilemma of premature bureaucratization in the new states of Africa....." (Okoli, 1980, p 11)

The absence of a neutral civil service is the most common theme in writings about organisations in developing countries. Individuals have loyalties to family and to ethnic and social groups, not to an organisation. This is what Hyden calls the "economics of affection", which he argues is incompatible with an organisation aiming for efficiency and discipline. The

---

<sup>23</sup> The categories are my own.

economics of affection blurs the notion of "public property" - government property is regarded as being for the benefit of officials and their kith and kin. (Hyden, 1983, pp 8, 19, 29) The point here is not that a totally neutral civil service exists anywhere in the world; the argument is that the economics of affection is more dominant in developing countries.

Personalistic civil servants are not oriented to achieving organisational goals; they regard the system as existing for the furtherance of themselves and their social groups. The perks provided by the system are important. Stonecash has coined the term "withinputs" for describing a system which spends most of its time looking after itself.<sup>24</sup> (Stonecash, 1980, p 24; quoted in Saasa, 1985, p 311) The danger of the Ghanaian Ministry of Health becoming overly concerned with withinputs has been recognised:

".....creating a National Health Service does not necessarily improve services. In fact, if setting up such a service is more concerned with improving the lot of health service providers, rather than improving services to users, there is a risk that it may even become less efficient."

(MoH/WHO, 1992b, p 3; emphasis added)

---

<sup>24</sup> It is not only civil servants from developing countries who spend their time on withinputs. Donors which use their own consultancy staff and supervisors, and which favour autonomously managed projects, are creating their own enclaves of withinputs. (Caiden and Wildavsky, 1974, p 61)



Where civil servants are personalistic and lacking in an organisational ethos, organisations tend to be centralised and tightly controlled. Rules and regulations abound. Checking and counterchecking are felt to be necessary because of the lack of organisational loyalty. (Hyden, 1983, p 69)

In his article "Probing managerial behavior: image and reality in Southern Africa", Montgomery describes the findings of a major study of managerial behaviour in nine countries in Southern Africa. He claims that his findings support the stereotype of Southern African managers pursuing personal, rather than organisational goals:

"Assumption number one - the personalistic interpretations of African bureaucracy - is perhaps oversimplified, but turns out to be a recognizable explanation of observed realities. The data reinforce the impression of personalism as a managerial style.....The principal surprise was that the bureaucracy seemed to concern itself so little with client relations, and so much with itself....."

The "commons" [i.e. government property] appears on the agenda from time to time, but collective goods tend to be treated as something belonging to the clan rather than the government. Even arguments and negotiations over public vehicles, housing, and equipment centered about the convenience of the individual

users more than about the mission to which they were assigned." (Montgomery, 1987, pp 914, 917)

Gyimah-Boadi and Rothchild have documented a similar weak internalisation of bureaucratic values in Ghana. (1990, p 252)

## 2 information is extremely scarce

Incomplete information is cited as one of the main constraints to rational decision-making in industrialised countries. The shortage of information may be more acute in developing countries.<sup>25</sup> (Appendix 2 develops the argument that insufficient information was one of the causes of the failure of development planning.)

Drummond and Mills cite poor information as one of the main constraints to the increased use of economic appraisal for decisions about health services. In about half of the 20 Commonwealth countries which they surveyed, routine data on primary health care expenditure were unavailable. (Drummond and Mills, 1989, p 90) Similarly, poor information has been identified as one of the main causes of the failure of programme budgeting in Ghana in the late 1970s and early 1980s.

---

<sup>25</sup> People who are familiar with the reams of information generated by many Ministries of Health may dispute this claim that information is in short supply. The point here is that a lack of information is often cited as a key constraint.

(Issaka-Tinorgah, 1986, p 2)

### 3 there is a shortage of skilled people

"By far the largest number of qualities of personal behavior identified in these events involved sheer incapability .....They include failure to complete forms or other assignments, slowness, errors, and misunderstandings"

(Montgomery, 1987, p 916)

We have already seen that an organisation staffed by personalistic civil servants may develop strong systems of control. Coupled with skill shortages, this tends to produce risk-averse workers who are not willing to use their initiative to solve problems. For example, Maru et al. describe how district staff in a population programme in India saw their role as being seen to implement targets which they knew to be unrealistic. Very basic problem-solving had to be "taught" and encouraged - even then, support from higher up in the hierarchy was vital. (Maru et al., 1986, pp 160-161)

Milne has described the coping mechanisms of people who do not feel competent to deal with their positions of authority. Their insecurity has manifestations such as failure to delegate, emphasis on regulations, insistence on office protocol, uncommunicativeness and the accumulation of paper. This reinforces the tendency

for organisations to be rule-bound and centralised.  
(Milne, 1970, p 60)

The shortage of information has already been mentioned. Even when information is available, it is often not analysed or used to aid decision-making. The inability or reluctance to use information is deep-rooted:

"In spite of our emphasis on the problem-solving approach, there was little diagnostic effort on the part of district or state-level officials. Even the medicine stock report, which was supposed to be used for ensuring an adequate supply of critical medicines, was hardly ever used for that purpose."  
(Maru et al., 1986, p 167)

Experiences with financial data have been similar. The information is rarely linked to activity data and is therefore of limited use. (for example, Maru et al., 1986, p 163; Oshisami and Dean, 1984, ch 8)

#### **4 there is very considerable uncertainty**

Uncertainty is related to, and increased by, the scarcity of information. But it is not the same thing. Uncertainty involves unpredictability. (Milne, 1970, p 58)

Many developing countries face political uncertainty.<sup>26</sup> Because of this vulnerability, political considerations (such as ensuring the survival of a regime, or preventing divisions along ethnic lines) may be more important than striving for some more narrowly-defined, conventional notion of rationality. Considerations of survival dominate decision-making. (Saasa, 1985, p 316)

Economically, developing country governments are also vulnerable. Many governments are nervous about maintaining liquidity. This nervousness may lead to seemingly irrational decisions such as across-the-board expenditure cuts in all ministries and for all items. Again, considerations of survival dominate decision-making. (Caiden and Wildavsky, 1974)

##### 5 donors complicate decision-making

Donors have objectives which may conflict with those of the host government. Each donor has its own objectives and internal politics; a recipient government has to deal with many agencies at once.<sup>27</sup>

---

<sup>26</sup> For example, there have been 80 coups d'état in independent African countries. (Riley, 1992, p 15)

<sup>27</sup> In 1980, it was estimated that the Kenyan government negotiated with 41 major donors and about 100 private voluntary organisations. (Berg, 1980, pp 72-4; quoted in Cohen et al., 1985, p 1223)

Many donors impose conditions on recipient governments. Political and bureaucratic constraints (which might render the conditions unrealistic) may not be investigated. Indeed Cohen et al. argue that there are in fact incentives for donors not to consider the constraints. Donor officials are often under pressure to spend money fast; they rarely spend a lot of time in one country; and they believe that sensitivity to constraints may in practice allow "escape clauses" to governments which are unwilling to face difficult policy decisions. (Cohen et al., 1985, pp 1213-4)

In the field of health economics, economic appraisals are usually commissioned by donors and international agencies, not by developing country governments. The desire for efficiency is not necessarily shared by the host government. (Green and Barker, 1988, p 919; Drummond and Mills, 1989, p 91)

## 6 resources are scarce

It may seem a truism to state that poverty is a constraint for developing countries. But decision-making is affected by poverty. For example, the time horizons of an extremely poor country are short. Solvency may be ensured by adapting budgets monthly. (Caiden and Wildavsky, 1974, p 95)

Poverty also causes individual civil servants to compete intensely for resources within an organisation. One of these resources is the opportunity to earn additional income. This is another reason for an extreme interest in withinputs.

Many constraints to rational decision-making are particularly formidable in developing countries. Civil servants have their own interests; the means to analyse complex situations are absent; there is considerable uncertainty; and donors and host governments often pull in different directions.

E Rationality and constraints - confronting the dilemma

"The division of humanity into Pedants and Utopians is....deplorable. What we need is to marry the two: Pedantic Utopians or Utopian Pedants - who cultivate, with informed fantasy, imaginative but carefully worked out visions of alternative social possibilities." (Streeten, 1983, p 886; original emphases)

So far, we have seen that many health economists prescribe rational decision-making, despite operating in organisations where there are many constraints to rationality. In developing countries, the constraints

are even more forbidding. What does the literature have to say about the fate of rational prescriptions in such constrained environments?

Collins and Harrison tackle this question head-on, asking:

"How can managers both cope with political reality and yet endeavour to fulfil the expectations vested in them?" (Collins and Harrison, 1991, p 1)

The same question could be asked of economists, rather than managers. Expectations about health economists have been very high:

"A knowledge of health economics will enable those responsible for obtaining and deploying health service funds to make fuller and more effective use of the information and increasingly complex administrative and management techniques available in their endeavour to provide for the peoples they serve the highest attainable standard of physical, mental, and social wellbeing." (WHO, 1975, p 7)

How can health economists both cope with political reality and yet endeavour to fulfil the expectations vested in them?

Collins and Harrison (1991) identified six



responses to the tension between rational prescriptions and organisational constraints. I have added a seventh - "steamrolling the constraints". This radical response was probably ignored by Collins and Harrison because they were interested in coping strategies for middle management.

- 1 technocratic repression of the constraints
- 2 exit
- 3 steamrolling the constraints
- 4 deception
- 5 the constraints are absorbed
- 6 tension is avoided through dual but inconsistent positions
- 7 managing the constraints.

Collins and Harrison use the responses as heuristic devices to describe possible responses to the tensions faced by managers. I have adapted these responses to the situation of an economist working in a health administration.

- 1 technocratic repression of the constraints

In the type 1 response, the health economist deals with non-rational realities by becoming a technocrat, or econocrat.<sup>28</sup> Econocrats concentrate on using their

---

<sup>28</sup> See section C (II), question 5.

alleged expertise to determine how objectives might best be met. Political realities are ignored, consciously or unconsciously.

The problem with this response is, obviously, that it produces unreal, unworkable or unacceptable solutions. (Minogue, 1982, p 21) As discussed in Appendix 2, this was one of the problems with development planning.

## **2 exit**

In the type 2 response, the tension between the hoped-for rationality and the actual constraints becomes unbearable - the health economist leaves the organisation. In practice, many health economists have avoided the tension by working in universities and/or as temporary consultants, rather than inside health organisations.

## **3 steamrolling the constraints**

Arguments in favour of steamrolling the constraints come from radicals at both ends of the political spectrum. Aidoo has written a Marxist critique of the "neo-colonial" Ghanaian health services; he argues that rationalist, managerial measures which aim at improving resource allocation:

"simply overlook the wider historical and contemporary political-economic constraints imposed by Ghana's peripheral attachment to the capitalist world system." (Aidoo, 1982, p 653)

Aidoo would like the Ministry of Health to change very dramatically. His recommendations are for more participation; and for less dependence on donations, imports and advice from abroad.

The International Monetary Fund also chooses to steamroller constraints when recommending economic liberalisation:

"Proponents of the IMF, for example argue that its negotiators are politically savvy but that the Fund would be less able to impose its medicine if it became very sensitive to the limits created by the political and administrative systems of its "patient". They argue that its job is to recommend bitter pills, regardless of whether food riots occur, bureaucracies cannot manage import restrictions, or governments fall."  
(Cohen et al., 1985, p 1214)

#### **4 deception**

In response 4, the health economist behaves deceptively to disguise his or her inability to meet the expectations of rationality. Achievements are presented

in a way that makes the economist's performance appear favourable.

Economic appraisal can be used as a smoke-screen for other methods of prioritising. If economic appraisal has credibility, it can be harnessed to "justify" inefficient decisions. Economists have the illusion of feeling influential. (Anonymous, 1986, p 60)

#### **5 the constraints are absorbed**

Response 5 is at the opposite extreme to Response 1. In 5, a health economist absorbs the constraints and abandons goal-directed behaviour. Means become more important than ends. Type 5 economists tend to accept the status quo, no matter how inefficient.

#### **6 tension is avoided through dual but inconsistent positions**

In response 6, the health economist espouses rationality, but absorbs the constraints. People contradict themselves - they have a pretence of rationality.

#### **7 managing the constraints**

Response 7 entails the economist seeking to

identify his or her room for manoeuvre. Constraints are acknowledged, but (constrained) objectives are still recognised. In terms of the organisational models, the closest equivalent to response 7 is satisficing.

If a health economist accepts that economic values are generally desirable, but is also a pragmatist, response 7 is the most sensible *modus operandi*.<sup>29</sup> The economist must learn to recognise situations in which an economic analysis will affect a decision. The balance between realism and vision is described in the quotation from Streeten at the head of this section. It is the same dilemma we have already met in the sections on organisations and on health economics.

Cassels and Janovsky describe the management of constraints in the context of primary health care (PHC):

"Management development for PHC is faced with having to reconcile conflicting demands. It must enable managers to get things done within existing - but often inappropriate and inadequate - systems and structures. Equally importantly, it must be concerned with changing those systems and structures so that they become better suited for implementing PHC policies and strategies.

---

<sup>29</sup> Chapter 8 (the conclusions) returns to a consideration of this response.

Policy-makers and senior managers need to be able to analyse which are the most promising entry points for improving PHC management and implementation. They need to be able to think holistically about health systems change while acting incrementally, if the prevailing circumstances do not favour radical transformation. At all levels, health managers need to keep in mind what should be done while carrying on with what can be done given existing constraints." (Cassels and Janovsky, 1991, p 110)

Although the language used is rather different, and although the authors do not specify how to decide what should be done, Cassels and Janovsky are in effect describing a version of satisficing.

This section has assumed that health economists should deal with managerial issues. Some, of course, would argue that this is to dilute the message of health economics; at some point, however, constraints must be tackled. This thesis confronts the issue in the context of Volta Regional Health Administration. What constraints exist? How can they be handled? Is the essential message of health economics about efficiency unacceptably diluted? Is the Regional Health Administration a satisficing organisation?

There are a variety of possible responses to the tension between rational prescriptions and real-life constraints. To be successful, a health economist has to learn how to deal with the constraints. Some constraints can be challenged; others have to be accepted.

F A summary of the chapter; linkages with future chapters

This chapter has looked at a number of complementary descriptions of organisations - rational, satisficing, bureaucratic, political and anarchic. Health economics is a technical tool designed to offer advice in an environment where rational decision-making is likely. Little has been written about how health economics might adapt to organisations where decision-making has strong bureaucratic, political or anarchic elements. This thesis aims to explore this issue - how can a health economist working at sub-national level deal with constraints to rationality?

This chapter has pointed to factors that affect decision-making in general. Chapter 3 - "Describing the context - Ghana, its Ministry of Health and the Volta Regional Health Administration" - looks at some of the determinants of decision-making in a more specific context.

The case studies in Chapters 5-7 look at the application of rational techniques in this environment. We shall see if the constraints described in section D are encountered and whether some of the responses described in section E are appropriate.



## Chapter 3

### Describing the context - Ghana

### Chapter 3

#### Describing the context - Ghana, its Ministry of Health and the Volta Regional Health Administration

"The need to be mindful of the 'political impediments to economic rationality' in Ghana cannot be overstated." (Gyimah-Boadi, 1991, p 206)

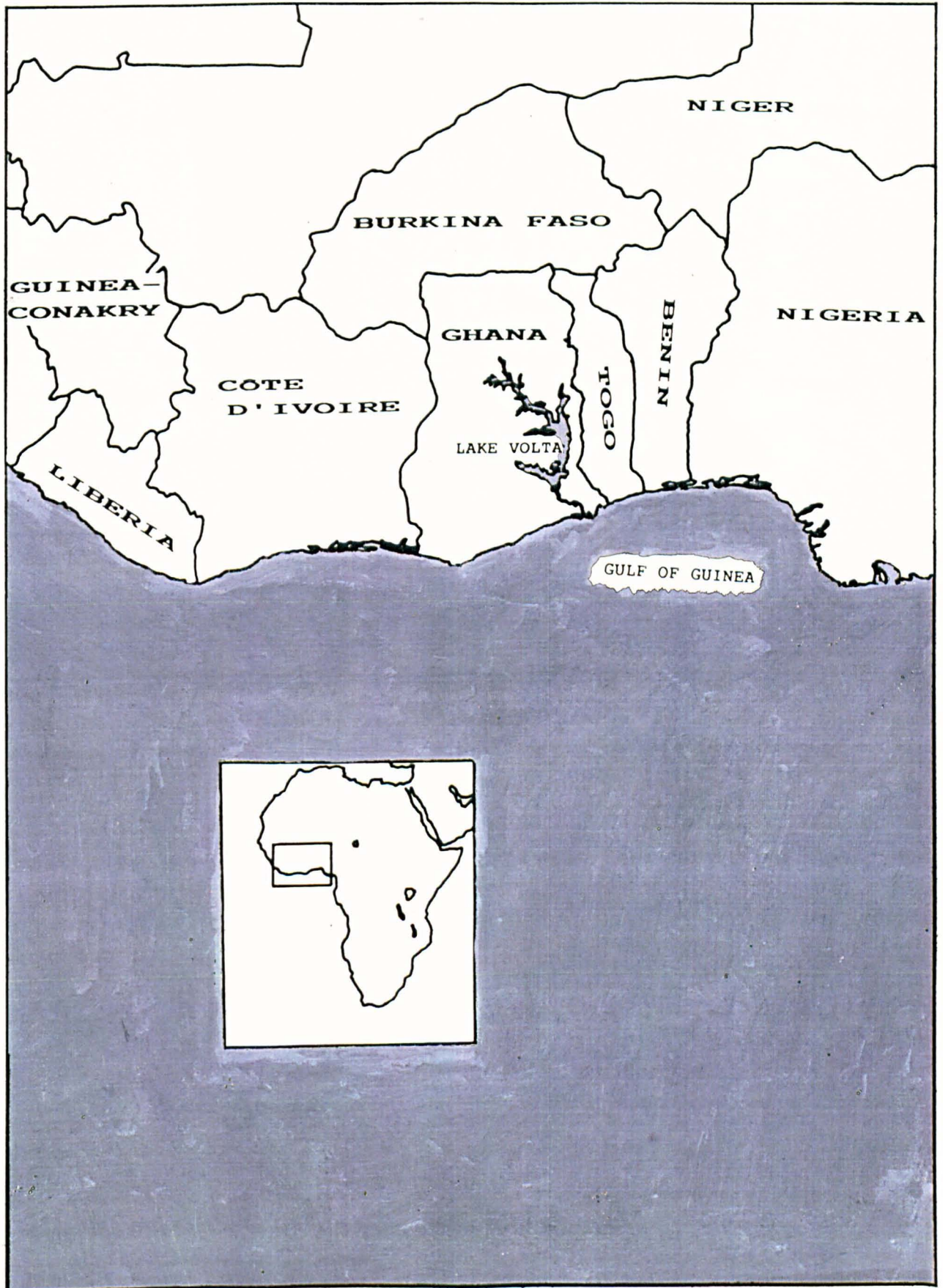
#### A Describing the context: introduction

Organisations are affected by their environment. This chapter briefly describes the political, economic and organisational context of Volta Regional Health Administration. General background information can easily be vague and unstructured. The subject matter for this chapter is presented with two aims in mind:

- (a) to place some of the issues raised in the Chapter 2 in the context of Ghana and its Ministry of Health.
- (b) to set the scene for the detailed case studies on resource flows, immunisation, and a revolving drug fund.

Appendix 4 gives more general background information about Ghana. Figure 3.1 shows a map of West Africa; Figure 3.2 illustrates the 10 regions in Ghana.

Figure 3.1 West Africa



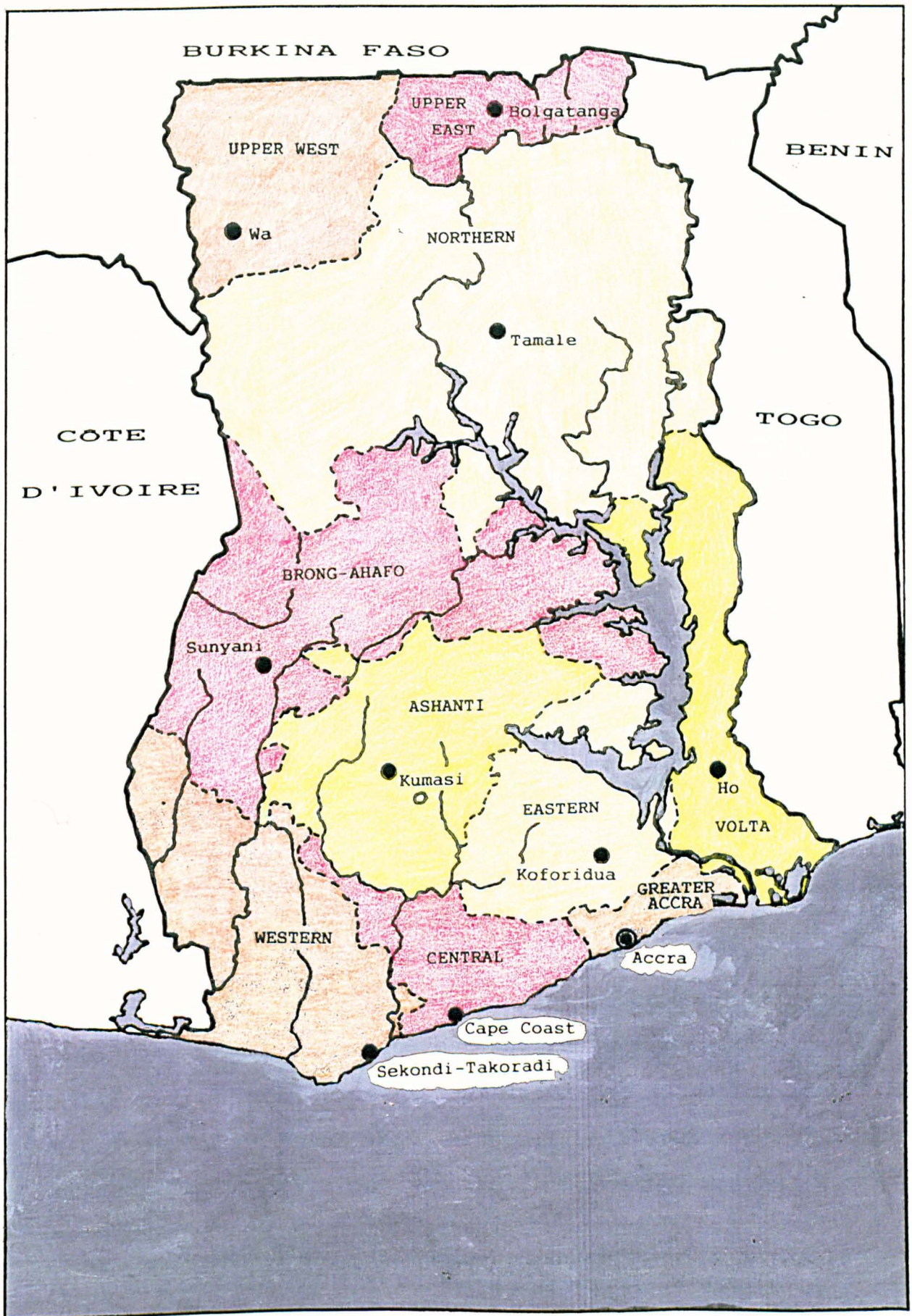
Scale 1:13,000,000

0 130 260 650 Km.



Figure 3.2

Ghana



Scale 1:380,000

0 38 76 190 km.

The chapter is in five sections. After this introduction, Section B describes the work of the 1981-1992 Rawlings regime, emphasising, where appropriate, health issues. Sections C and D look at one organisation in particular - the Ghanaian Ministry of Health (MoH). Section C concentrates on the national level and Section D on Volta region. Finally, Section E provides a brief conclusion about the Ministry of Health and organisational models.

B The general context: the second Rawlings regime, 1981-1992

I Macroeconomic improvement; widespread poverty

"The World Bank may be surprised to learn that its model economic recovery programme in Africa is described as "economic blah blah blah" by Ghana's president." (Ozanne, 1992)

On 31st December 1981, Flight Lieutenant Jerry Rawlings assumed power for the second time. His unelected, military government was to rule uninterrupted until 1992.<sup>30</sup> Not since the 9-year rule of Kwame Nkrumah had independent Ghana seen such political stability. The first Rawlings government had ruled for a few months in

---

<sup>30</sup> Party politics were legalised in May 1992, as a result of both domestic and international pressure. Elections are due at the end of 1992.

1979; his return to power in 1981 demonstrated his dissatisfaction with the performance of the elected government of Hilla Limann. (Pellow and Chazan, 1986, p 38)

The new Rawlings government - the Provisional National Defence Council (PNDC) - suspended the constitution, dissolved Parliament and abolished political parties. There was much populist rhetoric about the abolition of privileges for the (predominantly urban) élite; power for the people; and the need for vigilance against neo-colonialism and U.S. imperialism. However the disastrous economic situation made it difficult to attract much political support. (Economist Intelligence Unit, 1990b; Chazan, 1991, p 24)

1983 was the nadir for the Ghanaian economy. Some key economic indicators for the year are shown in Table 3.1. Gross domestic product (GDP) had fallen by about 15% between 1980 and 1983; inflation was over 100%; the balance of payments was in the red. (Kraus, 1991, p 128) Daily life was extremely difficult - markets were empty and the transport network was drastically reduced because of shortages of fuel and spare parts. Events over which the government had no control aggravated the economic situation - drought; bush fires; the expulsion of over one million Ghanaians from Nigeria; and

worsening terms of trade.<sup>31</sup>

Table 3.1 Economic indicators - 1983 and 1989 compared

Indicator	1983	1989
Per capita real GDP (1985 prices) (1)	¢15,410	¢74,870 (1988)
Inflation rate	123%	25%
Exchange rate (1)	\$1 = ¢9	\$1 = ¢270
Balance of payments	-\$243 m	+\$110 m
Exports (including cocoa)	\$439.1 m	\$807.2 m
Cocoa exports	\$268.6 m	\$407.8 m

Sources: Unless otherwise stated, International Monetary Fund, 1990, p 13

(1) Economist Intelligence Unit, May 1990, p 10. Official exchange rates are used. As part of structural adjustment, the cedi became freely convertible.

Successive governments had not been blameless for the country's disastrous economic performance. There were large numbers of over-staffed government agencies and parastatals which had been used as vehicles for political patronage. The cedi was grossly over-valued. In 1983 the unofficial exchange rate was 30 times that of the official rate; between 1981 and 1988 the currency was devalued by over 6,000%. (IMF, 1990, p 12; Issaka-

---

<sup>31</sup> A very senior civil servant in 1983 later came to see the drought and expulsions as an opportunity for structural adjustment:

"In a way, it was fortunate for the acceptability of the initial [structural adjustment] program in 1983 that there was a severe drought so that the program did not get unduly blamed for the suffering that occurred." (Abbey, 1989, p 10)

Tinorgah, 1989, p 45)

Faced with economic collapse, the PNDC formally launched a package of macroeconomic measures in April 1983 - the Economic Recovery Programme. Four months later, the International Monetary Fund (IMF) agreed to a loan for Ghana; at about the same time, the World Bank provided Ghana with a grant of \$65 million. (Rothchild, 1991, p 7) Thus began a period of structural adjustment - drastic devaluation of the cedi; export promotion; privatisation; the removal of price subsidies; reduced government involvement; and the promotion of cost-sharing. Economic pressures and the need for external assistance had in effect shifted the government from left-wing to centrist. (Bermejo and Bekui, 1991, p 6)

In macroeconomic terms, structural adjustment was rather successful. Table 3.1 compares 1989 indicators with those of 1983. Real per capita GDP was almost 5 times higher in 1989; inflation was significantly lower; a government budget deficit in 1983 had turned into a small surplus during the years 1986-9. (Addae, 1991, p 3148)

Because Ghana was widely perceived as a success story for structural adjustment, donor involvement (multilateral, bilateral and non-governmental) increased



dramatically in the mid-1980s. Between 1984 and 1992, aid to all sectors was estimated to be worth \$8 billion. (Brittain, 1992) Figure 3.3 shows the rapid increase in aid to the health sector, climaxing in 1988. Between 1984 and 1990, the largest donors to the health sector were USAID (14%), UNICEF (8%) and the government of (West) Germany (7%). (World Bank, 1990, p 46)

The massive increase in aid caused problems. Many of the donors insisted on conditions. (e.g. USAID, 1990, p 21; World Bank, 1990, p 33) Aid was not always coordinated - for example, a senior Ghanaian civil servant has described how the various units of the IMF and the World Bank failed to collaborate during the 1980s. (Abbey, 1989, p 13) Administrative and financial systems proliferated; both the quantity and the complexity of reporting systems increased. Ministry of Health staff often found themselves accountable to more than one "paymaster" - the MoH and one or more donors.

In spite of the healthy-looking improvement in macroeconomic indicators shown in Table 3.1, Ghana remained a poor country, with relatively high levels of absolute poverty. The 1992 International Human Suffering Index ranked Ghana as the 16th "most suffering" country

# Aid to the health sector (\$)

## 1984-1990

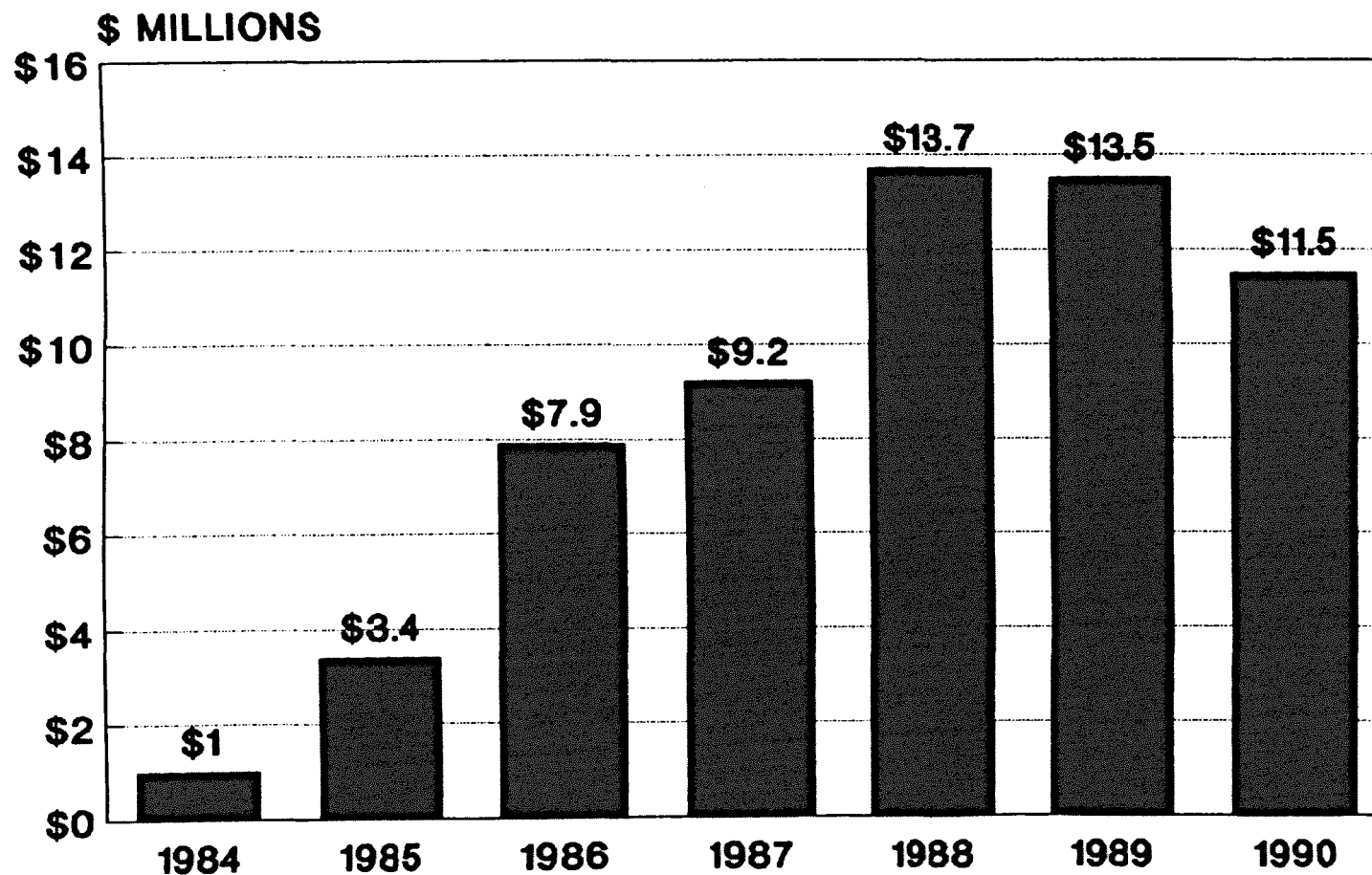


Figure 3.3

Aid to the health sector (\$ millions),  
1984-1990

SOURCE: WORLD BANK (1990), p 46

in the world.<sup>32</sup> (Population Crisis Committee, 1992)  
Using data from 1987-8, the Ghana Living Standards Survey concluded that poverty was "overwhelmingly a rural phenomenon".<sup>33</sup> (Boateng et al., 1990, p 1)  
Malnutrition was a particularly persistent problem - in 1986, food availability per capita ranked amongst the lowest in the world. (Jory, 1991, p 399)

It was widely acknowledged that although structural adjustment improved the macroeconomic picture, it did little to alleviate the sufferings of the poorest. The rights and wrongs of structural adjustment were much debated in Ghana. Many felt it was a difficult necessity:

"It will be unproductive to argue whether the [PNDC] government should have embarked on these austere measures or not. I am sure the government had to. One of the main reasons for the present government toppling the previous [Limann] one was because the latter had agreed to undertake structural adjustments. It was thought then that this would create more suffering for the already suffering population. There must be

---

<sup>32</sup> The international human suffering index is a compilation of ten measures of human welfare. These cover the fields of life expectancy, daily calorie supply, access to clean drinking water, infant immunisation, civil rights, political freedom, secondary school enrolment, gross national product per capita, inflation and communications technology. 141 countries were surveyed.

<sup>33</sup> It has been suggested that urban-rural income differentials lessened after the time of the Ghana Living Standards Survey. (Gould, 1990, p 213)

profound reasons therefore for this government to swallow the bitter pill." (Issaka-Tinorgah, 1989, p 46)

Several authors argue that the Economic Recovery Programme could only have been implemented by a military government. (e.g. Brittain, 1992) Devaluation was a particularly bold move:

"Cooper found in 1971 that devaluation roughly doubled the chance that a ruling group would be removed from power and tripled the likelihood that finance ministers would lose their jobs." (Cooper, 1971, pp 28-9; quoted in Cohen et al., 1985, p 1227)

## II Some key policies, 1981-1992

This review now looks at four areas of PNDC policy which particularly affected the Ministry of Health. All were more or less closely associated with structural adjustment.

- 1 civil service reform
- 2 the promotion of cost-sharing
- 3 mitigating the social costs of adjustment - PAMSCAD
- 4 decentralisation.

## 1 civil service reform

"The systems, the structures and social arrangements of the huge and parasitic Public Service which has been so unwieldy but which continues to service the existing neo-colonial arrangements must be dismantled, pruned or abolished if we are to make any headway in our national struggle during this phase of the Revolution." (Preamble to policy guidelines of the PNDC, 1982, p 4; quoted in Gyimah-Boadi, 1990, p 229)

One aim of structural adjustment was to create a more effective civil service. There were three main aspects to the reform of the civil service - re-structuring Ministries; decreasing the overall number of civil servants; and improving salaries.

A key condition of the second World Bank loan was re-structuring the Ministry of Health. The re-organisation aimed to tackle the following problems:

- \* the unclear division of responsibilities between technical and administrative staff
- \* duplication and competition between vertical programmes
- \* weak planning, financial control and monitoring
- \* considerable wastage and inefficiency
- \* confused relations between hospitals and the rest of the MoH. (MoH/WHO, 1992b, p 3)

In short, the Ministry was to become more effective; waste was to be reduced; and lines of responsibilities were to be simpler and clearer. Efforts to this end began in 1988 but were not implemented until 1992. The success or otherwise of this re-organisation remains to be seen.

A second aim of the civil service reforms was to reduce the number of civil servants. Salaries dominated government expenditure; there was said to be considerable over-employment. Between 1983 and 1990, over 30,000 civil servants were "redeployed" and thousands of "ghost workers"<sup>34</sup> discovered. As the largest employers, the education and health sectors were particularly affected. (Civil Service Reform Programme, 1990, p 1)

The PNDC recognised that pay levels had to be increased if the civil service was to operate effectively. In 1982, the real minimum wage for unskilled civil servants was worth one-third of its 1977 value. If their only source of income was the government salary, even middle-level civil servants were below the poverty line. It is not surprising that many skilled people left the public sector and that embezzlement was rife. Writing about teachers, Cobbe described salaries

---

<sup>34</sup> "Ghost workers" were on the payroll, but did not actually work. They were retired, dead or entirely fictitious.

in the early 1980s as:

".....so derisory that it was both essential to the teachers' survival to have some other source of income in addition to their salaries, and also questionable whether it was worth bothering to show up at work other than to collect their salaries." (Cobbe, 1991, p 106)

A similar situation prevailed in the Ministry of Health.

Although the absolute value of salaries doubled in 1985, the years of structural adjustment saw a decline in the real value of civil service salaries. In the MoH, low salaries were not effectively challenged until the early 1990s, when a strike resulted in substantial pay increases for doctors. A subsequent strike by pharmacists had comparable results; a nurses' strike in May-June 1992 achieved less. (Nimo, 1992, p 1346) The problem of motivation persisted, as many staff felt that they were not paid enough to warrant a full day's labour. (Werlin, 1991, pp 248-9; Anyinam, 1989, p 53)

In addition to the essentially economic aspects of reducing the payroll and enhancing efficiency, there was a political dimension to civil service reform. Relations between the civil service and the PNDC were rather fraught - in the PNDC's early years there had been a lot of talk about "purging" the civil service of

"unpatriotic" or "neo-colonial" elements. The quotation at the beginning of this section reflects the PNDC's rather hostile attitude. From 1984 onwards, relations improved. However the PNDC remained frustrated with the lack of effectiveness of the civil service and its simultaneous lobbying for increased salaries and benefits. (Gyimah-Boadi and Rothchild, 1990, p 251)

For Jeffries, the political dimension of civil service reform was the most salient point about structural adjustment, as it aimed to end the use of government resources for patronage:

".....it [the PNDC] does not operate much in the way of a clientelist system. It chooses not to do so because it believes - and the experience of the past thirty years surely confirms this - that, if Ghana is to recover and to proceed to develop economically, it cannot afford (at least on anything like the same scale) the clientelist policies of the past. Central government must begin to operate more efficiently and economically, less as a distributor of patronage. This is ultimately what structural adjustment is about." (Jeffries, 1991, p 168)



## 2 the promotion of cost-sharing

"Evidence of even greater political will to improve health care is the potentially unpopular decision in 1985 to charge fees at health facilities. As governments are keen to avoid unpopular issues, such a decision must denote a strong determination." (Issaka-Tinorgah, 1989, p 44)

Fees for some educational services and for curative health care are a standard part of the IMF/World Bank structural adjustment package. In 1985, charges for government health services increased substantially from their previously nominal levels. In 1987, charges again increased significantly, as drugs began to be sold at their "full" cost. In practice, the charges did not keep pace with inflation and did not include administrative and logistical costs. (Waddington and Enyimayew, 1989)

Cash and Carry was a scheme to set up a revolving drugs fund by charging users the full costs of drugs. Even though it was a condition of the World Bank loans, the PNDC prevaricated about its support for Cash and Carry. This prevarication reflected the fact that higher charges would be unpopular, even though improved drug supplies were widely demanded. Cash and Carry is dealt with in detail in Chapter 7.

### 3 mitigating the social costs of adjustment - PAMSCAD

The Programme of Action to Mitigate the Social Costs of Adjustment - PAMSCAD<sup>35</sup> - began in 1987, following a report by the Government of Ghana and UNICEF about the welfare of vulnerable groups under structural adjustment.<sup>36</sup> The programme aimed:

"to address the needs of vulnerable groups who are in a precarious condition due to the adjustment program or due to the earlier period of economic decline." (PAMSCAD, 1987, p 1)

PAMSCAD won Ghana many friends in the donor community, as it was seen as a way of tackling adjustment "with a human face". However, it was recognised that the programme had been designed too late and that it had only short-run objectives. (UNICEF, Accra, 1988)

The health components of PAMSCAD involved:

- \* de-worming primary school children
- \* hand-dug wells and low-cost sanitation
- \* sales of essential drugs at health stations and by community health workers

---

<sup>35</sup> Unofficially called the "Programme of Action to Mitigate the Salary Cuts during Adjustment".

<sup>36</sup> This report is summarised in UNICEF, Accra, 1988.

\* supplementary feeding and nutrition education.

PAMSCAD's implementation was slower than planned - for example the drug component took two and a half years to get started. There were two main reasons for this. Firstly, donors were slow to disburse what they had promised. Secondly, organisational responsibility for the implementation of PAMSCAD was confused, as it was shared between the Ministry of Finance and Economic Planning and the Ministry of Local Government. (Brydon, 1991, pp 3-5)

#### 4 decentralisation

Economic adjustment coincided with a rather authoritarian political climate. As the 1980s progressed, calls for more democratic, responsive government increased. The District Assembly elections in 1988-1989<sup>37</sup> were an attempt to gain legitimacy for the PNDC. (Rothchild, 1991, p 14) The District Assemblies - partly elected and partly appointed - became "the center of a great deal of political, if not administrative, activity". (Chazan, 1991, p 37) Their fragile financial position, however, limited the actual power of most District Assemblies. (Ninsin, 1991, p 60)

---

<sup>37</sup> The number of districts was increased from 68 to 110 in 1988. Elections were staggered over three months, from December 1988 to February 1989. (Rothchild, 1991, p 17)

PNDC Law 207 (1988) was the legal framework for political decentralisation. This legislation shifted responsibility for health care from the Ministry of Health to local government. There was no timetable for implementation; moreover the demarcation of responsibilities was not always clear. The Law only specified that district medical officers of health (DMOHs) were responsible for enforcing sanitation regulations; other matters were omitted. In particular, the relationship between hospital, local government and district health management teams (DHMTs) was ambiguous. The 1988 Hospital Board Law (Law 209) provided for hospital boards, with no obligation to involve DMOHs, DHMTs, or local government officers. (Dovlo et al., 1992, pp 1, 10, 15)

In addition to political decentralisation, there was decentralisation within the Ministry of Health. The 1978 Primary Health Care Strategy for Ghana gave a key role to districts. (Dovlo et al., 1992, pp 1, 20) Some decision-making was decentralised during the 1980s, as the number of active DHMTs increased. At the same time, structural adjustment led to tighter controls on government expenditure. Paradoxically, this resulted in the centralisation of certain decisions, particularly those related to staffing and financial rules. This caused tension, as district staff found that they were unable to make decisions about key issues. (Rothchild,

1991, p 9)

Both local government and DHMTs were hampered by a shortage of skilled staff. Few district administrations had staff capable of district planning and budgeting - roles specified for them in Law 207. The majority of districts did not have their full complement of DHMT staff<sup>38</sup>; existing staff were not always skilled in planning, management and advocacy. (Dovlo et al., 1992, p 17)

Structural adjustment began in 1983. The Ministry of Health was affected by policies such as cost-sharing and civil service reform. District Assemblies were elected; however they lacked human and financial resources.

C The organisational context: the Ministry of Health

This section is in 3 parts. Part I discusses an organogram of Ministry of Health headquarters. Part II looks at the Ministry's budget from 1980 until 1991. Finally, Part III summarises four managerial issues which dominated MoH policy meetings during the years

---

<sup>38</sup> The DHMT had 5 core members - the DMOH; a public health nurse; a general nursing officer; a technical officer (epidemiology); and a health superintendent (environmental).

1989-1991.

## I The organisation of Ministry of Health headquarters

During the years of this study (1989-1991), the organisation of Ministry of Health headquarters was in a constant state of flux. The organogram in Figure 3.4 shows the structure before the re-organisations began. This is the structure which was de facto in place between 1989 and 1991. Technical programmes were managed by five programme divisions - epidemiology, nutrition, medical care, environmental health and maternal and child health/family planning. Each of these divisions had its own staff at regional and district level.

The programme divisions were serviced by nine support divisions - health education, planning/budgeting, manpower development/training, laboratories, blood transfusion, x-ray, estate management<sup>39</sup>, nursing and supplies/stores (which included pharmacy). (MoH, 1991, p 21)

The re-organisation aimed to reduce the power of the technical and support divisions and to replace them with directorates organised according to management functions. The five directorates in the re-organised

---

<sup>39</sup> Known in Ghana as "common services".

# MoH headquarters, 1989

## ORGANISATION CHART

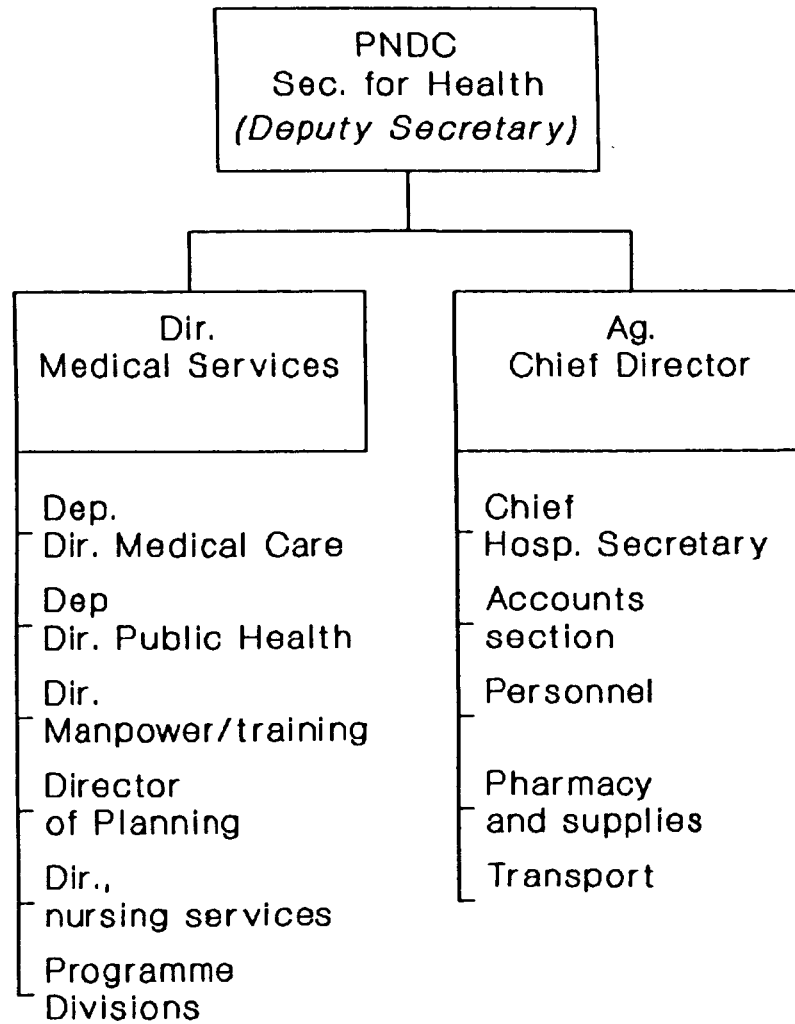


Figure 3.4

Organisation chart - Ministry of Health  
headquarters, 1989

Ministry were to be policy, planning, monitoring and evaluation; human resource development; technical co-operation and research; supplies, stores and drugs management; and administration and accounting. (MoH/WHO, 1992b, pp 7-10)

## II The Ministry of Health's budget, 1980-1991

Many organisations provided health services in Ghana - the main ones were government, Missions, private traditional and private "Western" practitioners. Whilst recognising the importance of these providers, this thesis concentrates on the Ministry of Health. Some more information about the other providers is given in Appendix 4.

Table 3.2 shows the calculation of real per capita budget allocations for the Ministry of Health for the years 1980-91. The last column, which is illustrated in Figure 3.5, demonstrates that the situation improved after the disastrous year of 1983. Table 3.3 shows that the MoH also did well in terms of its share of total government expenditure. Recent shares of around 10% are high, even by the standards of much wealthier countries. (UNICEF, 1992, p 82) Table 3.4 demonstrates that the Ministry's purchasing power for items bought with foreign exchange did not increase nearly as fast as for



locally bought items. This was because the cedi fell from ₵3 to over ₵300 to the dollar between early 1983 and 1991.

The figures in the above tables are presented with considerable caution and should be regarded as indicative, rather than wholly accurate. For this reason, numbers have been rounded. Tables 3.2 - 3.4 show budget allocations, not actual expenditures. Budget allocations tended to be larger than actual expenditure. This point is elaborated in Chapter 5.

**Table 3.2 MoH budget allocations, 1980-1991**

Year	Population (millions)	CPI (1) (1980 base)	MoH current allocation (ç millions)	MoH real current allocation (1980 ç millions) (2)	MoH real current allocation per capita (ç 1980) (2)
1980	11.1	100	430	430	39
1981	11.4	220	510	230	20
1982	11.7	260	486	190	16
1983	12.0	590	587	100	8
1984	12.3	820	2,112	260	21
1985	12.7	910	2,612	290	23
1986	13.2	1,130	6,497	570	43
1987	13.6	1,580	6,952	440	32
1988	14.0	2,100	9,833	470	34
1989	14.5	2,630	15,833	600	41
1990	15.0	3,600	20,242	560	37
1991	15.5	4,500 (estimate)	25,577	570	37

(1) CPI = consumer price index. This gives the cost of the same bundle of goods and services over time. For example, a bundle of goods which cost ç100 in 1980 would have cost ç820 in 1984. Similarly, a bundle of goods costing ç200 in 1980 would have cost ç1,640 in 1984. Whilst price increases in the health sector were not necessarily the same as for the economy as a whole, no health-specific data are available.

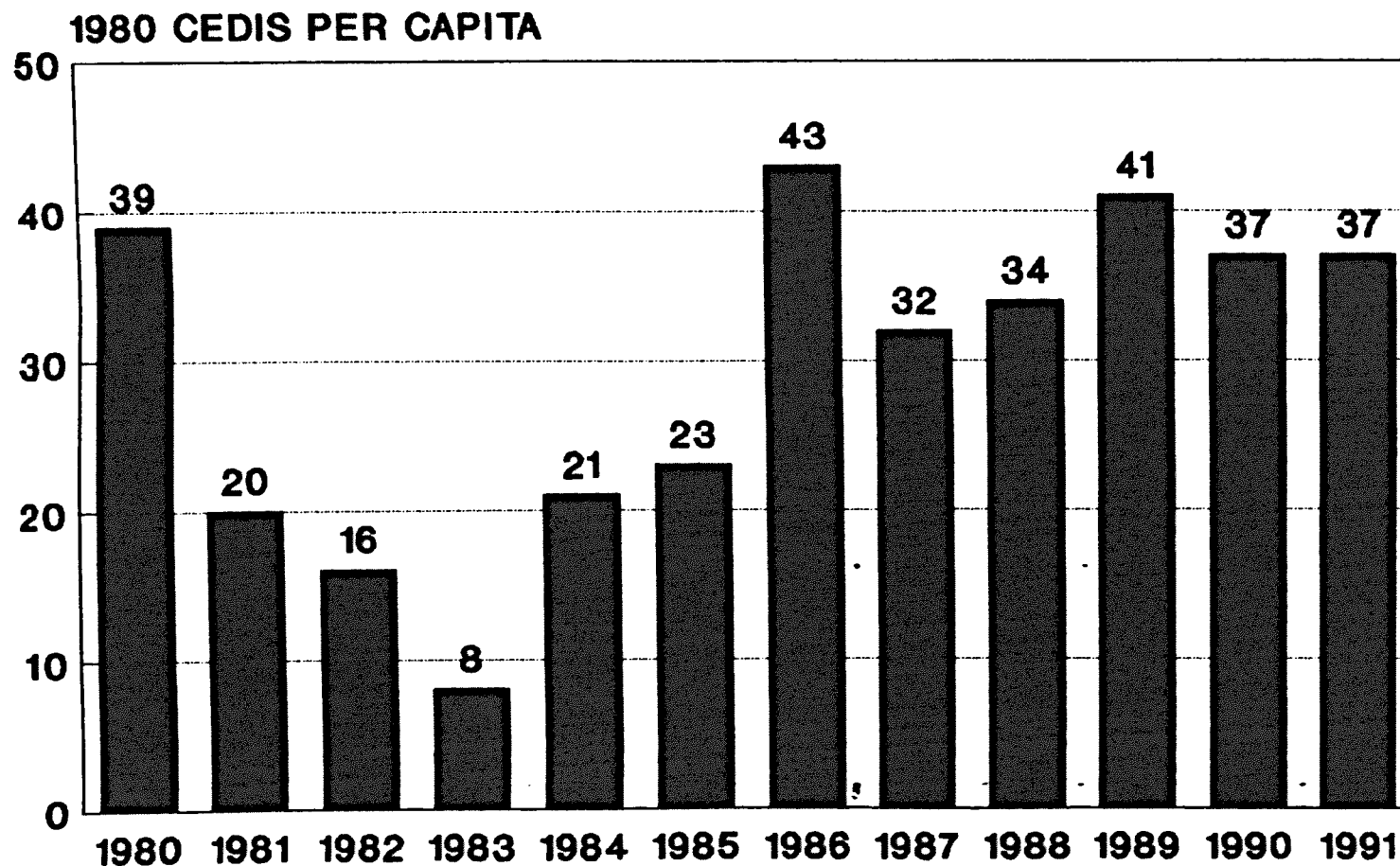
(2) "Real" allocation means that the effect of inflation has been removed. All the allocations are stated in 1980 cedis because 1980 was the base year for the consumer price index.  
 Real current allocations = (current allocation/CPI) x 100.

**Sources:**

- Population: 1980-3 Ferster, 1988, p 52  
 1984-90 Ministry of Health, 1991  
 1991 estimate based on average growth since 1984, the census year.
- CPI: 1980-7, 1989 based on inflation information in Kraus (1991, p 123), who in turn had taken the information from the Ghana Central Bureau of Statistics' Statistical Newsletter and from West Africa.  
 1988 Economist Intelligence Unit (EIU), 1990b. Except for 1988, Kraus's inflation figures tally with those of the EIU. For 1988, Kraus cited 26.6%, whereas the EIU quoted 32.7%. The EIU figure is preferred, as it consistently quotes the Quarterly Digest of Statistics. Otherwise, Kraus is preferred because he covers a longer time span.  
 1990-91 Republic of Ghana Budget statements, 1990 and 1991
- MoH current allocations:  
 1980-8 Ferster, 1988, p 52  
 1989 Budget and Monitoring Division, Ministry of Finance and Economic Planning, 1989.  
 1990 Ministry of Finance and Economic Planning Estimate 1991, quoted in Holmes, 1991, Table H.2  
 1991 Holmes, 1991, Table H.4

# Real MoH recurrent budget PER CAPITA

Figure 3.5



Real Ministry of Health recurrent budget, per capita, 1980-1991, (¢ 1980)

SOURCES: SEE TABLE 3.2

Table 3.3 Ministry of Health share of government budget allocations, 1980-1991

Year	Current government allocation (¢ millions)	Current MoH allocation (¢ millions)	MoH current allocation as % total govt. allocation
1980	6,329	430	7%
1981	8,603	510	6%
1982	8,029	486	6%
1983	13,401	587	4%
1984	22,700	2,112	9%
1985	38,461	2,612	7%
1986	60,833	6,497	11%
1987	80,583	6,952	9%
1988	111,004	9,833	9%
1989	148,643	15,833	11%
1990	198,193	20,242	10%
1991	255,209 (estimate)	25,577	10%

Sources:

- 1980-8                      Ferster, 1988, p 52  
1989                         Budget and Monitoring Division, Ministry of  
Finance and Economic Planning, 1989.  
1990-1                        Republic of Ghana Budget statements, 1990 and 1991

Table 3.4 Ministry of Health purchasing power - U.S. dollars, 1983-1991

Year	MoH current allocation (¢ millions)	U.S. \$/¢ exchange rate \$1 = ¢...	MoH current allocation per capita (U.S. \$ millions)
1983	587	3 (March) 30 (October)	195.7 (March) 19.6 (October)
1984	2,112	50	42.2
1985	2,612	60	43.5
1986	6,497	90	72.2
1987	6,952	165	42.1
1988	9,833	200	49.2
1989	15,833	280	56.5
1990	20,242	320	63.3
1991	25,577	360	71.0

Sources:

MoH current allocation per capita (¢) calculated from Table 3.2.

Exchange rate:

1980-89 Kraus, 1991, p 137

1990 Republic of Ghana Budget statement, 1991

1991 West Africa magazine

-----

### III National management issues, 1989-1991

This review does not aim to give a comprehensive description of the Ministry of Health. Instead, four issues are examined; these were dominant topics at policy meetings during 1989-1991.

## 1 What are the Ministry of Health's policies?

The 1978 Primary Health Care Strategy Paper was often cited as "the" Ghanaian health policy. As behoves strategy papers, it was not operationally detailed. More detailed policy statements were not forthcoming. Indeed it could be hard to know what the policies and objectives of the MoH were. For example, USAID found no clear national population policy. (USAID, 1990, p 2)

The confusion about policy was well summarised by the (then) Acting Director of the Health Policy and Planning Unit<sup>40</sup>:

"The Ministry of Health in Ghana has more unwritten than written policies. In some ways this suits our culture. We are much happier talking than writing. Also, an informal system provides the opportunity to ignore those policies with which one disagrees!

There are many drawbacks to this situation, however. In a ministry with a limited organizational memory, and no formal inductions or orientation procedures for new managers, the lack of written policies is a serious problem. New managers are usually not aware of informal policies and this invariably creates confusion, uncertainty and frustration. For these reasons, we should document policy decisions.

---

<sup>40</sup> Formerly the (National) Health Planning Unit.

It is clear too that informal policies are not sufficiently binding....." (Asamoah-Baah, 1992, p 9)

Asamoah-Baah identified a number of reasons for poor policy development. These included a wish to avoid conflict and a system that rewarded adherence to norms and regulations, rather than innovation. (Asamoah-Baah, 1992, pp 9, 11)

Quarterly meetings of regional directors and national divisional heads were first held in the late 1980s. These meetings attempted to establish and coordinate policies. In January 1992, a national health policy seminar was held. This recommended the establishment and maintenance of,

"an inventory of major current policies governing the operation of the health sector, covering both technical and administrative matters." (MoH/WHO, 1992a, p 17)

Efforts to streamline policy-making and implementation were renewed in 1992; the case studies in Chapters 5-7 reveal the considerable confusion about matters of policy during the years 1989-91.

2     15 years of trying to integrate

In the late 1970s, at the same time as the healthy-

days-of-life-lost index was being developed<sup>41</sup>, economic arguments were used to suggest that integrated service provision was more cost-effective than single-issue vertical programmes. For example, a detailed costing of family planning in the influential Danfa project concluded that family planning alone was less effective and less cost-effective than when it was integrated with other PHC activities. (Blumenfeld, 1983, p 243)

Beginning in the 1970s, various efforts were made to provide more integrated services; in practice, vertical divisions remained powerful and tensions persisted between the two concepts of service delivery.

The PHC Strategy Paper of 1978 emphasised that districts were to play a key role in planning and managing health services. DHMTs - whose members came from the major vertical divisions - were to be trained to handle problems as a team. By 1988, most DHMTs had received management training. This training was prescriptive and based on a rational planning model; it ignored realities such as centralised decision-making, the slow disbursement of funds, and loyalty to vertical programmes. In 1988, a more problem-solving approach to management training began - the Strengthening District Health Systems Initiative. (Cassels et al., 1992, p 1)

---

<sup>41</sup> See Chapter 2, Section C (I).



At the same time as the integrated training was under way, the vertical programmes remained powerful. Divisional loyalty was strong and staff proved unwilling to give up their traditional responsibilities. In many health stations, for example, ~~in many facilities~~ ante-natal clinics and tetanus toxoid immunisations were provided by different divisions, often in separate buildings. (Aitken, 1991, p 13) A 1991 study of health station workers' perceptions of integration revealed that integration was not even widely understood as a means of ensuring the more efficient use of personnel; instead, many health workers interpreted integration to mean that all divisions had to participate in all tasks. (Aitken, 1991, pp 14-15)

### 3 the absence of planning

From its peak in the late 1970s, the status of the Health Planning Unit declined; it came to concentrate largely on rather mechanical budgetary matters. (Nyonator and Amani, 1991, p 6) There were two main reasons for this - the drastic economic situation and the departure of key individuals from the Unit.

The decline of the Planning Unit was symptomatic of the fate of planning in the country as a whole. By the late 1980s, very few serious plans were being written. Resource allocation was centralised and not linked to

plans; local "plans" were often used as exaggerated pleas for resources.

The move towards decentralised, integrated services meant that it was unclear who was responsible for different stages of the planning process. Cassels and Janovsky have described the confusion:

"[There are] many different units at different levels in the system that are intended to have a role in either preparing, reviewing or approving plans. These presently include district health management teams, district planning and budgeting units, regional directors of health, regional co-ordination councils, the MoH planning directorate, the ministerial advisory board, the National Development Planning Commission, the Ministry of Finance and Economic Planning, and the Ministry of Local Government. What, for example, will be the nature of the decisions made at each level?" (Cassels and Janovsky, 1992, p 149)

#### **4 information - abundant but under-used**

Copious amounts of data were collected by the Ministry of Health. With some exceptions, the information was rarely analysed locally. Even at national level, little use was made of statistics. The value of the information was prejudiced by its incompleteness and by the way in which incomplete

statistics were handled.

The real per capita Ministry of Health recurrent budget was relatively stable during the years 1989-91. Efforts were made to decentralise and integrate the Ministry's activities.

D The local context: Volta Regional Health Administration

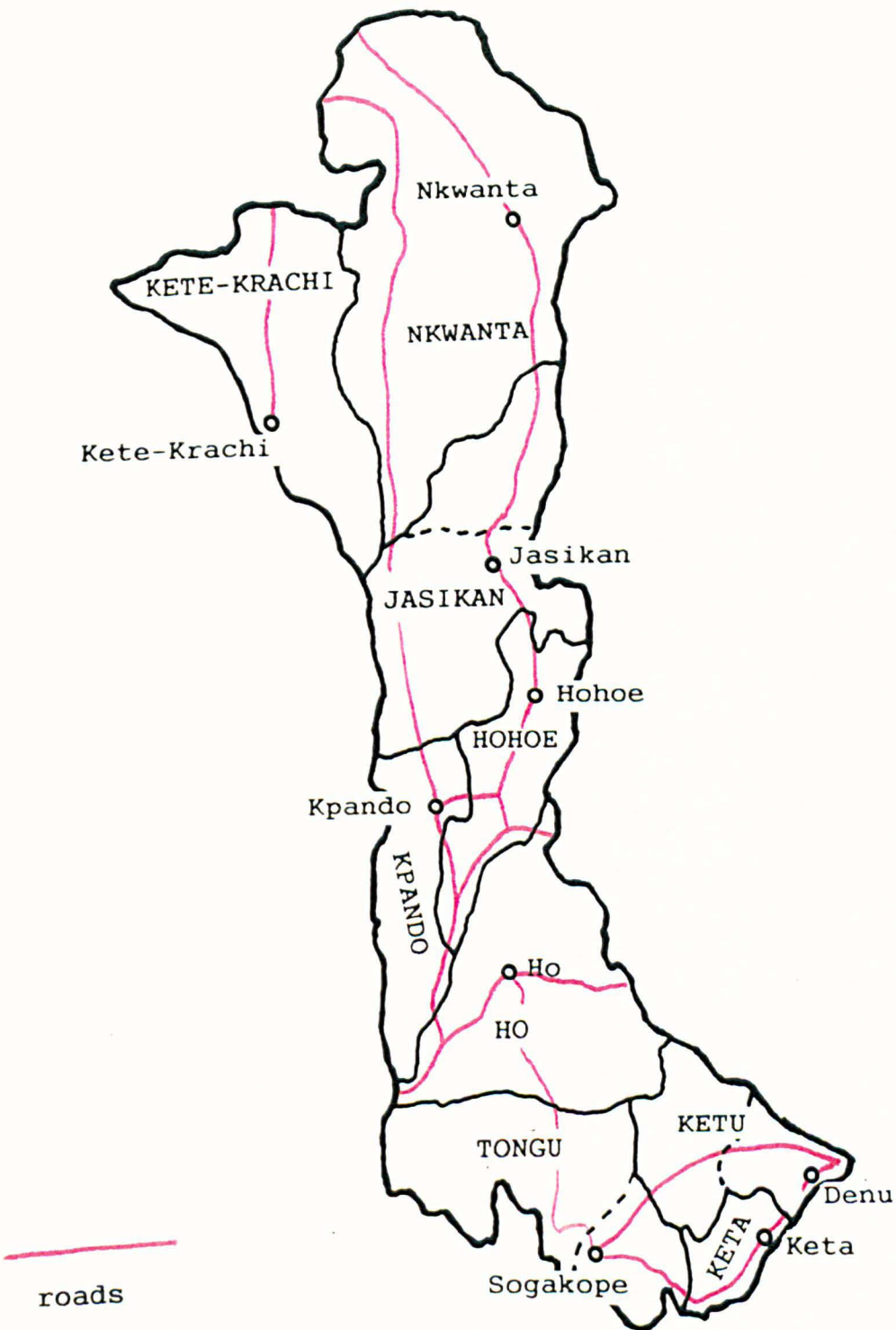
"1990 has been a challenging year: one in which we focussed on team-building, improved management skills, and decentralization of responsibilities, authority and resources to the districts." (Regional Director of Health Services, Volta, 1991, p 1)

Volta is one of ten regions in Ghana. In terms of area it is smaller than average. However distances between districts are quite large, as the region is very long and thin. (see Figure 3.6, a map of Volta region) There are 12 districts; prior to the re-organisation of districts in 1988 there were 9. More general background information about the region is given in Appendix 4.

Table 3.5 shows some demographic and health statistics for Volta region and compares them with national averages. A detailed comparison of MoH

Figure 3.6

Volta Region



Scale 1: 200, 000

0 20 40 100 km.

The re-organisation of districts in 1988 created three new districts in Volta. Jasikan was divided into Jasikan and Kadjebi; Ketu into Denu and Akatsi; and Tongu into North and South Tongu. The new districts did not have DHMTs until 1991.

resources available at regional and national level is given in Chapter 5.

Table 3.5 gives the population of Volta as 2,036,000 in 1990. This estimate is controversial. The RHA itself tended to use substantially lower figures - it was certainly unconvinced that Volta's population was anywhere near 2 million. Volta Regional Health Administration's Annual Report for 1991 cited a population of 1,396,887 and an annual growth rate of 1.8%. (Volta RHA, 1992; no Annual Report was published in 1990.) I do not claim to be able to comment on this difference. The lower, Volta RHA figures are used in the case studies.<sup>42</sup>

In Ghana, Volta is generally regarded as a middle income region. Although not as rich as Greater Accra and Eastern, it is significantly more prosperous than the Northern and Upper regions. (see Figure 3.2) It is difficult to be precise about this because the main source of information - the Ghana Living Standards Survey - did not analyse its data by region. Instead, it used "localities" - Accra metropolis, coastal areas, forest areas, Volta basin and savannah. (Boateng et al., 1990, p 15) It is impossible to translate this into regional terms. Volta includes several of these

---

<sup>42</sup> Because there was such an emphasis on high immunisation coverage, population estimates were the source of fierce controversy. (see Chapter 6)

localities; it cannot be equated with the Volta Basin, which also includes areas on the lake's western shore.

Table 3.5 Volta and national health statistics

Measure	Year	Volta	National
Population (1)	1990	2,036,000 (14% of total population)	14,972,000
Population growth rate	1980-90	3.0	3.2
Infant mortality rate (per 1000)	1978-87	74	81 <sup>43</sup>
Under 5 mortality rate (per 1000)	1986	133	154
Health stations (2)	1991	91	426
Outpatient attendances per capita	1985	0.24	0.35
Population per hospital bed	1985	722	684
Outpatient attendances per doctor	1987	11,639	9,825
Population per community health nurse	1987	8,493	8,343

Source:

Unless otherwise stated, World Bank, 1990, p 43

(1) Republic of Ghana and UNICEF, 1990, p 242

(2) MoH, 1991, p 32

---

<sup>43</sup> Other sources suggest rather higher levels. Using various sources, Issaka-Tinorgah guesstimated a national infant mortality rate of between 90 and 110 per 1,000. (1988, p 44)

Table 3.5 shows that Volta had considerably more than its fair share of government health facilities.<sup>44</sup> In 1991, Volta had 91 health stations - no other region came close to this number - the nearest were Brong-Ahafo and Ashanti with 57 and 56 respectively. (MoH, 1991, p 32)

The large number of health stations in Volta was not matched by particularly high health worker/population ratios or high per capita out-patient attendance. (see Table 3.5) This is because many of the health stations were extremely small. This was unusual for Ghana, where health stations often had 25 or more staff.

The role of regional health administrations (RHAs) is described in the Ministry of Health publication "Health in brief":

"The Regional Level is the critical link between the national headquarters and the district level and serves as a "buffer" in reconciling needs identified by districts with national concerns. Its role is to help translate central policy into district action by providing support in the form of guidelines, protocols and procedures, to ensure coordination

---

<sup>44</sup> The terms "health stations" and "health facilities" are used here to mean both health centres and health posts. In Ghana, "health centre" and "health post" tend to be used inconsistently. Health stations are called Level Bs in Ghana.

between districts, monitor district programme implementation and to provide feedback to districts and the national headquarters." (MoH, 1991, p 22)

Each region was managed by a Regional Director of Health Services (RDHS), with the Senior Medical Officer (Public Health)<sup>45</sup> as his/her deputy. Other regional officers included the Regional Hospital Secretary, the Regional Public Health Nurse, the Regional Director in charge of (curative) Nursing Services and the Regional Accountant. All of these were members of the Regional Health Management Team (RHMT). (MoH, 1991, p 22)

In late 1987 a highly motivated public health physician was appointed as RDHS in Volta. Until his departure in 1991, he did a lot to develop the role of District Health Management Teams. The Strengthening District Health Systems Initiative, which encouraged districts to act independently, was pioneered on a region-wide basis in Volta. Some districts were more autonomous than others; this depended largely on the skills of DHMT members. By 1989, all the "old" districts (i.e. pre-1988 re-organisation) had budget-holding DHMTs. The 3 new districts became budget-holders in late 1991.

---

<sup>45</sup> Formerly the Senior Medical Officer (Communicable Diseases).



This decentralisation of responsibilities meant that the regional health administration (RHA) also had to re-define its role. The RDHS tried to move the RHA away from traditional line management. The emphasis changed from technical advice provided along divisional lines to a more integrated role. To encourage integration, RHMT members were appointed as "district parents", who were the representatives of individual districts at regional level.

Decentralisation meant that the future role of the RHA was far from clear; Law 207 specified neither its political nor managerial role. The PNDC aimed to reduce the power of the region in all sectors in favour of autonomous districts. (Dovlo et al., 1992, p 17; Cassels and Janovsky, 1992, p 149)

Volta region had many more health stations than other regions; the average facility in Volta was much smaller than the national average. As responsibilities were decentralised to DHMTs, the RHA had to develop a new role for itself, based more on support and less on controlling line management.

E     A brief conclusion - the Ministry of Health and  
          organisational models

In Chapter 2 we saw that rational organisations have well-defined, consistent objectives; information is systematically collected and used. The Ministry of Health in Ghana certainly did not meet these criteria. Many of the activities which aimed to encourage rational decision-making - such as planning and data collection - did not function adequately.

Aspects of several of the organisational models can be discerned in the description in this chapter. For example, political behaviour was revealed through power struggles about the relative influence of donors and the host government. The political model is also apparent in the fact that both decentralisation and integration could be interpreted as power struggles. Asamoah-Baah's description quoted in Section C (III) is reminiscent of the anarchic model.

The case studies in Chapters 5-7 look at the application of rational techniques in this environment. Before the case studies, the next chapter describes the methodology used.

## Chapter 4

### Methodology

## Chapter 4

### The methodology - combining economics and anthropology

#### A Introducing the methodology

Chapter 2 (the literature review) described the potentially uneasy juxtaposition of rational decision-making tools and the existence of many non-rational aspects of decision-making. The chapter concluded:

"Little has been written about how health economics might adapt to organisations where decision-making has strong bureaucratic, political or anarchic elements. This thesis aims to explore this issue - how can a health economist working at sub-national level deal with constraints to rationality?"

This chapter explains how economic analysis was combined with descriptions of constraints to rational decision-making.

The next section of this chapter (section B) describes how I conducted the research whilst working for the Ministry of Health in Ghana. The study was done by participant observation.

Three particular issues were chosen to illustrate

the relationship between economic analysis and constraints to rational decision-making. Section C relates how these case study topics were selected.

Section D explains how the study combined methodologies from two disciplines - economics and anthropology.

Various data collection instruments are described in Section E.

Section F looks at how the quality of qualitative research can be judged, concentrating on validity and reliability.

Finally, Section G asks whether case study findings are generalisable.

The chapter ends with a brief, boxed summary.

B Regional Health Economist in Volta - on the job participant observation

".....research techniques are needed that help grasp the social drama as it appears to the actors, their views of their roles and their assumptions about the unfolding plot. And the most obvious way of doing that is via participative observation." (Czarniawska-Joerges, 1992, p 197)

In order to look at the relationship between economic analysis and how organisations work, a situation had to be found where a health economist was at work and where it would be possible to gain insights into decision-making processes. One way to do this was to work as a health economist myself - this afforded me the time and opportunity to study broader decision-making processes.

From October 1989 until October 1991, I worked in the Volta Regional Health Administration (RHA) of the Ghanaian Ministry of Health as Regional Health Economist (RHE). RHE is not an established post within the Ministry. There was no job description, nor any specific responsibilities. However, the position allowed me to have an office in the RHA; and to attend Regional Health Management Team (RHMT), finance committee and other meetings.

The study involved participant observation, which is one of the principal methods of qualitative data collection. Participant observation means the prolonged immersion of a researcher in the environment which is to be studied. The observation was structured in that I was interested in influences on a limited number of issues. However for most of the time my methods were unstructured because I wanted to elicit the interpretations of other people. (Bryman, 1989, p 25)

The advantages of participant observation have been described by Bresnen, who worked on a construction site.

".....I began to pick up 'undercurrents' in the type of responses I was getting: I was asking more or less the same types of questions I had asked at the start, but in being able to link them with particular issues that had occurred and that I had witnessed and followed up as 'leads', I began to glean slightly different types of answers. From behind the somewhat more bland descriptions of management practices and procedures I began to uncover the contentious edges. As I was based in the Sub-agent's office where many of the decisions seemed to be made, I became a witness to sporadic, slightly heated discussions about various issues.....As I sought various people's views on these issues, tensions and contradictions began to emerge in the accounts." (Bresnen, 1988, p 42)

My experience was very similar to that of Bresnen. I too shared an office with a key decision-maker - in my case, the Senior Medical Officer (Public Health), who also acted as the Deputy Regional Director of Health Services. As Bresnen describes, colleagues gradually became more open and I was able to ask more pertinent questions.

Access tends to be a major difficulty for researchers who want to be participant observers; this was not a problem in my case. (see, for example, Bulmer,

1988, pp 151-3; Bryman, 1989, pp 161-3) The possibility of working in Volta as RHE initially arose because of a personal contact - I knew the Regional Director of Health Services. The arrangement was then endorsed by the Director of Medical Services in Accra.

Any participant observer has to accept that s/he changes the situation through the very fact of being a participant - this is known as the problem of reactivity. No participant is invisible or neutral. I was perceived in a number of ways:

- \* not as a true "insider", even though I knew a lot about the RHA.
- \* as a non-Ghanaian who understood neither of the main local languages, Ewe and Twi.
- \* as a regional manager.
- \* as someone earning a generous expatriate-level salary. This meant that people were unwilling to talk to me about informal methods of income-generation, as it was assumed that I would be unsympathetic to such activities.
- \* as a researcher. [I was quite open about the fact that I was recording my experiences for research material. I generally introduced myself as the Regional Health Economist (rather than as a researcher), but I certainly never denied my research interests.]



The problem of reactivity can never be solved; however one can be sensitive to it. The fact that I was in Volta for two years certainly helped to lessen the problem, as the novelty value of my presence wore off. I also adopted the strategy of seeking out many different points of view about the same issue. This generally gave an idea of when something was being said simply to impress or distract me. (See Section E (1) for more details of this process.)

When I was engaged as RHE, the intention was that I should be a member of the RHMT and should participate fully in RHA activities. The research was thus action research, which has been described as follows:

"In action research, the researcher is involved, in conjunction with members of an organization, in dealing with a problem that is recognized as such by both parties. The researcher feeds information about advisable lines of action back to the organization and observes the impact of the implementation of the advised lines of action on the organizational problem. In a sense, the researcher becomes part of the field of investigation. It is the nature of the relationship between the researcher and his or her subjects that constitutes the prime reason for conceptualizing action research as a distinct design." (Bryman, 1989, p 30)

This description applies to my work in all respects but

one. Bryman gives the impression that the researcher's advice will automatically be taken and that an immediate, observable change will occur. In practice, the situation was not so neat. There were many influences on each subject area; mine was only one, rather powerless, voice.

Bryman's quote reveals an important and potentially troublesome aspect of action research - "the researcher becomes part of the field of investigation". I was the author of the economic analyses and yet I also asked other people about their perceptions of the usefulness of economics. My study of decision-making obviously influenced my economic analyses and vice-versa. This issue of research reliability is discussed in section F, below.

### C Choosing the topics

I decided that I should concentrate on a limited number of topics. Each topic would be analysed from an economist's viewpoint and the general decision-making environment would be investigated. Possible topics were discussed with members of the finance committee (FC). The FC was an ad hoc group which discussed the RHA's use of resources. The committee at that time had 6 members:

\* Regional Director of Health Services

- \* Regional Hospital Secretary
- \* Regional Accountant
- \* Regional Bio-statistician
- \* Senior Supplies Officer
- \* myself, Regional Health Economist.<sup>46</sup>

The topics discussed with the FC were generated by two methods - listing the traditional concerns of health economics and asking FC members what they thought an economist might usefully do. The topics were then formulated as problem statements. FC members were told that my role would be to investigate the problem and to work with others to try to solve it.

In order to identify priority topics on which to concentrate, FC members were given a list of 20 possible issues in advance and asked to consider the list. The committee was then brought together to discuss all the topics. One committee member did not show an interest in the list and did not attend this meeting.

The 20 problem statements were:

---

<sup>46</sup> Later, the Senior Medical Officer (Public Health) joined the committee. In his comments on this thesis, the Regional Director of Health Services wrote "on reflection, if I were to do this again I would add a smart programme officer and a smart district medical officer to the committee".

- 1 The RHA knows neither how much it spends, nor what it buys. It also does not know what resources it uses and distributes.
- 2 The unit costs of various activities are not known; such information might be useful for improving efficiency.
- 3 The RHA has no explicit criteria for allocating funds amongst its budget-holders. (There were over 20 budget-holders, including 9 District Health Management Teams, 6 hospitals and 4 training institutions.)
- 4 Budget-holders and other managers know too little about financial management.
- 5 Resources are distributed inequitably amongst the districts of Volta Region.
- 6 Resources are insufficient; more should be done to obtain money and goods from sources other than central government.
- 7 Drug shortages and over-prescribing co-exist. Will the new Cash and Carry drug supply system improve the present situation? Will it attract more patients? (Cash and Carry was a revolving drug fund.)
- 8 The RHA does not know if its activities are effective - e.g. training, treatment and supervision.
- 9 The RHA does not know if its activities are cost-effective. (This follows on from problem statement 8.)

- 10 Health stations do not have their own budgets and are often unable to buy simple, necessary items such as kerosene.
- 11 The mix of staff is inappropriate; staff are poorly distributed.
- 12 The selection of capital projects is irrational; implementation is extremely slow.
- 13 Budget submissions to headquarters do not reflect the RHA's policies, priorities and plans.
- 14 Mission hospitals have better standards of care and are possibly cheaper. Why?
- 15 Maintenance of buildings and equipment is poor. Very little money is allocated for maintenance activities.
- 16 Inputs are combined inappropriately.
- 17 The RHA does not critically monitor the acquisition and distribution of stores.
- 18 Vehicles are expensive to run and are often misused.
- 19 Many hospitals do not provide food for their in-patients.
- 20 Medical care is of a poor quality.

Two topics emerged as unanimous priorities - a description of resource flows (problem 1) and the effect of Cash and Carry on drug supplies, prescribing and health service utilisation levels. (problem 7). The description of resource flows subsumed the essential

ingredients of some other topics which were regarded as important. Five topics fell into this category:

- 3 allocation of funds to budget-holders
- 4 knowledge of financial management
- 15 maintenance
- 17 stores
- 18 vehicles.

Other topics were not regarded as priorities for three main reasons.

- (i) The FC adopted the view that the RHA was in the process of establishing a functioning health delivery system. The system was still being created - the notions of District Health Management Teams and integrated services were still new. Some basic building blocks of the system were still absent. Some of the problem formulations were regarded as too advanced for the RHA's stage of development. They were regarded as niceties in a situation where many basic problems existed. The issue here is not that the topics were felt to be too threatening; the point is that the FC felt that the required technical inputs were too sophisticated for a system which did not even have basic information about expenditure.

Seven topics fell into this category:

- 2 unit costs
- 5 equity
- 6 non-government resources. The FC felt it was important to improve the use of existing resources.
- 8 effectiveness
- 9 cost-effectiveness
- 16 input combinations
- 20 quality of care. (This later became a priority at national level.)

(ii) The FC agreed that some of the problems were relevant, but felt that not much could be achieved at regional level. National-level change was required. There were four topics in this category:

- 10 budgets at health stations
- 11 location and mix of staff
- 12 capital
- 13 annual budgeting.

(iii) The FC felt that the RHA had limited capacity to influence many aspects of hospital policy. This affected two items:

- 14 Mission hospitals

19 hospital food.

The finance committee was involved in choosing topics because I wanted to work on areas where change was desired and where there was a reasonable chance of improvement. There were problems with this approach. The FC was able to exclude any topic which was felt to be threatening or too challenging. This resulted in the selection of rather unambitious topics, in that major areas of resource misuse were avoided. Some practices were not questioned - evidence that they were not cost-effective would have cast serious doubt on many of the fundamental aims of the RHA. Examples are outreach clinics; supervision involving several District Health Management Team members travelling together; and many hospital procedures.

Action research allows actors from the organisation being studied to set the research agenda. It is thus vulnerable to the criticism that constraints are incorporated too readily and the status quo is not challenged:

".....for many researchers it [i.e. action research] is too close to a consultancy role, while the taint of manipulation and an excessive managerialism has done little to endear it to others". (Bryman, 1989, p 187)



There is, however, a counter-argument to this charge of accepting constraints too readily. The thesis documents the difficulties encountered in securing acceptance for the conclusions of economic analyses. The analyses were of topics suggested from within the organisation. Presumably, acceptance would have been even less likely for topics identified by me. Here the dilemma of incorporating or challenging constraints, which was discussed in the literature review, is encountered in the context of research.

One of my case study topics was not generated through consultation with the FC - the economic evaluation of immunisation strategies. This issue was investigated because of its topicality and because the (national) Director of Medical Services specifically asked for data. I adopted this topic opportunistically, as it emerged as an economic issue which would be widely debated at all levels of the Ministry. This was felt to be sufficient justification for concentrating on immunisations.

In summary, three case study topics were identified - a description of resource flows; an economic evaluation of immunisation strategies; and the effect of a revolving drug fund on drug supplies and prescribing. These are presented in Chapters 5, 6 and 7 respectively.

Table 4.1 gives a timetable of the research.

Table 4.1 Timetable of research

Month	Activity
October 1989	arrive in Volta
June 1990	Finance Committee decides on priority topics for investigation
August 1990	start survey of sampled facilities for Cash and Carry
September 1990	immunisation activities intensified in Volta
October 1990	Cash and Carry begins in Volta
March 1991	end survey of sampled facilities for Cash and Carry
April and July 1991	immunisation costings presented to national Conferences of Regional Directors and Divisional Heads
October 1991	leave Volta
May 1992	return to Volta to discuss draft of thesis
November 1992	submission of thesis

D Combining disciplines - economics and anthropology

Section C described how three case study topics were selected - resource flows, immunisations and drug supplies. Each topic was tackled in two very different ways - a formal economic analysis and a description of how various actors viewed the same issue. An analysis reflecting a single rationality was juxtaposed with a multi-faceted description. The rational tool involved

largely quantitative methods; the description was qualitative. The two methodologies reflect different epistemologies. Economics is positivist; it defines its concerns in advance (cost, for example). Qualitative research is relativist. It aims to demonstrate the different ways in which actors perceive the same situation and does not choose amongst the various interpretations. Qualitative work elicits the relevant variables through observation and discourse. (Kirk and Miller, 1986, p 20)

The rationale for eliciting multiple points of view about the same issue has been described by Czarniawska-Joerges:

"The challenge is in presenting the complexity of a situation as it is perceived simultaneously by different actors (and the researcher), in the hope that this same complexity will help both actors and observers to understand the reasons and effects of actions undertaken by actors when they are looking through one facet only. They see a fairly clear picture, yet do not realize that looking through another facet will produce a similarly clear but different picture. Simply adding one more picture, that of the researcher (as is done in conventional studies) will multiply the realities even further." (Czarniawska-Joerges, 1992, p 204)

In the language of Czarniawska-Joerges, this thesis

"adds one more picture" - an economic one. It then considers the issues from other angles and looks at the relationship between these and the economic viewpoint. This approach uses what Czarniawska-Joerges calls "anthropologically-inspired" methods:

"An anthropologically-inspired organization theory would be, then, an interpretation of organizational processes from the standpoint of the actors involved, collected and retold by a researcher (also representing a certain standpoint). It would be a polyphony of voices from inside rather than an aerial picture taken from the outside." (Czarniawska-Joerges, 1992, p 4)

#### E Journals and other data collection instruments

Different economic methods were used for each selected topic. The specifics of each methodology are described in the individual case studies. (chapters 5-7) The economic analyses relied on documents and routine Ministry of Health records such as payment vouchers, tally cards and out-patient records.

The qualitative research involved four main instruments.<sup>47</sup>

---

<sup>47</sup> Korman and Glennerster call this mixture of methods "administrative anthropology". (1990, p 2)

## 1 a regular journal

"Right from the start, I found it impossible to keep everything that I wanted to remember in my head until the end of the working day (some of the shifts were over twelve hours long) and so had to take rough notes as I was going along. But I was stuck 'on the line', and had nowhere to retire to privately to jot things down. Eventually, the wheeze of using innocently provided lavatory cubicles occurred to me."

(Ditton, 1977, p 5. Ditton, a sociologist, studied a bakery through participant observation.)

The principal instrument was a regular journal, based on observations, attendance at meetings and on formal and informal conversations with colleagues. The seven-volume journal was a chronological record of events. Although it concentrated on the case study topics, many other issues were also documented. Inevitably, the journal contained much more information than could be used in the thesis.

I consciously sought out many different points of view about the case study issues - for example from regional and district staff, vertical programme officers and donors. Journal entries were regularly reviewed so that ambiguities and questions could be followed up. Different people were asked about the same points; where appropriate, issues were checked by following up

relevant documentation.

The initial analysis of the journal was done by the simple expedient of underlining sections relevant to the various case study topics. The entries were then classified according to whose viewpoint they represented.

Journal entries were often made several hours after conversations took place. Only very sketchy notes were taken at the time, as extensive note-taking tended to make conversations stilted and more guarded. Quotations from the journal are thus usually indirect quotes, not verbatim accounts.

References to the journals are written with a capital "J", followed by the volume and page numbers. For example J7.4 refers to volume 7, page 4 of the journal.,

## **2 documents**

Ministry of Health documents were consulted. These consisted mostly of correspondence, minutes and contemporary records of expenditure and health service utilisation.

### 3 individual interviews

Individual interviews were conducted at the beginning of the study.

### 4 group discussions

Group discussions about the case study topics were held at the end of my time in Ghana. These discussions were tape-recorded. References to the group discussions are marked "IB" (interview book).

My time as Regional Health Economist ended in October 1991 and I left Ghana. I returned in May 1992 with write-ups of the case studies. These were read by, and/or orally presented to, a number of key informants including donors, district medical officers and past and present RHMT members. The aim of this stage - called respondent validation - was to see if the write-ups were factually correct and analytically acceptable. Radical changes were not needed after the respondent validation. Minor changes reflected factual errors; omitted points of view; and some indiscretions on my part where individuals were identifiable against their will.

F Quality controls for qualitative research -  
validity and reliability

"Qualitative analyses can be evocative, illuminating, masterful, and downright wrong." (Miles and Huberman, 1984, p 230; original emphasis)

Qualitative research should not be judged by scientific criteria such as replicability, external validity and objectivity. (Marshall and Rossman, 1989, ch 5) However, qualitative methods have their own quality controls. The two main ones are validity and reliability. Validity (or "truthfulness") has been defined as:

"the extent to which the answer is correct" (Kirk and Miller, 1986, p 20)

and reliability as,

"the extent to which a different researcher would arrive at the same findings". (Yin, 1989, p 45)

The aim is,



"the simultaneous realization of as much reliability and validity as possible." (Kirk and Miller, 1986, p 20)<sup>48</sup>

Enhancing validity entails looking at the same issue in several ways and from several standpoints; evidence should be constantly questioned. Two devices were used to improve validity. As its name suggests, respondent validation (described in section E, above) is a form of validation. Actors in the case studies were asked to confirm that the write-up was an accurate portrayal of events.

The second device was triangulation. The idea of triangulation is that a finding is supported when different methods - or sources - yield the same result. Documents might confirm what was said in an interview; a structured conversation might corroborate a casual observation. The journal covered the same issues from several angles - this was another form of validation.

Reliability is different from the scientific notion of replicability, which is defined as ensuring that the study could be repeated with the same results. The work was based on the observation of unique events: participant observation in such circumstances cannot be

---

<sup>48</sup> Perfect validity is impossible. Perfect reliability is compatible with no validity - for example by using budget information to represent expenditure. The wrong thing has been measured reliably.

replicable. The economic analyses, however, are replicable because they conform to the scientific model. (Bresnen, 1988, p 47)

Reliability is about the reduction of bias. In qualitative research, reliability can only be judged if procedures are documented comprehensively. My journal fulfils this criterion to some extent. The journal was written as a record of events and conversations; it did not document my own thoughts about methodologies and theoretical developments. The journal was not written for public consumption; for example it unfairly identifies individuals. This is a dilemma. Results should be available to other researchers, yet entries are almost inevitably confidential. As a compromise, my journals have been made available only to the academic judges of this work.

#### G Can qualitative case studies be generalised?

Yin has distinguished two forms of generalisability - statistical and analytical. Statistical generalisability refers to a situation where a correctly selected sample readily generalises to a larger population. In analytical generalisation, the researcher tries to generalise a particular set of results to some broader theory. (Yin, 1989, pp 43-44)

This work makes no claims at statistical generalisability, which is a criterion applied to quantitative research. Volta RHA was not randomly selected. It was not a typical regional health administration, if only because it agreed to host me. Nor were the case study topics randomly generated. The empirical results are thus not intended to be representative of a wider population of issues or organisations - this would be to misunderstand the nature of case studies.

Case studies should, however, generate analytical generalisations. The concepts developed should be applicable to other settings; results should be related back to the theory which led to the case studies. Chapter 8 is an attempt at analytical generalisation from the empirical findings of the three case studies. (Bryman, 1989, p 173; Conrad, 1990, p 1259)

This thesis explores the relationship between the rational analysis of a problem and the constraints to rational decision-making. In order to investigate this, three issues were selected as case studies - resource flows, alternative immunisation strategies and the Cash and Carry drug supply system. Each issue was analysed from an economic viewpoint. The issues were also looked at through the eyes of several different actors, thus providing an anthropological perspective on the same issues and illuminating constraints to rational decision-making.

Access to information was possible because of my job as Regional Health Economist with the Ministry of Health in Volta - this allowed me to be a participant observer. A variety of data collection instruments were used, the main one being a regular journal.

Issues of validity, reliability and generalisability are discussed.

## Chapter 5

### Resource flows

## Chapter 5

### Cutting the Gordian knot: resource flows in the Ministry of Health

"The lack of information about health sector financing and expenditure in many countries has undermined appropriate decision-making.....Studies of health sector finance and expenditure generally have two main purposes, related to the health sector's problems: to investigate the efficiency of the health sector and to provide information for financial planning." (Mills and Gilson, 1988, p 99)

#### A Introduction

The previous chapter described how the case study topics emerged. One of the three topics - "a description of resource flows" - was in response to the problem "Volta Regional Health Administration knows neither how much it spends, nor what it buys. It also does not know what resources it uses and distributes." (Chapter 4, Section C) Originally, I imagined that the work described in this chapter would be a finance<sup>49</sup> and expenditure survey. According to Mills and Gilson in the quotation above, the aims of such a survey are to investigate efficiency and to provide information for

---

<sup>49</sup> The word "finance" is used in this chapter to mean both money and goods in kind.

financial planning.

During the course of the data collection, it became obvious that efficiency (in its economic sense<sup>50</sup>) and financial planning were not the issues of most immediate concern. The system of resource distribution was an imbroglio; it imposed constraints on decision-making and signalled perverse incentives. These constraints and incentives limited the extent to which it was relevant to aim for "textbook" efficiency or "textbook" planning. This chapter describes the constraints and incentives; in other words, it describes the boundaries to rationality.

Mills and Gilson state that the lack of information is a constraint to "appropriate [i.e. rational] decision-making". The chapter does not dispute this. However, it argues that there are many other constraints which also have to be considered. The question is, "How can these constraints be handled in order to foster an environment which is (more) conducive to rational decision-making?".

After this introduction, Section B - where does all the money come from? - describes the sources of finance received by the Ministry of Health in Volta in 1990.

---

<sup>50</sup> I.e. maximising health for a given budget or minimising the cost of achieving a given level of health.

Section C - where does all the money go? - looks at how resources were allocated. As well as quantifying the resources, the section also describes the processes by which resources were distributed. Many of these processes were very complicated. Originally designed to ensure accountability and control, the mechanisms for distributing resources had developed into vehicles for frustration and waste. Resources flowed through many channels; some channels worked more efficiently and had more resources than others. The opportunity cost of the same value of resources was thus different, depending on the channel.

Section D considers the issues from different points of view. It shows that accountants, donors, budget-holders and non-budget-holders perceived the system in different ways.

Sections B-D contain a great deal of detail. Section E summarises the constraints emerging from the previous sections. It then considers how these constraints might be managed in order to foster a decision-making environment conducive to economic efficiency. Finally, the implications for the work of a regional health economist are considered.

As for all the case studies, this chapter concentrates on the regional level. Unless otherwise



stated, all data are from 1990.

Examples are marked with "€" and are written in a smaller font. Direct quotations are printed in the same font. References to my journals are marked with "J", followed by the volume and page numbers. (e.g. J5.4; see Chapter 4, Section E for a description of the journals)

B Where does the money come from? - resource flows in Volta, 1990

This section is in two parts. Part I describes and quantifies the sources of finance for the Ministry of Health in Volta region and nationally. Part II looks at the informal financing system, which co-exists with the formal system.

Part I gives more numerical information than Part II. Whilst it is reasonably easy to document formal sources of finance, data on informal financing are much more elusive.

I Sources of finance - where does the money come from?

Table 5.1 and Figure 5.1 show the sources of Ministry of Health finances in Volta region and nationally in 1990. The figures are actual expenditure,

not budgeted amounts. The exception to this is fees, where the data are for actual income. The national data come from two unpublished reports by Gillian Holmes. (1991 and 1992)

From Figure 5.1, it can be seen that the Ghanaian government was the most important source of finance, contributing 87% of the resources in Volta. Fees for curative care, child welfare clinics and immunisations accounted for 7% of total income. Although this 7% is considerably lower than the 12% recorded for Ghana in 1987 (Vogel, 1988, p 135), it is nevertheless a relatively high figure by international standards. Creese (1990, p 6) gave data on fee revenue as a percentage of Ministry of Health budgets for 12 sub-Saharan African countries. Of these 12 countries, 8 had less than 6% of income from fees.

Table 5.1 Sources of finance, 1990 (¢ thousands)

SOURCE	Volta (Waddington)	National (Holmes, 1991 and 1992)
Government capital funds	257,000 (16%) [¢198 per capita]	3,653,666 (14%) [¢254 per capita]
Fees	106,370 (7%) [¢82 per capita]	1,242,000 (5%) [¢86 per capita]
Donor (1)	93,092 (6%) [¢72 per capita]	3,663,000 (14%) [¢254 per capita]
Government recurrent funds	1,121,743 (71%) [¢863 per capita]	18,276,926 (68%) [¢1269 per capita]
<b>TOTAL</b>	<b>1,578,205 (100%)</b> <b>[¢1214 per capita]</b>	<b>26,835,592 (100%)</b> <b>[¢1864 per capita]</b>
Population	1,300,000 <sup>51</sup>	14,400,000

- (1) This includes the major bilateral and multilateral donors, but excludes non-governmental organisations (NGOs). Most Mission expenditures are excluded; the Ministry of Health paid some salaries at Missions. Holmes' data exclude WHO expenditure. (Holmes, 1991, p 9)

---

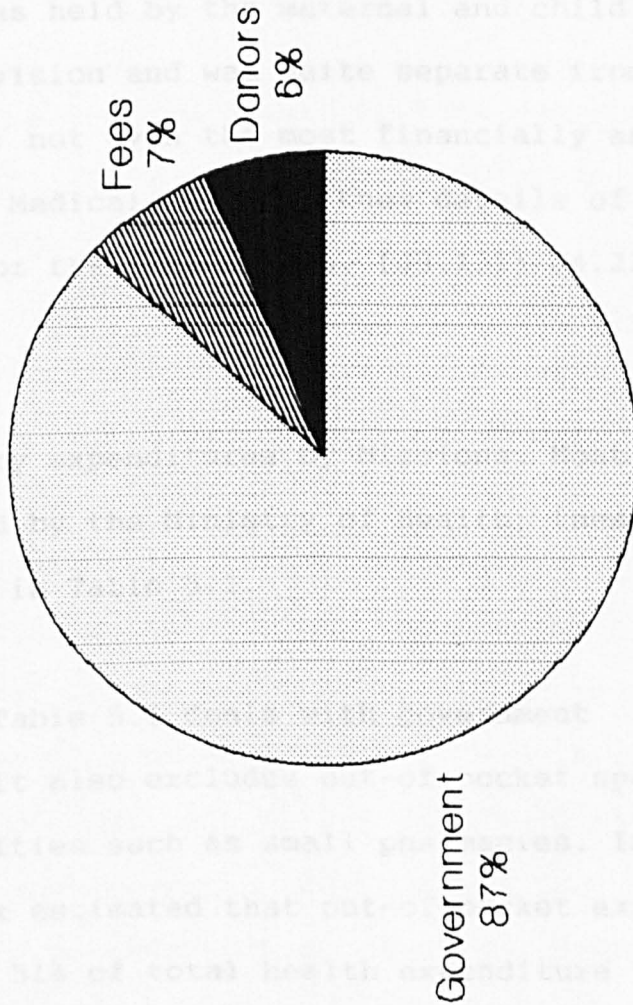
<sup>51</sup> This is the population estimate used by the Regional Health Administration. Other estimates have put the population as high as 2 million. (see Chapter 3, Section D for a discussion of this issue)

# SOURCES of FINANCE, 1990

## MoH, VOLTA

Figure 5.1

Sources of finance, Ministry of Health, Volta, 1990



100% = c1,578,205,000

Certain items are excluded from the figures in Table 5.1 because recent, reasonably accurate information is not available. Omitted sources of finance include:

- 1 all unofficial charges. These are described (but not quantified) in Section B (II).
- 2 small sums of income from contraceptive sales. This income was held by the maternal and child health (MCH) division and was quite separate from other finances; not even the most financially astute District Medical Officers knew details of this income for their districts. (J3.131; J4.22; J6.27<sup>52</sup>)
- 3 non-salary expenditures by Missions. Most salaries were paid by the Ministry of Health; these are included in Table 5.1.

Because Table 5.1 deals with government expenditure, it also excludes out-of-pocket spending at private facilities such as small pharmacies. In 1987, the World Bank estimated that out-of-pocket expenditure accounted for 51% of total health expenditure in Ghana. (World Bank, 1987)

---

<sup>52</sup> J = journal. For an explanation of these references, see the Introduction to this chapter and Chapter 4, Section E.

Table 5.1 compares data for Volta region with data for the Ministry of Health as a whole. The following 4 points summarise and comment on the 4 sources - government recurrent finance, government capital, fees and donors.

- 1     **The per capita government expenditure on capital was higher nationally (¢254) than in Volta (¢198). This seems fair, as Volta already had more than its share of health stations.**
  
- 2     **The per capita expenditure on fees was more or less similar for Volta and for the country as a whole - ¢82 and ¢86 respectively.**
  
- 3     **The figures for donor contributions show much higher per capita expenditure nationally than in Volta.**

The explanation for this is probably methodological, rather than there being a real difference. Donors' contributions arrived in Volta through so many channels that it was impossible to be aware of them all. It was only possible to include money given to the Regional Health Administration and some substantial donations in kind, notably vehicles and immunisation equipment. UNICEF, a regular donor, was able to provide costs - its donations were included. Ad hoc,

uncosted gifts from other donors were omitted. My figures for donor involvement in Volta are thus probably under-estimates.<sup>53</sup> (J3.92)

- 4 Per capita expenditure from government recurrent funds in Volta was substantially lower than the national figure (about ¢860 and ¢1,270 respectively).

A breakdown of government recurrent funds is given in Table 5.2 and illustrated in Figure 5.2. The difference between regional and national expenditure per capita was largely due to the difference in stores - ¢147 and ¢404 respectively.

Expenditures on salaries and on travel/general/maintenance were almost the same in Volta and nationally - ¢561 and ¢593 respectively for salaries; ¢151 and ¢148 for travel/general/maintenance.

Volta did not appear to receive anything like its fair share of the stores (ostensibly) bought at national level. There are three possible explanations for this:

---

<sup>53</sup> The Regional Health Administration only heard about some donations through the newspapers. For example, the Assemblies of God donated drugs and surgical supplies worth ¢1.4 million to a district hospital in November 1990. As regional health economist, I learnt about this by reading the Daily Graphic of 20/11/1990.

(i) The methodologies for collecting data at regional and national level may have been different. My figures may be under-estimates because they only include stores which passed through Regional Medical Stores (RMS). Items collected from Central Medical Stores (CMS) and taken directly to a hospital, for example, have not been valued. Stores were certainly collected directly from CMS by some programmes, especially mental health, dentistry and the laboratories. However it is most unlikely that the under-estimate is anywhere near as high as the almost threefold difference between the Volta and national figures for per capita expenditure on stores. (J2.80)

(ii) Other regions may have received "Volta's share" of stores.<sup>54</sup> This seems unlikely; Volta was relatively close to Accra and visited the CMS regularly. Tales of shortages were heard from all regions.

The teaching hospitals also received a large percentage of stores. Again, however, it is most unlikely that this could account for the almost threefold difference.

---

<sup>54</sup> Comparable data from other regions were not available.



(iii) The resources remained in Accra. This seems the most plausible explanation. It was admitted at a meeting of Regional Directors in October 1991 that there had been considerable misappropriation of funds for stores at national level. This explains the discrepancy in the figures and the empty shelves often encountered at the CMS. The misappropriation denied Volta an estimated C334 million worth of stores.<sup>55</sup> This is more than the entire capital expenditure in the region.

---

<sup>55</sup> Per capita expenditure on stores was C257 lower in Volta than nationally. (C404-C147) C257 multiplied by 1.3 million (the population of Volta) is approximately C334 million.

Table 5.2 Breakdown of expenditure from government  
recurrent funds, 1990 (¢ thousands)

Item	Volta (Waddington)	National (Holmes, 1991 and 1992)
Salaries	729,383 (65%) [¢561 per capita]	8,545,611 (47%) [¢593 per capita]
Cash (1)	196,066 (17%) [¢151 per capita]	2,133,748 (12%) [¢148 per capita]
Stores (Volta); "Other current" (national)	191,000 (17%) [¢147 per capita]	5,819,700 (32%) [¢404 per capita]
Miscellaneous (2)	5,294 (<1%) [¢4 per capita]	1,777,867 (10%) [¢123 per capita]
<b>TOTAL</b>	<b>1,121,743 (100%)</b> <b>[¢863 per capita]</b>	<b>18,276,926 (100%)</b> <b>[¢1269 per capita]</b>
Population	1,300,000 (3)	14,400,000

- (1) More specifically, "cash" means Financial Encumbrances in Volta. Nationally, it includes three budget categories - travel and transport; general expenditure; and maintenance, repairs and renewals.

Financial Encumbrances (FEs) are the cash part of government recurrent finances. FEs are explained in detail in C (III) of this chapter.

For national level, the closest possible approximation to FEs is travel/general/maintenance. This is different from FEs in that it excludes some money for stores.

- (2) At national level, "miscellaneous" is salaries for Mission hospitals.

At regional level, "miscellaneous" refers to a last minute allocation which was earmarked for in-service training. This sum was provided from government recurrent funds but was not included in the annual budget. (J3.102)

# CHANNELS of GOVT. FINANCE MoH, VOLTA, 1990

Figure 5.2

Channels of government finance, Ministry of Health, Volta, 1990

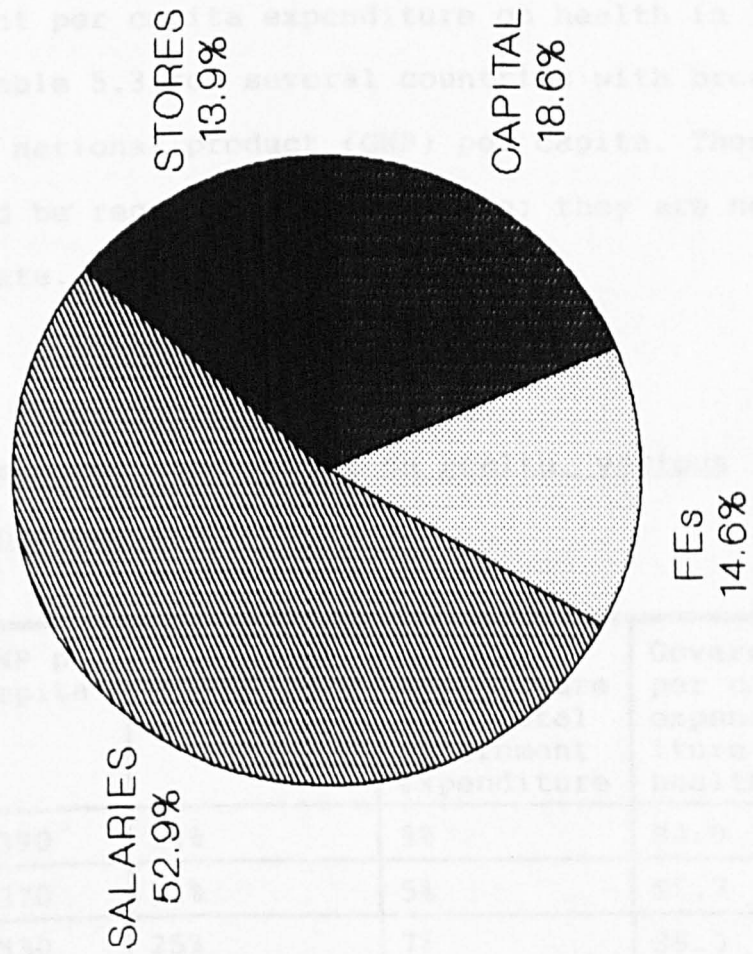


Table 5.1 showed that total Ministry of Health and donor expenditure in Ghana was about c26,840 million, or c1,900 per capita. At an exchange rate of \$1 = c350, this was about \$5.4. The equivalent figure for Nepal (1990 expenditure per capita from government, fees and donors) was \$1.8. If only government expenditure is considered, per capita expenditure was \$1.3 in Nepal and \$4.4 in Ghana. (Smithson, 1992)

Government per capita expenditure on health in 1990 is shown in Table 5.3 for several countries with broadly similar gross national product (GNP) per capita. These figures should be regarded as indicative; they are not totally accurate.

Table 5.3 Government expenditure on health, various countries, 1990

Country	GNP per capita	Government expenditure as % of GNP	Health expenditure as % total government expenditure	Government per capita expenditure on health
Ghana	\$390	14%	9%	\$4.9
Kenya	\$370	31%	5%	\$5.7
Lesotho	\$530	25%	7%	\$9.3
Mali	\$270	30%	2%	\$1.6
Pakistan	\$380	24%	0.7%	\$0.6
Zambia	\$420	22%	7%	\$6.5

Source: World Bank, 1992, pp 218, 238

Table 5.3 shows that Ghana's per capita government health expenditure is about average for comparable countries. The percentage of total government expenditure devoted to health is unusually high in Ghana; however, the government sector is small compared with the other countries.

The Ministry of Health in Volta had four main sources of finance - government recurrent (71%), government capital (16%), fees (7%) and donors (6%).

Volta did not receive its fair share of the national stores budget. This was an area of corruption at national level.

## II Informal financing

"Illegal pecuniary considerations aside....." (Policy discussion, Conference of Regional Directors and Divisional Heads, July 1991)

In 1990, a Ministry of Health carpenter earned about c8,600 (\$25) per month. Comparable salaries were c12,600 (\$36) for an enrolled nurse (starting salary); c18,100 (\$52) for a public health nurse; and c35,300 (\$101) for a medical officer. It was thus not surprising that a variety of devices were used to supplement government salaries. Some postings were more popular

than others. For example, the Ghana/Togo border was lucrative; health inspectors, on the other hand, regarded hospital postings as rather "dry".

"Dashes" (informal, under-the-counter payments) are an integral part of Ghanaian society. The press was dashed to cover news events; local dignitaries were dashed to attend functions. The Ministry of Health was no different; in addition to the formal, recorded channels of resource distribution, the Ministry of Health had a sizeable "informal economy". Examples include:

- \* doctors charging for death and unfit-to-work certificates.
- \* health inspectors taking money from alleged "sanitary offenders", who would otherwise have been reported to the authorities.
- \* nurses being forced to pay into a "welfare fund" when they collected their new uniforms.
- \* dashes to staff at the Ghana/Togo border to provide vaccination certificates.
- \* charges for water filters which protected against guinea worm. (These filters had been donated by a

U.S. company, on condition that they were distributed free of charge.)

- \* judging overseas trips according to their monetary returns, rather than their educational (or other) value. Each time a public health doctor went to Nigeria to sit the membership examination, s/he received \$1,000. It was thus "cost-effective" to fail this exam a few times! (J6.10, 54, 60, 76, 80; J7.12, 49, 63; Daily Graphic, 23/4/1990, 13/8/1990 and 14/12/1990)

Although no figures are given here for the informal sector, the importance of informal financing should not be under-estimated. The ability to supplement salaries was a powerful incentive for poorly paid staff. This is demonstrated in Chapter 6 (about immunisations) and Chapter 7 (about drug supplies). The subject is dealt with only briefly here simply because it is almost impossible to obtain systematic information about informal payments.

Informal finances were important in the Ministry of Health. Salaries were very low; staff needed to supplement their incomes.

C Resource flows - where does all the money go?

"Your financial management training is OK, Catriona, but what is the point? Accountants are secretive and dishonest; District Medical Officers are uncommunicative; the MCH Division has pots of money it doesn't tell anyone about. And not even you seem to know what the rules for health stations are." (Health inspector, June 1991)

This section describes the various channels through which resources arrived in Volta. The procedures for each item (salaries, stores, donor finances etc.) determined the degree to which their use could be controlled within the region. This section deliberately concentrates on describing processes. At the end of the chapter, Section E considers what might be done to streamline these processes and to improve the availability of information about expenditures.

Section B discussed the formal and informal sources of finance for Volta Regional Health Administration. It might be expected that the next logical step would be to describe how the finance was used - i.e. the expenditure part of a finance and expenditure survey. Although this section does give some expenditure information, it is incomplete and the categories are rather ad hoc. Information on expenditure could only be obtained through special, one-off studies. Because I was



interested in constraints, I concentrated on questioning why the information was so difficult to get, rather than on conducting unique surveys.

Table 5.2 and Figure 5.2 showed the four main channels by which government resources reached Volta - salaries, capital expenditure, financial encumbrances (FEs) and stores in kind. Resources also came to the Ministry of Health from donors and from clients. This section describes these channels and shows how they offered different levels of control to the region. The descriptions highlight various constraints to rational decision-making.

At the end of each part of this section is a boxed summary.

## I Salaries

Salaries accounted for 46% of total expenditure in Volta in 1990. The region had little or no control over the size and composition of its workforce. Additional members of some cadres of staff arrived in the region unsolicited. Other cadres had to be energetically lobbied for.

€<sup>56</sup> Persistent lobbying paid off. At a time when accountants were said to be in short supply, one District Medical Officer persuaded the Office of the Controller and Accountant-General to allocate accountants to two health stations (the lowest level of institution) in his district. (J3.51)

Although so much was spent on salaries, the region had little control over the management of human resources. There were four main limitations to the region's ability to make decisions about staff.

**1 Hiring and firing were constrained.**

In practice, it was very difficult for the region to sack even an ineffective watchman or to hire a much-needed driver. National controls on engaging new staff - brought in as part of structural adjustment - did not differentiate between priority and non-priority appointments. The across-the-board measures were aimed purely at controlling government expenditure. Attempts to sack individuals were frustrated by appeals to Accra or to local political figures. (J5.54)

**2 It was difficult to expand the duties of existing staff. For example, many orderlies refused to work outside (e.g. to scythe grass), as they had not been required to do so in the past. Enforcing the**

---

<sup>56</sup> The symbol "€" denotes a specific example.

new duties was difficult, as most of the orderlies were locals, with strong community ties. (J4.46)

- 3 Although in theory the region controlled the deployment of staff within the region, in practice the control was partial.

Divisional heads in Accra, who decided promotions, exerted a strong influence over "their" staff. Attempts to transfer staff within the region were often frustrated by appeals to Accra. A reluctance to move, together with accommodation shortages, made it particularly difficult to transfer staff to rural areas and to anywhere in the two northern districts of Kete-Krachi and Nkwanta. There were no extra allowances for remote postings and staff (justifiably) felt that they would be isolated from benefits such as scholarships. (J6.49, 66-7)

- 4 Discipline procedures were weak.

For example, one nurse in an outlying health station had been found guilty of stealing money. Although she refused to repay the sum, she remained in the same job. (J6.47)

Considerable sums of money were locked up in salaries. The region was very constrained in what it could do about money wasted on the wrong kinds of staff - personnel decisions were highly centralised.

However, the Regional Health Management Team was also rather reluctant to tackle problems with staff, as such matters tended to be unpleasant, personalised and difficult to handle.

Salaries accounted for 46% of total expenditure in Volta in 1990. The Regional Health Administration had very little control over the composition, distribution or job descriptions of its workforce.

## II Capital

"The work of contractors at Hohoe hospital in particular could be questioned in all aspects." (Hohoe Government Hospital, 1991)

¢257,000,000 was spent on capital in 1990. There were many problems with the system of allocating resources for capital projects. The Regional Health Administration (RHA) had little influence over priorities and little control over the costs and quality of project implementation.

Each year, the RHA submitted a prioritised list of capital projects to the Ministry of Health (MoH) Planning Unit in Accra. The RHA's main criteria were increasing access and rehabilitation for facilities in

very poor states of repair. The list included estimated costs, based on past experience and inflation. The Planning Unit then collated the requests of all 10 regions and defended them in a submission to the Ministry of Finance and Economic Planning (MoFEP). A final list of projects was approved by MoFEP. Copies of this list were then sent to both the MoH and MoFEP at regional level. Contracts were awarded by the Regional Tender Board, which was chaired by the PNDC Regional Secretary and had no MoH representation. The Regional Director of Health Services (RDHS) was, however, asked to advise meetings which considered health projects. (RDHS and RHE Volta Region, 1990, p 3)

There were four main problems with this system of allocating money for capital projects.

1 **Non-priority projects were often selected.**

The Tender Board was not bound to heed the advice of the RDHS. New projects seemed to be selected on political grounds, rather than on the MoH's avowed aim of increasing coverage. (RDHS, 1989)

€ Four of the 23 projects on the 1990 approved capital projects list for Volta MoH were for new buildings. Most of the other projects involved the rehabilitation or (not always necessary) extension of existing facilities. The choice of the 4 new sites was clearly the result of political, rather than

technical, factors. Three of the four projects would have hardly any impact at all on coverage.

One of the new projects was for a feasibility study for a new regional hospital; this money was not spent in 1990.

A second was for a health post in the district which already had the best coverage in the region. Moreover this new health post was in easy reach of the district capital, which was a short distance along a tarmac road.

The third project for a new building was for a district capital (Nkwanta) which did not have any government curative facilities. There was, however, a good church clinic in the same town; the rest of the district was extremely under-served. The decision to build a large government facility in the district capital was perhaps understandable, but also represented a breakdown of government-church co-operation.

The fourth new project (Denu) was easier to justify on the grounds of coverage - it was in the capital of one of the newly-created districts, which was a fairly large, under-served town. (J2.88)

Whilst Volta was not alone in the politicised nature of capital decisions, a senior member of the MoH in Accra said that Volta's capital submission was more vulnerable to change through "lobbying"

than was the case for other regions. (J3.147)

2 Costs were excessively high.<sup>57</sup>

The final cost of a project was determined by the government advisor on construction, the AESC (Architectural and Engineering Services Corporation). These costs often bore little relation to the RHA's original estimates, but were invariably much higher. Contractors paid large bribes to be awarded government projects because they could provide a source of income for several years. (J3.77; J5.126)

3 Implementation was slow.

As late as August 1990, the MoH did not know for which approved 1990 capital projects contracts had been awarded. Not surprisingly, the job completion rate was disastrous. Of the 23 projects included in the 1990 capital budget in Volta, (all of which were intended for completion in 1990), only 5 were completed. One contractor had been on a hospital site for 20 years continuously! Another hospital had its relatively simple water supply project suspended after 4 years. (J2.106; J6.100)

Delays in building were not inevitable. The donor-

---

<sup>57</sup> For example, c27 million (\$77,150) was spent on renovating two staff bungalows in Ho.

financed Operations Research Unit in Ho was built in a matter of months. Builders were hired locally and were responsible to a named individual in the RHA. The RHA itself responded rapidly (using the recurrent budget) when the serious deterioration of some of its staff accommodation was brought to the notice of an Regional Health Management Team meeting. (J5.175, 183, 258)

Slow implementation had two main consequences. Firstly, the capital budget was generally underspent. For example, only ₵3 million of an allocated ₵20 million was spent at Ho hospital in 1990.<sup>58</sup> Secondly, many partially-completed projects were suspended. Efforts were made from 1989 onwards to improve the completion rate by concentrating on a few ongoing schemes; by suspending many unfinished projects; and by not starting new ones. Many projects were suspended for so long that the unfinished work itself began to deteriorate. (J3.146; J5.127, 195, 222)

#### 4 Contractors were not accountable to the Ministry of Health.

Although it was the client, the MoH had little say in the design of buildings or the way in which they

---

<sup>58</sup> The teaching hospitals seemed to be an exception to the under-spending - in 1990, Korle-Bu used 230% of its capital allocation. (Holmes, 1992)



were constructed. For example, specific requests at Ho hospital for stainless steel wash-basins and for toilets with wheelchair access were ignored.

(J5.222; Hohoe Government Hospital, 1991)

The low completion rate perverted the entire capital planning process. Although the RHA had realistic capital priorities, these were not used as the basis for requests to MoH headquarters. Because their priorities were repeatedly ignored, the RHA preferred to find donors to fund priority building projects. Once a government contract had been awarded to a particular facility, it was not eligible for capital funds from donors, even if the government programme was "temporarily" suspended. It was thus regarded as rather a disadvantage to have government "help". For this reason, RHA capital budget submissions did not reflect actual priorities. If regions were keen to have district stores, for example, they would approach donors for funding and not bother to put the stores on the capital budget submission. Headquarters did not always fully grasp the point that submissions did not reflect priorities. (J3.61; J4.2, 3; J5.201, 211)

Although the efforts to improve completion rates were a good idea, it meant that the region had very little opportunity to identify new capital projects for

at least the years 1989-92; all the money was tied up in existing (often non-priority) projects. Even relatively small requests such as a security fence around the vehicle maintenance workshop in Ho were turned down. (J3.91; J4.1; J5.88; J7.6, 37)

Capital expenditure was a source of enormous frustration and bitterness in the region. However, complaints had to be circumspect; powerful interests were involved. A District Medical Officer who complained to the press about the slow implementation of a project was reprimanded. Contracting was a delicate local issue. In 1990, several contractors in Volta were ordered to repay millions of cedis because of excess payments to them and because of their shoddy work. (J6.97; Daily Graphic, 25/4/1990)

The term "capital" also included items of equipment such as air-conditioners, filing cabinets and operating beds. The region was not allowed to use its own recurrent funds to buy items designated as capital.

€ The RHA was not permitted to buy its own filing cabinets, even though its own Operations Research Unit had identified this need. Filing cabinets could only be obtained through the capital budget, which entailed a minimum six months' delay. (Waddington et al., 1992)

€ Many small capital items were disguised so that they could be bought with FEs. For example, a District Health Management Team (DHMT) bought a desk and chair by persuading the seller to list its component parts (recurrent items such as wood and nails) on the invoice.

€ the MCH centre in Kpando was re-roofed from the recurrent FE without any difficulty. This was because the District Secretary<sup>59</sup> took a personal interest in the project. (J1.43, 71; J2.77, 111; J3.84; J6.58, 87; J7.45)

Money for buildings tended to be allocated according to political, rather than technical, priorities. The implementation of construction projects was very poor. The region was not allowed to use its own recurrent funds to buy items designated as capital.

### III FES - financial encumbrances

"If one has adequate knowledge of the rules of financial administration, most activities can be funded from the FEs."

(District Medical Officer's handing-over notes, 1990)

Almost €200 million in the form of financial

---

<sup>59</sup> Each district had a PNDC Secretary as the political head. (see Appendix 4)

encumbrances (FES) was spent in Volta in 1990. FEs are the documents for transferring money from one level of government to another. In effect, they are the cash component of government recurrent finances. The FEs were distributed quarterly from Accra to the regional capital and thence to the spending officers. There were several problems associated with the spending of these FEs - these are described below. Despite these problems, however, the FEs represented money over which the spending officers had control, and which could be spent with a reasonable degree of flexibility.

The national MoH budget did not accurately predict what resources would arrive in the region. According to the national budget, Volta should have received c300.2 million in the form of FEs in 1990. In fact, it received c232.8 million - 78% of the expected amount. Table 5.4 shows that only 84% of this amount could be realised. Overall, therefore, 65% of the budgeted amount for items other than salaries was actually spent.<sup>60</sup>

The Ministry of Health's FEs were handled by three ministries - the MoH; the Office of the Controller and Accountant-General (CAG); and the Ministry of Finance and Economic Planning (MoFEP). MoFEP had staff at national and regional level, but not in the districts. CAG had their own treasury offices in regions and

---

<sup>60</sup> 65% = 78% x 84%.

districts; in addition, CAG staff were seconded to the MoH. All accountants in the MoH were employed by CAG.

This section about FEs is in 4 parts. Part (a) looks at how the RHA allocated the regional FE amongst 23 spending officers. Part (b) describes how the amount available in the FE was limited through the device of drawing limits. Part (c) looks at the rules for spending FEs. Part (d) considers the records kept about FE expenditure - they did not provide accurate information about how the money was really spent.

(a) FEs - the allocation to 23 spending officers

The RHA distributed FEs to its 23 spending officers<sup>61</sup> - 2 in the RHA, 9 District Medical Officers, 8 hospital in-charges<sup>62</sup> and 4 training schools' principals. The schools trained community health nurses; general nurses (state registered and enrolled); health inspection assistants and midwives.

---

<sup>61</sup> Volta was unusual in having so many spending officers (SOs). Establishing independent DHMT budget holders was a priority of the RDHS who took office in 1987. In many other regions, the SO for the DHMT and for the district hospital were the same person. Some districts had no FEs at all and had to collect everything from the regional capital, including fuel. (J1.10, 15; J3.106)

<sup>62</sup> The 8 "hospitals" include Aflao and Sogakope health centres, which (usually) had a doctor working there and which had their own FEs. Both health centres were located in district capitals and were unusually large. The 6 other hospitals were Hohoe, Keta, Kete-Krachi, Peki, Worawora and Ho, the regional hospital.

The FEs were allocated by the Regional Director and the Regional Hospital Secretary. Table 5.4 shows the distribution in 1990. The columns demonstrate that expenditure was not the same as allocation. For example, the DHMTs<sup>63</sup> were allocated almost ₦37.6 million, but spent only ₦31.6 million - i.e. 84% of the allocation. The reasons for this under-spending are explained in point <sup>(b)</sup> x, below.

Table 5.4 Distribution of FEs, 1990

Institution	Amount allocated (₦)	Expenditure (₦) (1)	% allocation spent
RHA	108,739,750 (47%)	94,863,316 (49%)	87%
Epidemiology division	6,955,000 (3%)	6,004,665 (3%)	86%
Hospitals	64,919,500 (28%)	53,994,229 (27%)	83%
DHMTs	37,571,500 (16%)	31,649,649 (16%)	84%
Training institutions	14,632,750 (6%)	8,924,907 (5%)	61%
<b>TOTAL</b>	<b>232,818,500 (100%)</b>	<b>195,436,766 (100%)</b>	<b>84%</b>

- (1) A series of questionnaires were distributed to spending officers and discussed at quarterly meetings of regional and district managers. These questionnaires provided the information about expenditure.

<sup>63</sup> DHMTs, hospitals and training schools were the spending institutions. District Medical Officers, hospital in-charges and school principals were the spending officers.

Three points from the Table 5.4 are discussed in detail.

1 The RHA kept almost half of the money.

Table 5.4 shows that the RHA itself kept almost 50% of the FE money. One justification for this was that the RHA was better at converting allocations into actual expenditure. In previous years, there had been a problem with under-spending. The RHA felt that it was best placed to overcome the poor disbursement.<sup>64</sup> This was not a strong justification. Table 5.4 shows that the percentage of funds realised was highest for the RHA; however, with the exception of the training institutions, the differences were not large. Moreover, the performance of all the categories except hospitals improved as the year progressed. By the end of the year, districts were realising a slightly higher percentage of their funds than the RHA. There were several reasons for improved recoupment. These included some informal training; the inclusion of improved financial management in the plans drawn up by districts under the Strengthening District Health Systems (SDHS) Initiative; and the RHA's threat to reduce the FEs of institutions which did not appear to be spending much. (J1.64)

---

<sup>64</sup> Other ministries - and even PAMSCAD, which was located in the MoFEP - also had disbursement problems. (Daily Graphic, 19/11/1990)

- 2 The allocation of some FEs reflected historical, rather than present, importance.

The malaria programme had a separate FE within the epidemiology allocation, largely because Ho (the regional capital) had at one time housed the national headquarters of the malaria control programme. As there was little malaria control in progress, this FE was spent on "luxuries" such as the repair of air-conditioning. At the same time, the epidemiology division did not have funds for more important control measures, such as an investigation of the yaws situation. (J3.103)

In a situation such as this, merely providing information about expenditures can have an effect. The Regional Director and the Senior Medical Officer (Public Health) acknowledged the anomaly and planned to reduce the allocation to the malaria programme. There was no significant opposition to this.<sup>65</sup>

- 3 The 8 hospitals received more than half as much again in the form of FEs as the 9 DHMTs.

Table 5.5 shows the financing and workload of hospitals and DHMTs/health stations in more detail. DHMTs were responsible for supervising health

---

<sup>65</sup> In 1991, the malaria FE was brought under the control of the Senior Medical Officer (Public Health). This was in effect a reduction in the allocation for malaria, as the SMO(PH) was able to spend the FE on other, more pressing, priorities.



stations and ensuring that they had sufficient equipment and supplies. The number of health stations supervised by a DHMT ranged from 2 (Nkwanta) to 24 (Ho), with an average of 10. The health stations supervised by the DHMTs actually saw more out-patients than the hospitals. (About 151,000 out-patients were seen at health stations in 1990; 103,700 at hospitals.) The DHMTs received about ¢250 per out-patient and the hospitals ¢630. Although it is recognised that the hospitals saw more serious cases and had in-patients, the DHMTs also had many other public health and supervisory duties. Moreover, the hospitals were able to generate more revenue from fees per out-patient - about ¢640, compared with ¢220 per health station out-patient. Counting fees and FEs together, DHMTs received about ¢470 per out-patient and the hospitals about ¢1,300. This suggests that the hospitals were relatively better-off than the DHMTs. The reasons for this allocation were partly historical (DHMTs were new) and partly reflected the power of the hospitals.

District Medical Officers felt that they were being asked to do more and more with an amount of money which increased only slowly, if at all. For example, the payroll system was re-organised to separate DHMT staff (including health stations'

staff) from district hospital staff. A larger number of people on the DHMT payroll meant more responsibilities for travel claims etc. This was not reflected in larger FEs.

Table 5.5 Financing of hospitals and DHMTs/health stations, 1990

	Hospitals	DHMTs/ health stations	Total/ average
Out-patients	103,682	151,024	254,706
FE allocation (¢)	64,919,500	37,571,500	102,491,000
Fees revenue (¢)	65,944,673	33,553,488	99,498,161
FEs per out-patient (¢)	626	249	402
Revenue per out-patient (¢)	636	222	391
Total income per out-patient (¢)	1,262	471	794

The RHA allocated the regional FE to 23 spending officers - this was a key resource allocation role. The allocation was strongly influenced by political and historical factors - the RHA did not have clear criteria for dividing out the FE.

(b) Limiting expenditure - drawing limits and expenditure authorisations

Financial encumbrances (FEs) were sent to the RHA each quarter. The RHA's allocations to the spending officers were checked by both the Regional Administration (the political arm) and the Regional Treasury.<sup>66</sup> (J3.50) This often took some time, so that the flow of money was not regular throughout the year. In the third quarter (July-September) of 1990, for example, the first FEs were not received until 8th August. The most isolated district, Kete-Krachi, did not receive its FE until 27th August, more than half way through the quarter.<sup>67</sup> Figure 5.3 shows the uneven distribution of RHA payment vouchers throughout the year. The graph shows that the beginning of the first quarter was the most difficult time; in effect, no government money was available in January or February. There were thus problems with cash flow, as well as with the absolute amount of money available. (J2.15)

€ In Jasikan district, the motorbike which was used to collect monthly statistics from health stations could not be repaired until March 1990, when it had broken down in December 1989.

---

<sup>66</sup> These checks were related to accountability; neither office generally took an interest in how the money was shared amongst the spending officers.

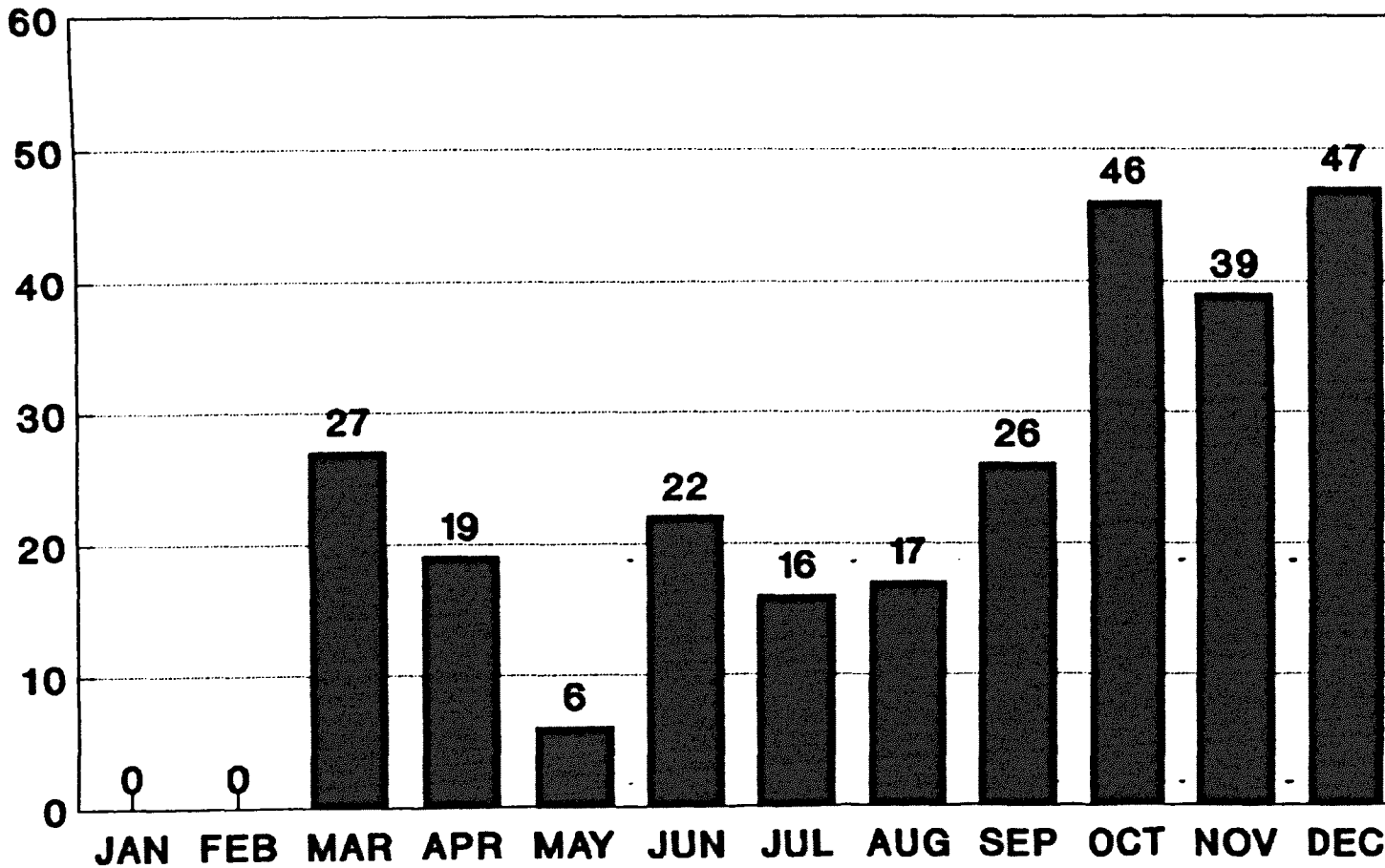
<sup>67</sup> One consequence of these delays was that even the best organised hospital had to stop feeding its in-patients. (J3.68)

When the FE arrived at the spending officer's local treasury, a drawing limit was imposed. The drawing limit was essentially a tool for use by central government to control expenditure quickly. It meant that in the first instance only a specified percentage of the FE would actually be released to the spending officer (SO). The limit varied over time and between treasury offices. In 1989, the drawing limit averaged 20%. In 1990 the limits averaged respectively 50%, 75%, 50% and 50% for the four quarters. (J1.26; J2.37; J5.194; J6.40; J7.43)

# PVs per MONTH, 1990

## VOLTA, MoH

Figure.5.3



Payment vouchers per month, 1990, Volta  
Regional Health Administration.

PV - PAYMENT VOUCHER

Drawing limits existed de facto rather than de jure; they were communicated to accountants in the various ministries by writing them on a blackboard outside the treasury office. The lack of documented recognition of drawing limits was because they were regarded as temporary measures. (J1.37; J2.102)

If spending officers used the drawing limit amount fast enough, and were sufficiently well motivated, they could then apply for an expenditure authorisation. This was usually for the difference between what had already been received and 75% of the sum stated in the FE. In other words, after the drawing limit and the expenditure authorisations, SOs generally received a fairly predictable 75% of the amount stated in the FE.<sup>68</sup> Although an expenditure authorisation application entailed a journey to Accra, it was usually successful. Because the complexities of the system induced apathy, institutions did not always bother to apply for the expenditure authorisation.

€ The RHA collected the expenditure authorisation on behalf of the defaulting regional hospital in the first quarter of 1990; in the second quarter it had to "remind" the hospital to go to Accra to collect an outstanding ₵775,000. (J2.72; J3.18)

---

<sup>68</sup> This illustrates the fact that the function of the drawing limit had become distorted over time. Initially intended as a short-run measure to reduce expenditure, it developed into a regular and fairly predictable administrative routine with no obvious public finance function.

The role of expenditure authorisations meant that some of the rationing of resources was done informally by the Office of the Controller and Accountant-General, which was more centralised than the MoH. (J3.59) CAG tended to favour granting additional expenditure to hospitals, and in particular for such scandal-prone items as food for in-patients. Hospitals often managed to collect more than 75% of their FE. The two teaching hospitals of Korle-Bu and Komfo Anokye seemed to do particularly well when they appealed for additional money. (J2.83; J3.69, 84)

In practice, many treasury officers recognised the role of expenditure authorisations and immediately gave a drawing limit of 75%. Table 5.4 showed that, with the exception of the training institutions, SOs generally managed to spend more than 80% of their allocation. This was partly due to formal expenditure authorisations from Accra and partly because of informal arrangements at local treasuries. This flexibility came to an end in late 1991 - drawing limits and expenditure authorisations of 33% were strictly enforced in the last two quarters. This was partly because of increased oil prices as a result of the Gulf War and partly because the government had spent a lot of money for the Non-Aligned Movement Conference.

There was one more way in which SOs could spend

more than the standard 75%. If money was about to be returned to Accra<sup>69</sup>, a degree of controlled over-spending was judicious. If other sectors had under-spent in a quarter, the MoH could benefit from this. In any case, treasury officers retained a 10% contingency to cover some over-spending. This strategy was not without risk, as a treasury officer could decide at the last minute not to allow an expenditure. (J3.49, 69-71)

FEs often reached spending officers rather late in the quarter. The value of the FE was reduced through the imposition of drawing limits by district treasuries. Part of this money could usually be retrieved by going to the CAG in Accra. Drawing limits and expenditure authorisations made FEs difficult to understand; they also caused uncertainty. Spending officers needed to be persistent and energetic if they were to be given access to 75% or more of the FE.

(c) The rules - what can be bought with FEs?

There were many rules about the use of FEs. (see, for example, Republic of Ghana, 1979, laws 287-298) To a large extent, the flexibility with which the rules were

---

<sup>69</sup> In theory, unspent money had to be returned to the treasury in Accra at the end of every quarter; in practice, the regional and (some) district treasury offices only applied this rule at the end of the fourth quarter. The rule was also applied more stringently in the second half of 1991. (J6.70)



applied depended on the local treasurer and on the knowledge of the spending officer and the MoH accountant. There was considerable demand to learn more about financial procedures - in the 1989/90 Strengthening District Health Systems (SDHS) Initiative, it was one of the three most popular subjects for district action plans. Training in financial management was also requested by both of the two new districts which underwent SDHS in June 1991. (J2.13; J6.61; Cassels et al., 1992, p 7)

The many rules surrounding the use of FEs were a result of the quest for accountability. A byproduct, however, was a significant decline in flexibility. The purchase of fuel illustrates the tension between flexibility and accountability.

ε In districts with government fuel depots, spending officers were supposed to buy their fuel from these depots. Purchases from commercial garages were discouraged, as this was an easy way to steal government funds. The depot periodically ran out of fuel, however, and did not open until 9 a.m. This was inconvenient, as most journeys began at dawn. A useful way of spending money quickly at the end of a quarter was to give it to a garage to record as credit - yet this was not allowed. (J1.5, 11)

Although there were problems with collecting fuel, it was much easier to do this than to reclaim money spent on public transport.

The claims were inconvenient and time-consuming; the money was often not repaid for several months. Staff were understandably annoyed when they were owed money. Most SOs tried to pay travel claims first, but it was not always possible to meet all the claims.

The system as a whole discouraged staff from travelling. It particularly discouraged the use of public transport, which in many cases would have been more efficient than using a government vehicle for a journey. (J7.1)

Purchasing goods locally was another complicated procedure. Firstly, a local purchase order (LPO) had to be completed. This needed to include price quotations from three local suppliers. The system was totally unsuited to small businesses such as roadside mechanics which did not offer written quotations and which could not afford to do work on credit. (J5.31) After the LPO had been checked by both the audit and treasury offices, a payment voucher could be prepared. This also had to be checked by the treasury and by audit. Finally, a cheque could be raised to pay the seller. This procedure deterred buyers and sellers, as illustrated by the following three examples.

€ One public health nurse in a district with an unco-operative accountant spent months raising a cheque to pay for minor repairs to the MCH clinic. By the time she had worked out the system (which had never been explained to her), the financial year had ended!

Moreover, she was told that money for the repairs would not be re-allocated the following year, as she was "obviously not interested in spending the money". (J1.5)

€ One of the training schools had ₺800,000 returned to the national treasury because audit disallowed expenditure on repairs to the students' bus. Because of this, the money had not been spent in time. [The auditor in question was later removed from post, as it was recognised that too many LPOs were being delayed or rejected.] (J2.92, 111)

€ A nurse on the Regional Health Management Team was unable to find three local firms to supply price quotations, as they were tired of wasting stationery on tenders which were never accepted. (J1.71)

Imprests allow petty cash to be held. In theory, imprests should have had many advantages in terms of flexibility and speed. Expenditures through imprests did not require LPOs. They enabled purchases in the open market, which bypassed contractors and were hence often cheaper. Imprests should also have been useful during the periods before FEs arrived each quarter. In practice, however, the procedures for imprests were as cumbersome as for the regular use of FEs. Some districts no longer bothered with the system and used funds from mass immunisation campaigns to serve the same petty cash function. This created a vicious circle; unused imprests were not renewed by the local treasury, yet the more

complicated the FE system, the greater the need for imprests. (J1.51; J2.108; J3.85, 88; J6.10, 50)

There were many rules surrounding the use of FEs. These were a result of the quest for accountability - a byproduct, however, was a significant decline in flexibility.

(d) Expenditure records - a poor reflection of reality

"[U.K.] National Health Service managers cannot know whether they are spending taxpayers' money wisely because the information they draw on to make decisions is generally inadequate, the Government spending watchdog says in a report today." (Jones, 1991)

The watchdog in the above quotation might just as well have been writing about Ghana. The classification of items of expenditure often had little or nothing to do with how the money was actually spent. The rules to ensure accountability had been relaxed to allow spending officers some flexibility; accountancy records had not kept up with these developments. Records showed expenditure according to the categories in which money was allocated. This was very different to how the money was actually spent.

The Ministry of Health accounts recorded

expenditure under 14 divisions<sup>70</sup>, 5 items<sup>71</sup> and 40 sub-categories. In practice, most institutions vired money amongst divisions and items all the time.<sup>72</sup> ["To vire" means to transfer money from one budget category to another.] However in 1990 at least two MoH accountants and one district treasury officer in Volta still refused to vire. This was not openly criticised by senior CAG or MoFEP staff. They were reluctant to acknowledge and condone the extent of viring, even though they recognised that it improved the flexibility and speed of government services.<sup>73</sup> (J2.45, 70, 84, 103; J6.28)

Spending officers changed often and were given no special training in managing FEs. Not all SOs knew about viring; this made them vulnerable to the whims of accountants and treasury staff. (J2.13)

---

<sup>70</sup> In descending order of budget (including salaries) these were: medical care, MCH, epidemiology, training, environmental, statistics, RHA, laboratories, common services, nutrition, mental, stores, dental, and health education.

<sup>71</sup> The items were numbered 1-5 in the budget: (1) personal emoluments (salaries); (2) travelling and transport; (3) general [including stationery]; (4) maintenance, repairs and renewals; and (5) supplies and stores. The boundaries between these items were not clear-cut. For example, detergent (a major item of expenditure) could be classified as either item (3) or (5).

<sup>72</sup> The only viring which was (sometimes) not allowed at the regional treasury was between the 160 (support services) account and the 163 (medical care) account. 160 included 6 divisions - common services, RHA, stores, health education, statistics and training. The other 8 divisions were in the 163 account. (J1.76; J3.70)

<sup>73</sup> Relaxing the rules about viring was essentially decentralisation through the back door.

Accountants were supposed to submit monthly expenditure returns to their superior officers. These recorded all expenditure from the FEs. There were many problems with these expenditure returns:

- They were very complicated. District Health Management Team (DHMT) accountants had to fill out a two-page form for each of the five divisions in the DHMT.
- They were expected monthly. This made no sense when FEs were allocated quarterly and often did not arrive until the second month of the quarter.
- They mentioned neither drawing limits nor expenditure authorisations. Accountants worked out their "balances" according to the total FE, even though about 20% of this amount would never be available. Expenditure records did not even show how much money was available to spend at any given time.
- Accountants spent a great deal of time (and nugatory skill) categorising expenditures. They had to mould actual expenditures to fit into the allocation categories. (J3.8, 41, 89)

It is not surprising that the expenditure returns tended

to be incomplete and delayed.

Because actual expenditure was massaged into the categories where money was available, expenditure returns were a self-fulfilling prophecy. It appeared that money was spent on the very items for which money had been allocated.

€ A (correct) expenditure return from Kete-Krachi district showed that it had spent £100,000 on stationery; in fact, much of the money had been used to pay travel claims, because the budget allocation for this item was insufficient. The only way to find out how the money had really been used was to look at the books in Kete-Krachi.  
(J6.28)

Non-accountants rarely took any notice of the expenditure returns; they were not used as a management tool. If they had used more easily intelligible and relevant categories, the expenditure returns would have provided useful information for monitoring.

€ Over 20% of the medical care budget (excluding salaries) was intended for buying food for in-patients. Many hospitals received this money but did not cater for patients, arguing that there were more important priorities. Whilst it is reasonable that decisions about hospital policy were made locally, there should have been some monitoring of what services different hospitals provided. Good expenditure returns would have allowed the RHA to monitor hospitals

and to give sensible replies when hospitals claimed that they "could not afford" to feed patients. (J3.19, 30, 55, 88, 144)

When staff did look at the budget or expenditure returns, the numerous sub-categories meant that there was considerable potential for misunderstanding. If people saw that money was allocated under a certain category, it was difficult to explain why no money was made available for that purpose. The extent to which viring took place was not generally realised.

€ One category - "refund of medical expenses" - aroused considerable passion amongst MoH staff. In 1989 the sub-item had a budget of c1,871,000 for Volta region. RHA staff had to explain why this money was not available to help in particular cases where a member of staff (or relative) had required medical treatment in a private or mission hospital. (J2.84, 90; J3.32; also see Chapter 7)

Because of the lack of information about expenditures, a simple questionnaire was devised in Volta region and used for several quarters. The questionnaire asked for basic information about drawing limits, expenditure authorisations and actual expenditure. SOs were encouraged to fill these in, rather than accountants. Most of the questionnaires were filled in correctly and reasonably easily. With a little effort, regions could encourage SOs to understand and question the use of their FEs. The problem with this was



that it set up a parallel information system, creating more paperwork for the spending officers.

Ministry of Health headquarters did not seem to appreciate how little the budget reflected actual expenditures. When confronted with the evidence, the Director of Medical Services sat up straight and said, "Is it really that bad?". (J2.78) A letter from the Secretary of Health in June 1991 ordered that all purchases should be made according to budgetary allocations; in practice, this would have crippled the functioning of the RHA. (J6.74)

The lack of information about expenditure had far-reaching consequences. The MoH issued many policy statements endorsing primary health care. Some donors (for example USAID) said that certain funds were specifically earmarked for PHC. The World Bank claimed to monitor the percentage of MoH resources allocated to primary care. In fact, such earmarking and monitoring were not possible. With the exception of data on salaries for specific cadres, information about what was spent on PHC was simply not available. (J5.42)

Table 5.6 shows the kind of information which was not routinely available - how the RHA FE was allocated to various divisions, compared with how it was actually

spent. The "allocated" column is based on the category codes used by accountants; the "actual expenditure" column is based on the verbal description on the payment vouchers, which usually made it obvious which division was actually benefiting from an expenditure. "Allocated" shows how much was given to the RHA under a particular category and hence how much the RHA accountants recorded had been spent under this category. For example, about ¢49.2 million was allocated to medical care. In practice, the RHA spent only about ¢29.9 million on items which directly benefited the medical care division.

The rows in Table 5.6 are similar to, but not the same as, the 14 divisions. (The divisions are listed in footnote 70.) Training has been separated out into training institutions and in-service training - these involve different spending officers and different beneficiaries. Transport has been added as a separate category. It was impossible to attribute transport expenditure to a particular division, as the RHA vehicle fleet was pooled, rather than organised along divisional lines.

Table 5.6 RHA expenditure - recorded and actual, 1990

Division/ programme	Allocated/recorded (¢)	Actual expenditure (¢)
Medical care (1)	49,239,223 (49%)	29,941,280 (30%)
Building maint- enance (common services division)	483,189 (<1%)	21,974,915 (22%)
Transport	7,120,201 (7%) (2)	20,229,404 (20%)
RHA/admin./accounts	10,049,827 (10%)	10,381,773 (10%)
In-service training	7,792,862 (8%)	4,282,788 (4%)
Epidemiology (3)	3,956,993 (4%)	4,342,481 (4%)
MCH	7,269,554 (7%)	2,914,442 (3%)
Training schools	4,693,290 (5%)	1,744,340 (2%)
Environmental	2,503,228 (3%)	1,257,978 (1%)
Nutrition	704,995 (1%)	521,975 (1%)
Stores (4)	104,920 (<1%)	68,910 (<<1%)
Mental	7,350 (<<1%)	29,950 (<<1%)
Statistics	1,346,740 (1%)	34,620 (<<1%)
Dental	62,490 (<1%)	39,950 (<<1%)
Health education	2,025,100 (2%)	0 (0%)
Laboratories	2,796,980 (3%)	0 (0%)
Miscellaneous	0 (0%)	2,392,136 (2%)
<b>TOTAL</b>	<b>100,156,942 (100%)</b>	<b>100,156,942 (100%)</b>

Source: RHA payment vouchers

- (1) Medical care includes the pharmacy division.
- (2) Fuel only.
- (3) Epidemiology = Senior Medical Officer (Public Health) + leprosy + malaria + parasitic diseases. Expenditure on immunisations was classified under this division.
- (4) A purchase was classified under "stores" when it was not obvious which particular technical division benefited from the purchase. (J5.92)

Three points can be made about Table 5.6 - one general and two specific.

- 1 The only way to find out about actual expenditure by division was to look at the individual payment vouchers for each spending officer. This was an extremely time-consuming process. With the exception of salaries, the Ministry of Health simply did not know what its money was spent on. This remains the case at the time of writing (late 1992).
  
- 2 Expenditure on transport was recorded along irrelevant divisional lines. The RHA transport fleet, on the other hand, was pooled. Vehicles were allocated according to need (as judged by the Transport Officer). A division's nominal budget was irrelevant to the decision. The accounting system meant that no overall record was kept of the cost of running the transport fleet.
  
- 3 The allocation for building maintenance was paltry - yet this was a major item of RHA expenditure. The Regional Health Management Team decided in 1990 to concentrate on renovating staff accommodation in Ho. No records of this large expenditure were sent to Accra because the system demanded that the expenditure be re-classified into

categories where there was some money. The allocation for item 4 (maintenance, repairs and renewals) for the entire region was ¢28.5 million in 1990; the actual expenditure of the RHA alone was ¢32.1 million. (J4.36)

Expenditure records were classified according to allocation, not actual expenditure. The records were thus not informative for local management or national budgetary purposes.

Spending officers often did not know how to vire or to complete expenditure records.

The only way to investigate actual expenditure was to examine each payment voucher.

#### IV Stores

"There was only one catch and that was Catch-22, which specified that a concern for one's own safety in the face of dangers that were real, and immediate was the process of a rational mind." (Heller, 1963)

If managers at regional level and below are to make rational decisions, they need to know what resources they have access to. The more uncertainty there is about

this, the less likely is rational decision-making.

¢191 million worth of stores arrived in kind in Volta in 1990. Just over 70% of these stores were drugs collected from the Central Medical Stores. The allocation of stores was ad hoc; it was neither demand-led, nor based on an explicit rationing system. The maldistribution and misuse of stores entailed a significant waste of resources.

It has already been stated that misappropriation at national level cost Volta an estimated ¢334 million worth of stores.<sup>74</sup> This diversion of funds was merely a particular instance of a long-standing problem. Changing the supply system was difficult because the status quo offered opportunities for making money at the highest levels of the MoH and other ministries.

€ In 1989, the Government of Ghana/World Bank Structural Adjustment Secretariat recommended that responsibility for medical stores be removed from the MoH. At the time of writing, this had not happened, though in mid-1991 there was a PNDC directive that all procurement should be made through the Ghana Supplies Commission.

€ When attempts were made to rationalise central drug purchasing, considerable sums shifted from the "drugs" to the "dressings" vote, as these expenditures were monitored less closely. (J1.41; J6.53)

---

<sup>74</sup> See section B (I) of this chapter.

Until the national system was improved, the region had to operate in an unsatisfactory environment. There were six main problems with the system of stores distribution.

- 1 The system was not responsive to needs; it operated on a first come/first served, collect-what-you-find basis.

Because there was no effective monitoring of the demand for, or use of, stores, the items available at Central Medical Stores did not always correspond to need. Moreover, regions' requisitions from CMS did not necessarily reflect actual demands. They tended to be opportunistic (in that requests were made for items which the grapevine suggested were available) and grossly inflated, in anticipation of across-the-board cuts. If an item was available in large quantities, then large quantities would often be collected and taken to Ho, even if they were not immediately needed. For the region, such hoarding was a sensible strategy, as there was no certainty about when that particular item would next be available. If Volta did not collect unnecessarily large amounts, then some other region surely would. This "collect-what-you-find" system worked to the advantage of regions within easy access of Accra, including Volta. Communications about the availability of stores were poor - the region might

be in need of an item and not realise that the item had just arrived at CMS. (J1.43; J4.53; J5.217; J6.18)

This system of stores allocation was mirrored at regional level, although communication about availability was somewhat better. The Senior Supplies Officer in Ho used the quarterly conference of regional and district managers as a forum for "advertising" items which were in plentiful supply. (J6.9, 51)

2 **The system was not price-conscious.**

Although prices were recorded on issue sheets, the recipient institution did not have to worry about the cost. Everyone simply collected the best that was available. There was no tradition of questioning the costs of stores which arrived in kind at regional level.

€ At a Conference of Regional Directors and Divisional Heads, it was stated that the multi-coloured Road-to-Health cards (which had been chosen by a previous Conference) were proving very expensive. The meeting was asked to consider a return to the monochrome cards. One Regional Director expressed his frustration that cost had not been mentioned in the first place;



"We were just asked if we liked the coloured cards or the black-and-white ones. Now we are told that the coloured ones are much more expensive. We didn't choose them last time on the grounds of cost-effectiveness."

(J2.102)

- 3 **It was difficult to redistribute stores once they had been given to institutions which did not need them.**

Some stores bypassed the Regional Medical Stores - divisions and donors did not always involve regions; sometimes political patronage was at work. This caused problems for the RHA, as it was difficult to ask for stores to be returned once they had been given to institutions.

€ CMS allocated some beds directly to Blekusu, a tiny health facility which did not even detain patients for observation (but which had useful "connections"). Before this happened, the Senior Supplies Officer in Ho had compiled a list of institutions which urgently needed beds. Whilst listed institutions went without, Blekusu (which was not officially eligible for beds) had more than it could possibly use.

There was little that regional or district staff could do about cases where a large hospital or a local community regarded the items as "theirs".

(J2.24; J4.54-6, 62; J5.217; J6.17)

€ The regional hospital in Ho deliberately hoarded excess equipment and stores because it was thought that they would provide a good argument in favour of a new regional hospital. The Senior Supplies Officer estimated that the hospital had c30 million worth of unnecessary stores. There was little that the RHA could do to influence this; Ho hospital was powerful because of its position as the regional hospital. Moreover, there was a certain provincial logic to the hospital's unwillingness to hand over items - it was not clear if or when they would be replaced. Unfortunately, this attitude was also applied to perishables - for example, the hospital kept unused catgut for years, in the hope that a surgeon would one day be posted to the hospital. (J2.91; J4.54-5; J5.81, 129, 132)

**4 The system for the disposal of unusable stores did not work well.**

The sale of unserviceable goods was a potentially valuable source of funds, as demonstrated by the RHA sale of old vehicles in 1990, which raised c1.1 million. However, the stores inspectorate and audit service rules for the sale of unserviceable goods were very complicated; many managers preferred to let items rot, rather than become enmeshed in the bureaucracy.<sup>75</sup> (J3.120; J4.54, 74; J7.31)

**5 Responsibility for the provision of certain items**

---

<sup>75</sup> The New Year budget statement in 1991 attempted to make the sale of unwanted government goods easier. (J5.235)

oscillated between regional and national level. Although the purchase of stores was generally centralised, money was sometimes given directly to regions. This happened for linen/uniforms<sup>76</sup> and for printing in 1990 - however, part of the way through the year the responsibility was suddenly re-centralised.<sup>77</sup> Centralisation was not successful - for example, a lot of uniforms lay in CMS for a long time because the supplier had not been paid.

The fluctuating responsibility caused confusion at regional and district levels.<sup>78</sup>

€ Kpando District Health Management Team requested stationery from the RHA and was told to buy it out of its own FE. The district treasury officer rejected a request to use the FE, on the grounds that stationery was a central responsibility. (J2.92; J3.118, 150; J4.36; J5.57, 86, 189, 253; J7.65)

Centralised purchasing was rationalised on the grounds of economies of scale from bulk buying; in practice, it was the linchpin of corruption in the Ministry. (J5.203; J6.7)

---

<sup>76</sup> €12 million was involved for linen and uniforms alone.

<sup>77</sup> The same thing happened again in 1991.

<sup>78</sup> The most ridiculous manifestation of this issue was in 1991, when Volta RHA received a bill for €414,000 from 1983. MoH headquarters had decided it would not pay the amount, even though the articles bought were items for centralised purchasing at that time.

6 Many of the stores received from Central Medical Stores were of a poor quality or did not have intelligible instructions.

Many items were of a poor quality - bed screens which would not stand up, for example. Other items arrived without instructions and lay unused; some electronic scales were not used because the nurses did not realise that they worked without weights!  
(J6.9)

In general, other MoH rules were based on the assumption that the system of stores distribution worked well. This tended to create Catch-22s - these could sometimes be resolved when there were reasonable, flexible treasury and audit staff.

€ The region was supposed to obtain stationery by buying from the government printers or by collecting supplies from Accra. Neither of these systems provided an acceptable quality or quantity of stationery. [Even the CAG had started to use a private printer.] Yet the rules did not allow the RHA to order stationery from a local, private printer. (J6.9)

€ Localised drug purchases were discouraged on the mistaken assumption of the availability of drugs from CMS. (see Chapter 7)

Because the RHA was uncertain about what supplies

would be available from CMS and donors, it bought some stores itself.

€ 12.6 million (13% of the RHA FE expenditure in 1990) was spent on drugs and on equipment for MCH staff (mostly sphygmomanometers for measuring blood pressure during ante-natal visits). The MCH equipment was a particularly frustrating buy. In the first place, it was complicated to justify such a purchase to the Regional Treasurer, who thought that it should be classified as capital expenditure. In the second place, not long after the purchases were made, similar equipment was provided by the World Bank and UNICEF. Precious FE money had been "wasted" on items that donors were willing to supply.

The following year, there was a shortage of vaccine carriers. The RHA delayed buying these, as it expected that donors would be willing to supply some. In the event, no vaccine carriers were donated.

Uncertainty about the availability of stores adversely affected the scope and quality of services. (J4.43; J5.85; J6.21)

Because the stores supply system did not work very well, many donors set up alternative supply systems. For example, UNFPA (United Nations Fund for Population Activities) delivered items through the MCH network. (J5.209)

€ The introduction of separate supply systems sometimes backfired. For example, the distribution of oral rehydration solution (ORS) deliberately bypassed the government's unsuccessful system of drug distribution. Most of the relevant MoH staff did not understand the ORS system; the sachets were therefore stockpiled in Accra and the regional capitals. Most health stations had no ORS in stock. In order to improve the situation, the RHA decided unilaterally to abandon the separate record-keeping and incorporate ORS into the system of Cash and Carry. (J3.120; J5.170; J6.30)

It was difficult for the RHA to know in advance what stores would be available. Stores were allocated on a first come/first served basis, rather than according to need. Uncertainty and corruption were constraints to rational decision-making at regional level and below.

## V Fees

Fees accounted for about 7% of total finance. More information about the use of much of this income is given in:

- Chapter 6, which discusses the use of immunisation and child welfare clinic fees
- Chapter 7, which describes the confusion surrounding the use of the income from drug sales.

All the fees from curative care were kept at the facilities themselves. They were not, however, a satisfactory source of quick, flexible funds, as their use was surrounded by considerable regulation and confusion. Drug income was supposed to be reserved for further purchases of drugs. This left the other sources of revenue - such as consultation charges and X-ray fees - for sundry purchases. Rules for the use of non-drug fees constantly changed; many facilities simply avoided the uncertainty by not spending their income.

A large percentage of the income from consultation charges reverted to the CAG through its monopoly sale of receipt tickets. These cost ₵2,000 for a roll of 100 tickets. For a ₵30 consultation, two tickets were needed, as there was no ₵30 denomination. The transaction was thus a net loss to the health facility! In addition, CAG headquarters in Accra insisted that the rolls be paid for by cheque; the same office did not allow the District Health Management Teams to have cheque book accounts. For these reasons, and because their availability was erratic, many institutions stopped buying CAG tickets. Auditors then criticised health station staff for not using officially sanctioned receipts. (J3.111)

National level did not know how hospitals and health stations spent their sizeable fee incomes. This

had implications for budgeting, as the Planning Unit did not know if the fees were being used for items which were already included in the budget. (J1.49)

There was considerable uncertainty and confusion about how the income from fees could be used.

## VI Donors

"This health post definitely needs a map of the catchment area. After all, it is on a main road and the World Bank or another donor may come and look at the map." (Regional Health Management Team member, June 1991)

6% of resources came from donors.<sup>79</sup> Even though most of these resources were linked to particular programmes, donor money offered some degree of flexibility. Because it was not subject to the vagaries of the FE system, money from some donors could be used to meet immediate needs for which other sources of cash could not be found.

---

<sup>79</sup> Most MoH staff believed that the figure was higher. For example, the RDHS in Volta estimated that donors contributed almost 20% of recurrent costs in 1990. This mistaken perception was probably because donor money was highly visible. The importance of large items such as salaries was easily forgotten. (J1.66)



€ In the first half of 1990, the RHA funded most of its training workshops by borrowing from a UNICEF account.

On the other hand, the conditions attached to donor funds distorted the implementation of priorities identified within the region.

€ It was much easier to attract funds for family planning training than it was for the many other issues (including managerial ones) identified as training priorities by MoH staff themselves. (J3.95, 107; J5.195)

Initiative and persistence could attract donor funds. For example, persistent lobbying won some British Council books for the School of Hygiene and a vehicle from a church organisation for a DHMT. UNICEF was responsive to piecemeal submissions from the RHA and others for funds. (J3.59, 135)

Money from some donors was useful because it could be used flexibly. Other donors distorted resource allocation away from regional priorities. Managers with initiative often succeeded in securing money and goods from donors.

## VII Conclusion - complex resource flows

This section has described 6 different administrative channels through which resources flowed - each with its own rules, incentives and problems. The opportunity cost of the same value of resources (say €10,000) differed according to the channel through which the money arrived in the region. For example, at regional level, €10,000 worth of FEs was valued more highly than the same amount allocated to the capital programme. This issue of differing opportunity costs arises in the cost-effectiveness analysis in the next chapter.

### D The viewpoints

The previous section described the complicated system of resource flows. Complex processes are generally perceived differently by different actors; this section describes some of these viewpoints.<sup>80</sup> Eight viewpoints are considered:

- the RHA spending team
- spending officers for FEs
- divisional heads who were not spending officers

---

<sup>80</sup> The rationale for looking at a variety of viewpoints was described in Chapter 4, Section D.

- health station in-charges
- budget-holders for donor funds
- donors
- accountants
- auditors.

Individuals may belong to more than one category - for example spending officers were often also budget-holders for donor funds.

I RHA spending team for FEs (Regional Director + Regional Hospital Secretary)

"We are not talking about large amounts of money and major philosophical decisions about the type of health care we want to provide. We are talking about whether we want to mend the leak in the roof of the vaccine cold store or to mend the roof of the Nurses' Training School or to get water connected to the bungalow of the head of the environmental division. We can't afford to do them all this quarter." (Regional Hospital Secretary, talking about the regional FE; J2.84)

The Regional Health Administration sometimes had difficult relations with the regional treasury. Many of the complaints raised at the conferences of regional and district managers were to do with this. Explaining the aims and problems of the Ministry of Health to the treasury helped; but ultimately the treasurer had

different aims and could legitimately refuse to release funds. (J6.14)

The RHA recognised the tension between a genuine desire for decentralisation and the knowledge that spending officers could not always be relied upon. The RHA felt that many of the SOs and accountants did not understand the FE system very well and that some were of questionable honesty.<sup>81</sup> The RHA did not trust itself to spot financial mismanagement quickly; it did not routinely monitor expenditure patterns of SOs in any effective way.

The rhetoric of ideas such as developing primary health care and equity did not match with the fact that the money the RHA received was not really sufficient to supply a basic minimum service. The RHA's de facto aim was simply to get a system of District Health Management Teams and hospitals functioning.

Every year, the RHA had to submit a budget to the MoH Planning Unit. Although a reasonable document had to be produced, the budget submission was not the focus of a lot of discussion and creative thought. It was seen as

---

<sup>81</sup> There was some justification for these doubts. For example, whilst their job descriptions emphasised accountability, accountants were not immune from accepting kickbacks from suppliers. It was also not uncommon for accountants to demand a percentage of the money paid in travel claims. (J3.86, 124; J4.65)

a more or less mechanical procedure, with little obvious connection to the resources which were actually received the following year. The mechanical nature of budgeting was enhanced by the use of spending norms.<sup>62</sup> The Regional Hospital Secretary had failed in a previous attempt to persuade MoFEP to revise some of the norms, even though the official budget guidelines stressed that the norms were not to be applied unthinkingly. (J3.12; J4.9, 14; MoFEP, 1991)

## II Spending officers for FEs

Many spending officers felt that their colleagues believed that they controlled a lot of money, without understanding the multiple demands on the money and the restrictions on its use.

The FE system was complicated and laborious, yet no specific training was given when someone became an SO. The lack of continuity in the system added to the difficulties and frustration - at times there was no FE money and at other times there was a panic to spend the FE before the end of a quarter. Buying stores was

---

<sup>62</sup> Spending norms calculated requirements for items such as stationery and maintenance on the basis of salary costs. For example, the allocation under item 3 (maintenance, repairs and renewals) was 10% of the salary costs of established posts. Often these norms bore no relation to actual costs. The norms were introduced in an attempt to bring some logic to the budgetary process and to control costs. (MoFEP, 1990)

particularly frustrating, because of the uncertainty about what would be available from Central and/or Regional Medical Stores.

The relationship between SO and accountant varied, but was often poor. SOs often felt that accountants were secretive and deliberately caused the SOs extra work by not explaining procedures to them. Many accountants had become used to deciding on expenditure themselves. They would prepare payment vouchers without consultation and present them for signature towards the end of the financial quarter. In at least two districts, these problems persisted even after the accountant had joined the DHMT. In one district, the situation was so bad that the FE was retained at regional level. (J2.5, 10, 12, 43)

Similarly, SOs had different relationships with their local treasury officers - a friendly relationship with the local treasury was generally felt to be useful. Several DHMTs had made contact with their treasury officers as a result of the Strengthening District Health Systems Initiative. Such contacts could (and sometimes did), however, form a basis for corrupt practices. (J1.51; J2.110; J3.84)

Spending officers had an easier job when there was a supportive District Secretary and local community.

Areas with chieftaincy disputes were particularly difficult to work in. (J3.108; "Daily Graphic", 21/7/1990)

Localised short-term financial planning was seen by many SOs as a useful exercise. Contributing an input to the national budget, on the other hand, was regarded as a waste of time. Actual allocations rarely matched submissions and there was never any feedback about why this was the case.

### III Divisional heads who were not spending officers

"It is easier for me to use ₦200 worth of fuel to go home and collect my ruler than it is for me to get ₦50 to buy a new ruler. I seem to be trusted with a big job, but not even with small amounts of money." (Regional Health Management Team member, 1991)

Some divisional heads knew that they received an allocation in the central government budget and resented the fact that they were not the spending officer for this amount. Most believed that their division did not receive its fair share of resources. The anomaly that the epidemiology division was the only division to have an FE meant that it could buy its own stationery and vehicle spare parts, as well as collecting these items from the RMS. This was thought to be unfair.

The relationship between divisional heads and their SO varied. Unless the heads were involved in team decisions about the use of FEs, they tended to be resentful of the power of the SO. The reliance on the availability of spending officers was annoying. At regional level, the (acting) Regional Director of Health Services (RDHS) travelled frequently. Sometimes this meant that spending was not as high as might have been. (J6.58, 95)

Although the use of FEs was supposed to be decided by a team, in practice the spending officer (usually a doctor) often dominated. For example, the RHA finance committee was reluctant to meet in the RDHS's absence because it felt that there was a good chance that he would subsequently overturn decisions unilaterally. (J5.33)

There was a general demand for more imprests<sup>83</sup> (or preferably some simpler form of petty cash), as cash was very useful for buying minor items necessary for the continuity of activities. (J3.103)

---

<sup>83</sup> RHA imprests were held by the RDHS; the MCH, nutrition and epidemiology divisions; and the limb-fitting centre. [For the FEs, the limb-fitting centre counted as part of the epidemiology division.]



#### IV Health station in-charges

It sometimes seemed as if health stations were forgotten. They received no FE and no imprest; the rules surrounding the use of their fees were confused. The in-charges received no training in financial management and correct government procedures. (J2.44)

The most common reason cited for the absence of FEs and imprests at health stations was that medical assistants (MAs) were not authorised to spend money from these sources. This reason was largely spurious; Ejisu-Juaben district in Ashanti region had persuaded the local treasury officer to allow MAs to manage imprests.<sup>64</sup> (J1.20)

Health stations relied on fees and on items bought by the DHMT or collected from Regional Medical Stores. Responsibility for providing resources at this level was very confused - for example it was not clear who was responsible for paying travel expenses for health station staff. Many of the DHMTs did not accept it was their responsibility, even though this was the directive from regional level. The non-payment of travel claims was a common complaint of health station in-charges.

---

<sup>64</sup> In fact, these imprests were never distributed because of a change in the rules about the use of fees. But the principle remains; some treasury officers allowed MAs to hold imprests.

Insult was sometimes added to injury. Even though they did not receive travel claims, the in-charges were often criticised for not travelling to the district capital frequently enough - for example to bank fees. (J2.43, 44; J3.14)

The resource distribution system for health stations included several vacuums, where no-one accepted responsibility.<sup>85</sup>

€ At one time, laboratory reagents had been supplied via Korle-Bu teaching hospital in Accra. When the hospital "decentralised" (i.e. reneged on) this, no alternative system was created to supply reagents. Many health stations were able and willing to buy reagents from the region, but were not sure if this was permissible. They also needed someone to organise region-wide buying, as there were considerable economies of scale in bulk purchases. (J6.8, 26; J7.40)

€ Vital stores (such as detergent) were often not available at RMS, yet there was no money for buying these items. There was not even any incentive to go frequently to RMS to see what stores were available, because no-one paid the travel claims of health station staff.

Staff at health stations were often frustrated when

---

<sup>85</sup> Other problems caused by the financing vacuum at health stations are illustrated in Chapters 6 (immunisations) and 7 (drug supplies).

they used their initiative to try to fill the resource distribution vacuums. Because the rules were uncertain, staff who bought necessary items out of the fees (such as soap and kerosene) were open to criticism from auditors, the community, or more senior officers in the MoH.

€ In late 1989, the Regional Hospital Secretary tried to convince a medical assistant, whom he trusted, to start a revolving drug fund at his health station. The MA agreed that this was needed, as very few drugs were available at the RMS. However, a few years previously, the MA had run a drug fund with the approval of the then RDHS. This scheme had been closed down by audit staff, on the grounds that it "made profits". The MA was thus understandably reluctant to start another drug scheme. (J1.20)

The uncertainty about money caused tensions between health station staff, particularly between the curative and MCH divisions. MCH staff traditionally felt that income from immunisations and child welfare clinics was "their" money and should be used to meet "their" needs. On the other hand, the team leader (from the medical care division) was dependent on this money.

#### v Budget-holders for donor funds

"We received some donor money that was basically for training, but there was some flexibility over how we could spend it. I

have thought of these funds as a source of money that the DHMT could use to build up the district's capacity to run its own local training programmes. Then we can do some of our priority training, such as for pre-school teachers." (District Medical Officer, 1990)

Expenditures were attributed to donor funds whenever possible. This freed FE money for activities which donors were unwilling to support, such as the maintenance of staff accommodation. Another advantage of having donor money in the bank was that the money could be "borrowed" for short periods of time to cover cash flow problems. This happened quite often because of the vagaries of the FE system. The only drawback to borrowing was that it resulted in complicated paperwork. (J2.55; J3.115)

One problem with being the budget-holder for a donor was that the individual won the reputation for having ready cash, especially to reimburse travel claims. When the donor project ended, however, or when the individual had other projects which were not supported by donor funds, the budget-holder found that people were unwilling to do work for him/her. This happened even if the task was unconnected with the donor money. The budget-holder had the reputation for being someone who could pay extra allowances to staff.

€ One hard-working Regional Health Management Team member refused to be a budget-holder for one of the largest donor accounts. He did not want his staff to be troubling him all the time for extra allowances. This man also disliked the fact that if he had been the budget-holder for these earmarked funds, he would have had access to a lot of money, without being able to spend it on what he regarded as the most urgent tasks. (J7.83)

Being a budget-holder for a donor was time-consuming, particularly as key individuals tended to hold several budgets at once. (The RHA had 13 separate donor accounts.) Accountants were officially responsible for the book-keeping, but were often unacceptably slow and rule-bound. Different donors had different accounting conventions and different financial years. Donors' requests for "immediate" information were particularly annoying when they coincided with the short, busy periods of time when FEs were available. (J2.14; J6.51)

Donors' rules were not always clear and a lot of time could be spent on justifying expenditures. One common argument was that donors did not want to pay for infrastructural items such as repairing vehicles. But there was really no choice for the budget-holder if there was no other money available to repair a vehicle which was needed for a donor project - or if the repair was not a priority for government funds. Donors often

expected certain items (such as vehicles or staff time) to be provided by the RHA or DHMTs, yet they did not always specify in advance what these items would be.

Donors did not co-ordinate the amounts paid as daily allowances. For example, the USAID-sponsored training of traditional birth attendants (TBAs) paid €800 per day to the trainers and the TBAs. This was felt to be very high; the region would have preferred to share this money out amongst all its staff who had outstanding travel claims. There was also no co-ordination about workshop costs. It reached the stage where participants complained if they were not given new pens and plentiful food at each workshop, even if it was funded locally out of the FEs. (J1.31; J6.57)

Because donors tended to want unspent money returned to them, and because they were generally unwilling to allow unspent money to be used for other projects, money was spent on things which were not priorities. In other words, the opportunity costs of funds in different accounts (donor or government) were very different.

€ At the same time as the Operations Research Unit could afford a fence and several air-conditioners, the vehicle maintenance workshop (where security was an important issue) could not afford a fence. The ORU had donors to support it, the workshop did not. (J5.215)

## VI Donors

Donors circumvented the government systems of resource allocation because the systems were not efficient. Each donor agency had its own rules about the use of money. If a programme was to continue, it was necessary for budget-holders to keep good records. Many budget-holders let donors down in this respect. Several budget-holders in Volta were certainly guilty of this.

## VII Accountants

Accountants were employed by, and were responsible to, the Office of the Controller and Accountant-General. Their main duty was to ensure accountability for government money - it was to be spent on acceptable items and all transactions were to be recorded accurately.

Accountants felt misunderstood and ignored by their "host" ministry. Many accountants thought that the detailed procedures required of them by the CAG made them unpopular with their MoH colleagues.

Accountants were often excluded from various teams and committees; they were thus reluctant to offer useful advice. The situation improved gradually - for example, many of the DHMTs which participated in the SDHS

Initiative invited accountants to join their DHMT. However as late as January 1991, the accountant was not mentioned at national policy meetings as a core member of the DHMT. (J5.211)

Many spending officers were ignorant of, and disinterested in, accountancy matters. It was particularly difficult to work with some of the doctors, as they were used to assuming a "know-it-all" role. Good, interested doctors tended to be sent on long courses, or were promoted quickly. (J3.51; J4.27)

#### VIII Auditors

Auditors provided a useful service by revealing embezzlement.

ε The Kete-Krachi district auditor discovered that the DHMT accountant embezzled at least ₦90,000, mostly by inflating travel claims.<sup>86</sup> (J3.25; J6.74)

The Ministry of Health did not have a good reputation for managing money well. The audit service was particularly critical of the fact that MoH staff often used money earned at government facilities to buy items informally - i.e. without authorised payment

---

<sup>86</sup> The Regional Hospital Secretary later cited this incident as a reason for not increasing the FEs for DHMTs.



practices. Another criticism was that the MoH used FEs to buy drugs which were later sold to the general public. This was against government regulations.

(J5.252; see Chapter 7)

Resource flows were complex; most people found at least some aspects of the resource allocation process difficult to understand.

There were many perspectives on the resource flows - some actors felt that accountability was of paramount importance; others resented the fact that this limited local autonomy. Some felt marginalised from the process; others wished that they understood the system better.

No-one in the Ministry of Health in Volta regarded the region's contribution to the national budgeting process as very important.

#### E Constraints and how to manage them

Sections B, C and D described the decision-making environment created by the resource flows. Managers at regional, district and facility level worked in a highly constrained environment of uncertainty, mistrust, limited power and frustration.

This section begins by categorising the constraints. Part II then considers how these constraints might be managed. In other words, how can the environment be made more conducive to rational decision-making? What strategies can be deployed? Part III briefly considers the fact that the kinds of strategies identified seem a long way from the traditional concerns of economists.

#### I The constraints

12 constraints are identified from the descriptions in sections B, C and D. These constraints are features of the system of resource flows which inhibited rational, analytic decision-making. The constraints are presented under 4 main headings. Where relevant, brief notes refer to points raised in Chapter 2, the literature review. Table 5.7 relates the generalised constraints to specific examples from earlier in this chapter.

##### (a) there were many rules

\* there were many rules; they were often contradictory or self-defeating.

The bureaucratic organisation uses rules as substitutes for purposeful, analytic decision-making. The functions of many Ministry of Health

rules had become distorted over time; many of the rules simply obstructed the smooth running of the system.

- \* rules were inhibiting; some actors were unable, or afraid, to use their initiative.

The culture of rules was sufficiently dominant that many people were afraid to break rules, even when they were patently nonsensical.

- \* rules were poorly publicised.

(b) there was no unique set of objectives

- \* several organisations were involved - 3 Ministries (Health, Finance and the CAG) and many donors. They all had different objectives.

Rational decision-making requires consistency amongst actors. The likelihood of this was reduced by the number of organisations involved with resource allocation in the Ministry of Health. The literature review cited the role of donors as a common complication to decision-making in developing countries.

- \* the different levels - from headquarters to individual facilities - did not always act co-operatively.

Table 5.7 Examples of general constraints

Generalisation	Example	Section in Chapter 5
many rules; many of them contradictory or self-defeating	drawing limits; cumbersome imprests	C (IIIb) C (IIIc)
rules poorly publicised	use of health station revenue; ORS stockpiled because procedures not known	C (V) C (IV)
rules inhibiting; some actors unable/afraid to use initiative	health facility staff reluctant to take initiative	D (IV)
several organisations with different objectives	moratorium on new staff	C (I)
different levels of the MoH did not always act co-operatively	resources allocated directly from Accra to individual facilities; HQ unsupportive over personnel issues (e.g. sackings)	C (IV) C (I)
corruption	stores purchased centrally	C (IV)
tension between accountability and flexibility	viring widespread but not acknowledged; RHA not allowed to buy small capital items	C (IIIId) C (II)
some matters very politicised	location of construction projects; personnel issues	C (II) C (I)
hospitals powerful	hospitals treated preferentially by CAG	C (IIIb)
resource allocation not purposeful	stores allocated on first come/first served basis; budget submission not regarded as important	C (IV) D (I)
information not used systematically	nature of expenditures not known	C (IIIId)
considerable uncertainty - some avoidable	availability of stores; level of drawing limits/ expenditure authorisations; timing of FEs; delays in decisions about capital projects	C (IV) C (IIIb) C (IIIb) C (II)

\* **corruption existed.**

The rational, satisficing and bureaucratic models assume that individuals subjugate their own private interests to those of the organisation. Corruption is an example of the domination of private over organisational interests.

The literature review identified the pursuit of personal goals by civil servants as a common phenomenon in developing countries.

\* **there was a tension between accountability and flexibility.**

For example, in the hands of a trustworthy staff member, imprests have many advantages - the availability of petty cash means that some problems can be solved quickly and easily. However, because imprests allow staff to handle cash, they can be abused.

There was a tension between accountability and delegating decision-making. Added to legitimate fears about competence and accountability, those in power were sometimes unwilling to delegate because it reduced their power and control over resources.

(c) power was exercised

- \* some matters were very politicised.

The exercise of power determined the outcome of some decisions.

- \* hospitals were powerful because of the high visibility of their curative care.

(d) resource allocation was not goal-directed

- \* resource allocation was not purposeful.

A rational organisation has well-articulated goals and procedures for achieving them. Resource allocation procedures in the Ministry of Health were rarely linked to discernible goals.

Budgeting and planning were not regarded as useful exercises. Well-functioning budgeting and planning systems would be signs of a rational or satisficing organisation. Such goal-oriented activities rarely took place in the MoH in Volta.

- \* information was not used systematically.

Rational and satisficing organisations require relevant information. The bureaucratic organisation substitutes rules for some of its information requirements; the anarchic organisation collects and uses information haphazardly. The use of

information in the Ministry of Health revealed aspects of both the bureaucratic and anarchic models.

A lot of information existed - the problem was that it was not used.

- \* there was considerable uncertainty - some of it avoidable.

The literature review identified uncertainty as a common problem in developing countries, largely because of the political and economic vulnerability of governments. Some of the uncertainty described in this chapter was because of vulnerability. Some of the uncertainty, however, was self-inflicted and avoidable. For example, there could have been better communication about the availability of stores (and plans for future purchases) at national and regional level.

In this chapter we have seen examples of rule-bound behaviour; conflicting objectives; the exercise of power; and an absence of goal-directed behaviour. The complex system of resource flows resulted in many constraints which inhibited rational, analytic decision-making. In this environment, what can be done to make rational (or at least satisficing) behaviour more likely? How can the constraints be managed?

## II Managing the constraints

The quotation from Mills and Gilson at the very beginning of this chapter stated that, in many countries, a lack of information about health sector financing and expenditure undermined appropriate decision-making. This chapter has unearthed many other constraints to "appropriate decision-making". How can these constraints be dealt with?

Chapter 2 discussed the management of constraints - in other words, managers gauging their room for manoeuvre. Having unearthed complex and "irrational" resource allocation processes, the economist does not need to abandon the question "How can resources be used efficiently?". In the light of the constraints, however, this question should be seen in the context of a satisficing, not a rational, organisation. In a satisficing organisation, areas for potential improvement are identified. Overall rationality is abandoned. The question can be modified to, "How can the environment be made more conducive to the promotion of efficiency?"

Several strategies could be employed at regional level to mitigate the constraints - i.e. to make the environment more conducive to rational decision-making. These strategies are discussed under the same 4



categories used above for the classification of constraints. This is not a definitive list of strategies. The strategies listed here simply illustrate the wider point that enhancing efficiency can be an incremental, tactical process.

(a) there were many rules

Rules may serve a useful purpose as generalised decision-making tools. The RHA could do a number of things to try to restore the original purpose of rules.

- \* the RHA could decide which of the many rules it took most seriously. Adherence to these rules within the region could be monitored.
- \* important rules could be publicised and explained.  
€ Explanations of the purpose and mechanics of drawing limits and expenditure authorisations led to an improvement in spending levels. The explanations included a discussion of conditions under which treasury officers might be flexible about the rules.
- \* the RHA could clear up ambiguities - for example about who was responsible for paying the travel expenses of health station staff.

- \* the RHA could defend managers against unconstructive criticism (from auditors, MoH headquarters or donors) when the manager had behaved sensibly, but had violated some rule. In a system with so many rules, much depended on the calibre of individual staff members and on the support offered to them by the RHA. Budget-holders had to be prepared to defend their expenditure decisions and to risk breaking some of the plethora of administrative rules. The RHA had to be prepared to support them.<sup>87</sup> (J2.110; J3.2)
  
- \* the region could differentiate between reliable and unreliable users of resources and treat them differently. The tension between accountability and local autonomy was real; there was no point in decentralising responsibilities if the trust was abused. It was necessary to treat cases differently; otherwise there would be a constant seesawing between regional and more decentralised control.
  
- \* the RHA could publicise the problems caused by some rules and lobby for their change. There were some problems which could not be solved at the regional level and below.

---

<sup>87</sup> This is an example of the RHA acting as a buffer, as described in the Ministry of Health's 1991 publication "Health in Brief". (see quotation in Chapter 3, Section D)

€ The excessive bureaucratisation of the FEs was a multi-sectoral issue - there was a need for discussions between the Ministry of Health and the staff of MoFEP, the CAG and the Audit Service. The MoH could negotiate on the basis that more flexibility could be allowed as the MoH proved its ability to handle money responsibly. These negotiations were a job for MoH headquarters; the RHA had to continually remind headquarters of the problems with FEs.

(b) there was no unique set of objectives

The existence of multiple, conflicting objectives is not a "problem" which is "solvable". Indeed multiple objectives can offer positive opportunities. For example, the fact that there were many donors with many objectives meant extra work, but also offered opportunities for flexibility.

The RHA could adopt strategies to reduce some of the negative results of conflicting objectives.

\* accountants (employees of the CAG) could be better integrated into the MoH team. For example, they could be invited to join District Health Management Teams. Efforts could also be made to keep treasury officers and auditors informed about MoH concerns.

- \* the RHA could negotiate. Some donors were flexible about the use of money and accounting procedures. Flexibility often increased with mutual understanding and trust.
- \* the RHA could lobby - for example, influential donors could be told (discreetly) about areas of corruption in the government system.
- \* training sessions could include discussions about multiple objectives, the opportunities they generated and ways to reduce conflict.

(c) power was exercised

Some constraints are best left unchallenged. However the RHA could learn how to "sell" its own concerns to powerful groups. For example, whilst it did not want to challenge individual decisions about construction projects, the RHA could ensure that its aim of increasing coverage in the two northern districts was understood.

(d) resource allocation was not goal-directed

So far, the discussion has concentrated on accommodating or challenging constraints. Managers should also exploit areas where they are relatively

unconstrained. A satisficing organisation concentrates its energies on some areas of decision-making where reasoned consideration is possible and likely to be heeded. Managers should be encouraged to identify their room for manoeuvre and then to think systematically about their priorities for resource use.

The RHA could employ a number of strategies to encourage systematic thought about resource use.

\* the RHA could provide training for managers about realistic ways to improve their decision-making. Local training has two potential advantages. Firstly, it can be made situation-specific and thus immediately relevant. Secondly, it can be followed up with monitoring and supervision.

€ Spending officers had a good deal of leeway about how to spend the FEs. They needed to understand the system if they were to fully exploit this flexibility; then they could be encouraged to think about goals and prioritising expenditure.

\* the RHA could use information to ask pertinent questions; others could be encouraged to do likewise.

€ The RHA could regularly monitor items of information such as expenditure per vehicle. A DHMT might be asked why it was spending so much (or so little) on its vehicle. The RHA could create a demand for information so that managers were forced

to consult the existing accounting records.

€ Some DHMTs already used information submitted by health stations. Hohoe looked at revenue returns and made sure that money was banked regularly. Kpando compared revenue returns, drug usage and out-patient numbers; some odd relationships were identified and followed up. Other districts could be encouraged to use the financial and other information routinely submitted by health stations. (J1.42; J3.80)

€ Little was known about the use of money. Accountants and MoH staff required information in different formats. It could be a long-term goal to have a unified system.

The topic of information clearly illustrates the tension between accepting and challenging constraints. In the short term, a parallel information system might be needed because of the inadequacies of the information demanded by national level; in the longer term, these inadequacies should be challenged.

- \* uncertainty could be reduced. For example, the RHA could inform managers in advance about the minimum value of FEs they could reasonably expect each quarter.

The complex system of resource flows created many constraints to rational decision-making. Many strategies could be used to mitigate these constraints. Some constraints could be challenged effectively; the RHA had to learn to live with others.

### III The role of the regional health economist

The activities described in the previous section seem a long way from the traditional concerns of economists. Because economics is grounded in the rational model, it tends to regard the availability of information and skills as necessary and sufficient for rational decision-making. This chapter has described a number of constraints to rationality. An economist working at regional level<sup>88</sup> has a choice - either to regard the provision of "economic" information and skills as his/her job; or to accept a wider remit about making the environment more conducive to the use of the information and skills. To choose the former is to behave as if the Ministry of Health is potentially a rational organisation. To choose the latter is to become directly involved in the process of incremental change.

---

<sup>88</sup> Although this chapter has concentrated on the region, the basic argument is also applicable at district and national levels.

In Ghana - and perhaps more widely - the kind of activities described above are the responsibility of no particular cadre. They fall between the roles of managers and those who handle resources such as accountants and storekeepers. An economist can highlight the potential value of the strategies. This is the prescription resulting from the comprehensive description of resource flows.

This chapter describes resource flows in Volta region. The processes are complicated; they do not create an environment conducive to rational decision-making. The RHA could do a lot to improve decision-making about the use of resources. Someone has to initiate and implement these strategies; they are not generally thought of as part of a health economist's job description.



## Chapter 6

### Immunisations

## Chapter 6

### A cost-effectiveness analysis of strategies for immunising children

#### A Introducing the cost-effectiveness analysis

Cost-effectiveness analysis (CEA) investigates,

"which of a number of possible interventions will achieve a given health objective at least cost". (Mills and Gilson, 1988, p 78)

This chapter presents a CEA of strategies for immunising children. Two possibilities are considered - mass campaigns and routine static and outreach clinics (S/O).

The quotation by Mills and Gilson mentions "a given health objective". The literature review argued that a single objective may not be discernible in an organisation. Different actors have different objectives, depending on their place in the organisation and on their individual private interests. This chapter explores the implications of the fact that a CEA reflects only one single rationality - it aims to identify the rational choice.

The information in this chapter was initially

collected following a request from the (national) Director of Medical Services in January 1991.<sup>89</sup> He wanted to have data to inform his discussions with the PNDC, donors and Ministry of Health (MoH) colleagues about future immunisation strategies. In particular, he wanted a regional perspective on the relative merits of mass campaigns and S/O.

The CEA was carried out in collaboration with a public health physician who worked for the Ministry of Health in Volta. The Regional Director of Health Services had good reason to allow his staff to spend time on this national assignment. In 1989 and 1990, Volta's immunisation coverage was low compared with other regions.<sup>90</sup> The RHA defended this, arguing that Volta was building up a sustainable infrastructure, whereas other regions were depending on donor-financed mass campaigns. It was hoped that the CEA would generate data to defend Volta's arguments.

The findings of the CEA discussed in this chapter were presented at the Conference of Regional Directors

---

<sup>89</sup> Chapter 4 (Section C) explained how the case study topics were selected for this thesis.

<sup>90</sup> For example, the Epidemiology Division's "Report on the accelerated EPI [Expanded Programme on Immunizations] activities - Ghana, June 1988 - May 1989" put Volta bottom of the regional league table for DPT 1, polio 1 and measles immunisations for children under one year old. Volta was also in 9th position (out of 10 regions) for BCG and polio 3. Strangely, it was 3rd for DPT 3. (1989, p 21)

and Divisional Heads in April 1991. As a complement to the CEA, total national costs of mass campaigns and S/O were estimated and presented at the following Conference in July 1991. (Waddington and Nyongator, 1991a and 1991b)

The next section (B) describes the two strategies and the high political profile afforded to immunisations in late 1990.

Section C begins by stating the CEA's "study question" - "from the point of view of Volta Regional Health Administration, was it better (i.e. more cost-effective) to immunise children by mass campaigns or at S/O clinics?". The perspective was that of the Regional Health Administration (RHA) - this influenced the costs which were included. The section then discusses how effectiveness and costs were measured. The reasons for not considering total costs are explained. The issues discussed in this section are essentially methodological.

Section D looks at the costs of fully and partially immunising children. The conclusion is that, in 1990, from the point of view of Volta Regional Health Administration, routine static/outreach clinics were a much more cost-effective way of immunising children than were mass campaigns.

The CEA complete, Section E comments on the findings. Although S/O was more cost-effective in most situations, there were no incentives for the RHA to expand the network of static and outreach clinics. It was easier to attract money for mass campaigns.

To put the conclusions of the CEA in a wider context, Section F looks at the choice of immunisation strategy from a variety of viewpoints. These raise issues which cannot be dealt with satisfactorily within the methodology of the CEA. The viewpoints also demonstrate why so many actors were content with the continuation of (cost-ineffective) mass campaigns.

The chapter concludes with a consideration of the implications of juxtaposing a CEA with a description of a complex organisation which has multiple, conflicting objectives. Given that health workers have objectives other than efficiency, and given that some of the ways in which resources were channelled encouraged cost-ineffective behaviour, the economist needs to think about strategies which can foster an environment more conducive to efficiency. CEA is regarded as a process, rather than as just "an answer". As the CEA was conducted, questions were raised and ideas generated. What incentives were there/could there be for the Ministry of Health in Volta to behave more cost-effectively?

B Immunisation in Volta - strategies and politics

I The two strategies - mass campaigns and static/outreach clinics

This section describes the two strategies compared in the cost-effectiveness analysis - mass campaigns and routine static and outreach clinics (S/O). They were both ways of organising immunisations for young children. Features of the strategies are summarised in Table 6.1.

Both strategies involved six immunisations for children - BCG (against tuberculosis), polio, measles, diphtheria, pertussis [whooping cough] and tetanus. The last three were given together and were known collectively as DPT. Polio and DPT were three-dose; the others were single dose. An immunisation schedule is given in Appendix 5.

Mass campaigns were usually held three or four times per year and had the single aim of immunisation. They generally lasted between one and two weeks per campaign.

Most of the immunisations during mass campaigns were given by community health nurses (CHNs), who were part of the maternal and child health (MCH) division.

District Health Management Team (DHMT) members acted as supervisors. Staff from the Environmental Division often helped by informing communities, keeping records and performing other support activities.

During a campaign, the immunising team travelled from village to village. The DHMT's vehicle was used for little else during that time. Other vehicles were sometimes borrowed.<sup>91</sup>

Most districts had adequate cold chain facilities for the storage of vaccines for mass campaigns. Disposable needles and syringes were normally used.

Because they valued the fact that large numbers of children could be immunised relatively quickly, some donors gave money to districts to run mass campaigns. Some District Health Management Teams also managed to get resources from elsewhere by affording the campaigns a high profile. At least two District Secretaries (the political heads of districts) provided fuel; the Ghana Private Road Transport Union helped with transportation in at least one district.

---

<sup>91</sup> These were RHA vehicles, vehicles from other DHMTs, or (occasionally) the UNICEF-assisted project vehicle which was kept at the Regional (political) Administration.

Table 6.1 Comparing mass campaigns and S/O clinics

Feature	Mass campaigns	S/O clinics
Frequency	3-4 times yearly	1, 2 or 4 times per month; often cancelled
Aims	Immunisation only	Preventive health activities for children
Supervisors	DHMT	In-charge of health station; DHMT
Staff involved	MCH and DHMTs	MCH
Transport	DHMT 4-wheel drive vehicle	Walking or public transport
Cold chain	Large district refrigerator and cold boxes - generally adequate	Refrigerators and vaccine carriers at health stations - inadequate
Sources of money	Donors; RHA; DHMTs	CWC and immunisation fees
Use of fees	Kept by DHMT - miscellaneous uses	Most kept at health stations; used to run CWCs. Half of CWC attendance fee given to DHMT.
Records of immunisations	Collected by DHMT; forwarded to RHA	Sent to DHMT; collated and forwarded to RHA
Perks/payments to staff	Daily allowances; given torches, raincoats etc.	None

CWC = child welfare clinic

A charge of ¢20 (about \$0.06) was made per person per immunisation session. This money was kept and used by the DHMT.

Staff on the immunisation teams generally received a daily allowance of about ¢500 each, in recognition of



the fact that mass campaign days were long and arduous.

Records of immunisations given during mass campaigns were kept separate from S/O records. It was thus possible to know for all the districts how many children had been immunised by each method.

Mass campaigns were very time-consuming - when one was being planned or run, DHMTs had little time for anything else.

Static/outreach (S/O) refers to immunisations which were given by MCH staff<sup>92</sup> during child welfare clinics (CWCs). The CWCs were held regularly - monthly, fortnightly or weekly, depending on the population size.

CWCs were held at both the health stations themselves and in nearby villages. The outreach sites were reached either on foot or by (often unreliable) public transport. In addition to immunisations, CWCs weighed children and offered advice about nutrition and other aspects of child health.

The Regional Health Management Team (RHMT) recommended that each health station should offer at least one static CWC per week and 4 outreach clinics per

---

<sup>92</sup> Usually community health nurses (CHNs).

month. Although many CHNs planned to travel to outreach sites four or more times monthly, in practice many outreach visits were cancelled because of lack of money. Money was needed to collect vaccines, to fuel refrigerators and to travel to outreach sites. As explained in Chapter 5, health station staff rarely received any external support for these costs.

S/O costs were covered from CWC and immunisation fees. This money was handled by MCH staff in the health stations. The standard charge was between ¢10 and ¢20 for the CWC and an additional ¢20 per child per immunisation session. The immunisation fee was never officially acknowledged by MoH headquarters or UNICEF, although it was in operation throughout almost the whole country. From time to time a national government official, politician or donor denounced fees on the grounds that they deterred mothers from having their children immunised. However, no serious steps to abolish fees were undertaken.

MCH staff at the health stations kept and used all their income from CWCs and immunisations, with one exception. Half of the income from the CWCs was given to the head of MCH at the DHMT, who used it for meetings, duplicating reports etc.

In contrast to mass campaigns, MCH staff received

no extra allowances for travelling to outreach clinics.

Portable vaccine carriers were in short supply at health stations and many of them were cracked. Fewer than half of the health facilities had a functioning refrigerator. Most were kerosene; some were gas or electric.<sup>93</sup> Nurses from facilities without a refrigerator had to travel to the nearest MoH refrigerator to collect vaccines on the morning of an outreach visit. This meant that they often arrived in villages after most people had gone to their farms.

The available refrigerators were not distributed logically throughout the region.

€ Goviefe-Todzi, a tiny facility in Hohoe district, had a large kerosene refrigerator which had never been used, although it was in working order. It had been sent to the facility direct from Central Medical Stores, without consulting the RHA or DHMT. The District Medical Officer was not willing to move the refrigerator, as the community regarded it as "theirs". This is typical of the problems with allocating capital equipment, as described in Chapter 5.

(J6.26; IB1.45<sup>94</sup>)

In contrast to the situation at Goviefe-Todzi, some of

---

<sup>93</sup> Kerosene is the same as paraffin; none of the five solar refrigerators in the region worked.

<sup>94</sup> IB = interview book.

the most remote health stations had no functioning refrigerators, even though transportation to the nearest cold chain facilities was extremely erratic and expensive.

It was not generally agreed how many people were required to run a CWC. Very few nurses were willing to conduct clinics alone - they found it difficult to organise people, attend to individual children and keep records at the same time. However many CWCs had three or four staff present - this seemed an unnecessary expense.<sup>95</sup>

MCH nurses submitted monthly totals of S/O immunisations to the DHMT. These were then compiled for each district and forwarded to the RHA, which compiled region-wide figures. Data for individual facilities were not readily available at the RHA.

Districts differed in the importance they attached to mass campaigns. The differences were partly dictated by geography<sup>96</sup> and partly reflected the different management styles of the DHMTs.

---

<sup>95</sup> Aitken described how the number of staff travelling on outreach visits increased as integrated service provision was encouraged. Integration was often interpreted as "every division being involved with every activity". (1991, p 14)

<sup>96</sup> A map of Volta was presented in Chapter 3. (Figure 3.6)

There were three types of district, as shown in Table 6.2. [In 1990, the Ministry of Health in Volta was still organised according to the 9 old districts, rather than the 12 new ones.]

- 1 Hohoe, Keta and Kpando were geographically fairly small districts. Most of the population lived within 8 kilometres of a health station. Hohoe and Keta had completely abandoned mass campaigns. Kpando ran one mass campaign for its isolated island population.
- 2 Ho, Jasikan, Ketu and Tongu were fairly large districts with some of their populations beyond walking distance of a health station. These populations were served by mass campaigns.
- 3 The two northern districts of Kete-Krachi and Nkwanta were poorly served by health stations. Both were heavily dependent on mass campaigns.

Table 6.2 shows a clear relationship between dependency on mass campaigns and the population per static clinic. The low-dependency districts had an average of 281 under-ones per clinic; of the under-ones who received BCG, only 1% were immunised during a mass campaign. The high-dependency districts had an average of 534 under-ones per health station; more than two-

thirds of those immunised with BCG received the service through a mass campaign.

Table 6.2 Clinic coverage and dependency on mass campaigns, 1990

Dependence on mass campaigns	Population of under-ones (1)	Static clinics	Population per static clinic	% BCG by mass campaign
Districts with low level of dependence on mass campaigns (Hohoe, Keta, Kpando)	9,820	35	281	1
Districts with medium level of dependence on mass campaigns (Ho, Jasikan, Ketu, Tongu)	24,040	63	382	27
Districts with high level of dependence on mass campaigns (Kete-Krachi, Nkwanta)	5,880	11	535	68
<b>Total</b>	<b>39,740</b>	<b>109</b>	<b>365</b>	<b>23</b>

- (1) Assuming that 3% of the population were under-ones. As discussed in Chapter 3 (Section D), there were several, very different estimates of the population of Volta. This chapter uses 1,324,667 as the estimate for 1990. This was the figure used by Volta RHA.

**Source:**

The immunisation data used in this and subsequent tables were obtained from the monthly returns which were sent by DHMTs to the Epidemiology Division in Ho (the regional capital).

The two immunisation strategies obviously reflected different managerial ethos. S/O depended on routine. Health stations needed the capacity (in terms of resources and skills) to be able to provide regular

clinics. Mass campaigns were more self-contained; they depended less on institutional development.

There was some rivalry about the "ownership" of the immunisation "programme". On the one hand, the MCH and Epidemiology divisions acted as if they ran a vertical immunisation programme. On the other hand, the RHA and DHMTs regarded immunisations as a team responsibility. This confusion mirrored developments in the Ministry of Health as a whole, where the power of vertical divisions was waning, but had by no means disappeared.

Both S/O and mass campaigns were affected by the fact that many people in Volta were suspicious of immunisations and the people who administered them. Understanding about immunisations was generally poor. For example, one gong-gong beater<sup>97</sup> who had been asked to alert mothers to the arrival of an immunisation team was heard to say:

"Those people are here who give a needle to your children who are not sick, and make them sick. So if you want your healthy child to get hot, come." (reported second-hand by a member of the RHMT)

Drug peddlers and others who made their living from

---

<sup>97</sup> Gong-gong beaters are traditional "town criers".

treating the sick often reinforced misconceptions about immunisations.

Communication and health education were problems for both mass campaigns and S/O. Messages telling communities when to expect immunisation teams were often lost, forgotten or unheeded. When one district made a special effort to inform and educate people about immunisations during the last quarter of 1990, uptake improved. (J5.60, 62)

## II A high political profile - immunisations in 1990

Beginning in the late 1980s, the immunisation "programme" in Ghana had a high profile. It was often mentioned in national newspapers and political speeches. Within the Ministry of Health, immunisation targets were well-known; the subject dominated many meetings and supervisory visits.

In 1989 and again in 1990, the Government of Ghana pledged to achieve a target of fully immunising 80% of all children less than one year old. This was set on the advice of UNICEF and WHO, which used 80% as a target in many countries.<sup>98</sup> Most MoH staff believed that 80% was

---

<sup>98</sup> The rationale for the 80% target is explained in the following quotation from a UNICEF document:

"In EPI programmes, an 80% average rate is often taken as a working minimal level for all the vaccines. Such a coverage rate



unrealistically high<sup>9</sup> - a meeting of Senior Medical officers (Public Health) decided that 80% coverage by the year 2000 was more feasible.

1989 ended with a spate of mass campaigns, which were conducted in a rush to try to achieve the 80% immunisation target. Volta RHA began 1990 determined to reduce the importance of mass campaigns and to concentrate on developing S/O. This was part of its wider plans for institution-building and decentralisation. The proposed strategies for expanding S/O included:

- 1 training non-MCH staff (such as medical assistants, and enrolled nurses) to give immunisations. In the past, most immunisations had been given by CHNs and other MCH nurses. The aim of the training was to improve the rate of "opportunistic immunising" - i.e. immunising all eligible children who visited a health facility, not just those attending CWCs.
- 2 when allocating DHMT funds, giving priority to travel allowances for staff travelling to outreach

---

might produce an adequate level of herd immunity for most of the diseases, depending on the various parameters described above [size, composition and density of the population; birth rate; mobility], with the exception of measles, which probably requires well over 90% coverage in most communities" (Ofosu-Amaah and Shah, 1985, p 459)

<sup>9</sup> See, for example, report of the Conference of Regional Directors and Divisional Heads, January 1991.

sessions. (J7.60)

The RHA was aware that its immunisation coverage would probably be lower than the national average in 1990. However it regarded this as acceptable, because developing S/O was seen as an investment for higher coverage levels in future years.

It was recognised that mass campaigns would be necessary in some parts of the region, especially Kete-Krachi and Nkwanta, which had few health stations.

The strategy of concentrating on S/O changed at an RHMT meeting on 4th September 1990. Volta's reported coverage was at that time the second lowest of the ten regions - the RHMT was under considerable pressure to improve. The pressure emanated from both Ministry of Health headquarters and from the PNDC Regional Secretary. The Regional Director of Health Services (RDHS) announced that it was "non-negotiable that this coverage is politically unsustainable". In other words, something had to be done quickly to raise coverage before the end of 1990. This meant mass campaigns. The timing of mass campaigns shown in Table 6.3 clearly demonstrates the impact of this meeting. Of the 24 campaigns, 19 were held during or after September.

The change of course in Volta reflected events at

national level. In August 1990, the PNDC ordered that immunisations were to be an overriding priority until the end of the year. Considerable political importance was attached to this; Regional and District Secretaries were exhorted to monitor immunisation coverage.

Table 6.3 Timing of mass campaigns, 1990

	Ho	Ho-hoe	Jas-ikan	Keta	Ketu	Kpa-ndo	Kra-chi	Nkw-anta	Ton-gu
Jan.									
Feb.									
Mar.								++++	
Apr.	++++								
May					++++				
June									
July			++++					++++	
Aug.									
Sep.	++++				++++		++++		++++
Oct.	++++		++++			++++	++++		++++
Nov.			++++		++++		++++	++++	++++
Dec.			++++		++++		++++	++++	++++

++++ indicates that a mass campaign of between 1 and 2 weeks long was held during that month.

Source:  
DHMT immunisation returns to Epidemiology Division, Volta RHA.

Four districts had conducted at least one mass campaign in 1990, before September. Nkwanta, which had held two, had a more or less routine system of running

mass campaigns every 4 months. This partly reflected the fact that the DHMT was well-organised and partly reflected Nkwanta's geography - the population was very scattered and served by only two health stations. The other three districts - Ho, Jasikan and Ketu - had run one mass campaign each. One aim of these campaigns was to provide some continuity. 1989 had ended with a spate of mass campaigns - some DHMTs had fully anticipated that the same would happen in 1990. Hohoe and Keta did not run mass campaigns - they were well served by health stations and the DHMTs wanted to concentrate on developing static and outreach clinics. Kpando held only one mass campaign. This was essentially an experiment. Because donor money was available, the DHMT decided to visit the isolated island populations in Lake Volta, which had very little contact with government services.

Immunisations were delivered through mass campaigns and through static/outreach clinics. Mass campaigns were more self-contained than S/O, which relied on a network of functioning health stations.

Volta was unable to adhere to its policy of concentrating on S/O in 1990 because of strong political pressure for quick results at the end of the year. These could only be achieved through mass campaigns.

C Defining the question and measuring the variables

I Defining the question for analysis

From the point of view of Volta Regional Health Administration, was it better (i.e. more cost-effective) to immunise children by mass campaigns or at S/O clinics?

The question which is addressed by this CEA is stated in the above box - "From the point of view of Volta Regional Health Administration, was it better (i.e. more cost-effective) to immunise children by mass campaigns or at S/O clinics?"

Three points can be made about the question:

- 1 The Government of Ghana had pledged to achieve a target of fully immunising 80% of all children under one year of age. Ideally, the CEA should have addressed the question, "What was the most cost-effective way of achieving 80% coverage of under-ones?". Unfortunately, this question could not be answered because it was hypothetical - 80% coverage was not achieved. All that could be done was to look at the costs which were incurred and to speculate about the marginal costs of achieving greater coverage by each of the strategies.

- 2 The CEA did not tackle the questions, "How many resources should have been allocated to immunising children?" and "Was immunising children worthwhile?" All CEAs implicitly assume that it is worth achieving the objective in question.  
(Drummond, 1980, p 14)
- 3 The CEA was addressed to a particular decision-maker - the Regional Director of Health Services (RDHS) in Volta. He was interested in questions such as, "Given the way that resources are allocated to Volta, is S/O more cost-effective than mass campaigns?" and "What issues does the RHA need to address if it is to behave more cost-effectively?"

The RDHS did not want to be told that the calculation of cost-effectiveness would be different if national headquarters and donors behaved differently. It was no use telling him that if donors supplied more refrigerators, or if health stations were supplied with mopeds, the pattern of costs would change. His interest was in what to do, given the current circumstances (including the way that resources were channelled).

Although one might argue that, as a public body, the RHA should have taken a societal viewpoint, in

reality it was only interested in its own costs.<sup>100</sup>

Because the CEA was addressed to a specific, partisan audience, it was not a "true" CEA. A "true" CEA would have aimed to identify the rational choice for society - it would have included all costs to society. (Mills and Gilson, 1988, p 79) Section C (II) of the literature review (Chapter 2) showed the tenuity of the notion of a global decision-maker. The CEA in this chapter abandons this notion and explicitly addresses the analysis to the circumstances of an identified decision-maker.

II Trying to measure "effectiveness" - how many immunisations were given in 1990?

This CEA deals exclusively with children under the age of one year; it ignores older children and adults. There are three main reasons for this choice of age group:

- (a) Young children are the main target group for immunisations<sup>101</sup>, both because they are then

---

<sup>100</sup> An example of costs to society differing from costs to the Ministry of Health is travel expenses incurred by users of the immunisation service.

<sup>101</sup> The main exception to this is tetanus toxoid for women of child-bearing age. This is not considered here.

afforded lifetime protection and because they are most at risk from the immunisable diseases.

(b) A cohort of people of a certain age should be considered. If all age-groups were included, it would be easy to make the unit costs of a new programme appear very low. This would be an illusion - the following year, there would be many fewer people requiring immunisations.

(c) The 80% target specifically referred to under-ones.

A disadvantage of concentrating on under-ones is that it ignores the many children who were immunised between their first and second birthdays - particularly for measles. This exaggerates the effectiveness of S/O relative to mass campaigns, because S/O tended to immunise children against measles at an earlier age than did mass campaigns.<sup>102</sup>

Table 6.4 shows the number and percentages of children immunised for BCG, measles and DPT (first and third doses). The number of fully immunised children (FIC) is estimated by looking at DPT 3 and measles immunisations. The lower of these figures is counted as

---

<sup>102</sup> The results of the CEA reveal a ten-fold difference in costs. This point about exaggerating the effectiveness of S/O is relatively minor in the light of the substantial cost differences.



the number of FIC.<sup>103</sup> The number of FIC for each district is shaded in Table 6.4. For example, in Ho, there were 3,781 FIC (the number of DPT 3); in Kpando, the number of FIC was the same as the number of measles - 1,598.

In immunisation coverage surveys, it is often only fully immunised children who are counted. Here, partially immunised children (PIC) are also considered. This is because a child who has been immunised for only BCG has received at least some benefit - the money spent on administering the BCG vaccine was not completely wasted. Similarly, a child who has been immunised for measles, but not DPT, has benefited to some extent from the immunisation programme. Obviously, children who have not received all 3 DPT or polio doses are not considered to have benefited from these vaccines. The number of PIC is the number of BCG, measles or DPT 3, whichever is highest; in practice, this is invariably BCG.<sup>104</sup> The first column of numbers in Table 6.4 shows the number of under-ones given BCG; this is the same as the number of PIC.

---

<sup>103</sup> DPT and polio were nearly always given simultaneously - DPT coverage thus acts as a proxy for polio, which is assumed to be the same.

<sup>104</sup> Logically, the number of PICs could be a combination of children who have received BCG only, DPT 1-3 only and measles only. In practice the latter two categories scarcely existed, as BCG was given the first time a child was vaccinated, whatever the age.

**Table 6.4 Immunisations, children under 1 year, 1990**

Dist- ricts		BCG (= PIC)	Measles	DPT 1	DPT 3	% BCG by mass
HO	Immunised	6,241	4,119	5,678	3,781	
	%	97	64	88	59	17
HOHOE	Immunised	3,703	2,634	3,373	2,558	
	%	141	100	129	97	0
JASI-KAN	Immunised	3,997	3,753	3,891	2,309	
	%	64	60	62	37	36
KETA	Immunised	3,426	2,060	3,494	2,450	
	%	94	56	96	67	0
KETU	Immunised	6,157	3,085	5,703	2,858	
	%	82	41	76	38	27
KPANDO	Immunised	2,574	1,598	2,275	1,772	
	%	73	45	64	50	4
KETE-KRACHI	Immunised	3,377	1,795	2,883	1,402	
	%	109	58	93	45	62
NKWA-NTA	Immunised	2,575	1,290	2,775	690	
	%	93	46	100	25	74
TONGU	Immunised	3,800	1,882	3,443	1,497	
	%	100	49	90	39	29
REGION	Immunised	35,850	22,216	33,515	19,317	
	%	90	56	84	49	23

Number of FIC = number of DPT 3 or measles, whichever is lower. (shaded) Total number FIC = 18,753.

Number of PIC = number of BCG (highest final dose). (See text for a fuller explanation of FIC and PIC.)

Source:

DHMT immunisation returns to Epidemiology Division, Volta RHA.

There are four main shortcomings with the measures of immunisation coverage used in this analysis.

- (a) The measures rely on Ministry of Health records, which may well be inaccurate. Inaccuracies might have occurred because of casual mistakes or because of pressures to misreport. The extreme political importance attached to coverage in late 1990 provided an incentive to exaggerate figures. On the other hand, the unofficial nature of the immunisation fees led to the belief that immunisations were sometimes under-reported, so that less money had to be accounted for. (IB2.42)

Although it cannot be proved, it was generally felt by epidemiology and statistics staff in Accra that data collection was better in Volta than in other regions. Many regions claimed extremely high rates of coverage - often over 100%. Some regions consistently reported higher coverage for DPT 3 than for DPT 1; this clearly suggests poor data collection.

- (b) The impact on mortality and morbidity is not considered - in other words, the measures are not true outcome data. The assumption is that the impact was the same for a child immunised through

mass campaigns or through S/O. This would be false, for example, if either of the strategies reached a cohort of children who were more at risk, or if the effect on herd immunity was different. It would also be false if the completeness of the cold chain (and hence the viability of vaccines) was different, or if one method resulted in more vaccines being given at the wrong age.

- (c) The population figures used here are an extrapolation from the 1984 census at an estimated growth rate of 1.7%. Until 1991, Volta RHA consistently used this growth rate for its calculations. The population figures provided by Accra changed often; even different MoH divisions used different estimates. The figures used by Volta were very much lower than the national estimates; however district health staff felt that they were more realistic. The fact is that the population of Volta was simply not known with any degree of accuracy. Problems were known to exist even with the original census data. (The issue of differing conflicting population estimates was discussed in Chapter 3, Section D.)
- (d) The calculation of FIC involves the assumption that it is the same children who have received all the various vaccines; logically, it could be different

children.

Table 6.4 includes some percentages over 100%. There are three possible explanations for this. Two have already been mentioned - that the numerator (number of children immunised) or denominator (population of under-ones) is wrong. The third possible explanation is that children from outside the district were immunised. This is a reasonable explanation for the high coverage in Hohoe district, especially for BCG. (Hohoe accounted for most of the percentages greater than 100.) Hohoe had a large hospital and a relatively small population. Many non-Hohoe babies were born in Hohoe or visited the district hospital during the first year of life. The hospital was efficient both at immunising babies born there and the opportunistic immunisation of infants attending the hospital. Hohoe's reported coverage thus included many under-ones who were not resident in the district.

The last column of Table 6.4 gives the percentages of vaccinations given as part of a mass campaign. This reinforces the point demonstrated in Table 6.2. Some districts did not conduct mass campaigns in 1990 (Hohoe and Keta); others (notably Nkwanta) were very dependent on mass campaigns.

Table 6.5 is derived from the data in Table 6.4.

All 3 categories - districts with low-, medium- and high-levels of dependence on mass campaigns - were successful at achieving 80% coverage for BCG. Districts with a medium- or high-level of dependence on mass campaigns were, however, notably less successful in the third dose coverage of DPT than the districts with no (or very small) mass campaigns. The more the reliance on mass campaigns, the higher the drop-out during the course of multi-dose immunisations.<sup>105</sup>

The medium- and high-dependency districts were more successful with measles than with DPT 3. The opposite is true for the districts which did not hold large mass campaigns, probably because mothers had stopped bringing their children to CWCs by the time they were old enough for measles immunisation.

---

<sup>105</sup> It can be argued that the high drop-out in mass campaigns was a function of the time period used. If the mass campaigns continued into 1991, then the drop-out rate might have looked different for the period September 1990-September 1991. Logically, this is true. However the irregular, stop-start nature of mass campaigns was a result of the way the campaigns were organised and funded.

Table 6.5 Percentage coverage by dependency on mass campaigns, children under one year old, 1990

Level of dependence on mass campaigns	Population	BCG %	Measles %	DPT 1 %	DPT 3 %	% DPT 1 receiving DPT 3
Low (Hohoe, Keta, Kpando)	9,821	99	64	93	69	74
Medium (Ho, Jasikan, Ketu, Tongu)	24,043	84	53	78	43	55
High (Kete-Krachi, Nkwanta)	5,876	101	53	96	36	38

Sources:

DHMT immunisation returns to Epidemiology Division, Volta RHA.  
 Percentages derived from absolute numbers in Table 6.4

III What costs were included?

Immunising children involved a variety of inputs, including staff time, four-wheel drive vehicles, cold chain equipment, needles and cotton wool. Some of the inputs were supplied from donors or the Ministry of Health in Accra; others were bought within Volta, at regional, district or health facility level. Which of these inputs were included in the CEA?

This section explains which costs were included in the CEA. Total costs were not considered - costs were included if they were incurred by the Ministry of Health in Volta. These were the costs which were of interest to

the decision-maker being addressed - the Regional Director of Health Services.

As stated above, the question being addressed by the CEA was, "From the point of view of Volta Regional Health Administration, was it better (i.e. more cost-effective) to immunise children by mass campaigns or at S/O clinics?" The choice of how to measure costs was determined by the underlying question - the nature of the existing resource flows was taken as given. As already stated, costs to society in general were not considered.

Four points are made below about how costs were measured. The use of the term "costs" is then discussed - clearly this CEA does not measure total costs.

- 1 **Costs incurred by Ministry of Health headquarters or by donors outside the region were not included.**

In Chapter 5, we saw that the RHA had little control over money spent on capital or over some of the supplies it received. The region's wishes about the use of this money were essentially ignored; decisions were made in Accra. This happened whether immunisations were given by mass campaigns or by S/O - the relative amounts of money spent on these items for either method was thus



of no interest to the RHA. The cost of a refrigerator was not relevant information for the RDHS, given that regions were not allowed to buy capital goods. For the RHA, the availability of capital equipment was a discrete factor of uncertainty, rather than something which it made sense to cost.

The costs of items such as vehicles and refrigerators have been excluded. The argument is not that the costs were of no interest at all. The point is that these costs did not influence decision-making at regional level.

**2 Differences in costs were considered.**

CEA is interested in the difference in costs between the two methods. There was no need to include items which were the same for each method - for example, the cost of needles and syringes. This is standard practice in CEA.

**3 Opportunity costs were considered.**

Opportunity cost (OC) is,

"the benefit foregone by not using resources in their most highly valued alternative use." (Culyer, 1985, p 147)

Staff time (measured in terms of salaries) was the major resource used in immunisations. Most members of staff in the Ministry of Health were under-employed - i.e. they could do some additional work at no extra cost. The opportunity cost of salaries depended on the best alternative use of staff time. (The number of staff was fixed, at least in the short run.) If the statutory 8-hour day was taken seriously, then the OC (to the MoH) of a few hours for the majority of staff was zero - very few staff worked a full day. The argument is true for S/O, which took up parts of days, but is less convincing for mass campaigns, which took up full days which would not otherwise have been completely empty.

The decision was made to exclude salaries.<sup>106</sup> This means that the (opportunity) costs of mass campaigns relative to S/O are under-estimated; as explained in the paragraph above, the OC of staff time was higher for mass campaigns. However it was felt that the inclusion of salaries so over-valued the OC of staff time that it was more helpful to leave them out.

The opportunity costs to the Ministry of Health in Volta of the cold chain equipment and vaccines were essentially zero, as they had no sensible, acceptable alternative use. There was a positive OC to the

---

<sup>106</sup> The fact that the stock of human resources and salaries were controlled from Accra provided another argument for excluding salaries.

purchaser (who might have bought something else), but not to the MoH in Volta.

#### 4 Marginal costs were relevant.

Mass campaigns and S/O were not alternatives - they were complementary strategies. The RHA was interested in the balance between the two - how many children, in which districts, should be immunised through mass campaigns? To answer this question, marginal costs (MCs) must be examined. Marginal cost is,

"the change in total cost at a given scale of output [e.g. number of immunisations] when a little more or a little less output is produced." (Mills and Gilson, 1988, Glossary)

The measurement of MCs depends on the perception of how S/O fitted in with the wider role of the health service. There are three possible viewpoints.

- (a) The S/O clinics served other functions (such as growth monitoring) and would have been held in any case, whether or not immunisations were given. In this case, the MCs of an immunisation session would be low, as they would include only the items specifically required for immunisations. Travel costs to outreach sites, for example, would not be included, as these would be incurred whether

immunisations were administered or not.

- (b) The main function of S/O clinics was to provide immunisations. In this case, the MCs of an immunisation session would include the (differential, opportunity) costs of all the items needed to run the clinic, including travel costs to outreach sites.
- (c) S/O clinics have several functions - therefore costs should be shared between immunisation and other activities. In this case, joint costs such as travel would be distributed proportionately between immunisation costs and the cost of other clinic activities.

Here, viewpoint (b) is adopted - that the main function of S/O clinics was to provide immunisations. The S/O costs cited are thus over-estimates, to the extent that the clinics produced benefits other than immunised children.

Government vehicles were scarcely used for S/O in 1990. District vehicles were only used for supervisory visits to health stations. These visits were a standard part of the work of District Health Management Teams and would have taken place with or without immunisations. The marginal cost of supervising S/O immunisation

activities was thus virtually zero. In mass campaigns, vehicles were used solely for immunising - the marginal cost was positive and was the value of the best alternative use of the vehicle, measured here by market prices.

Table 6.6 summarises the opportunity costs and marginal costs of S/O immunisations.<sup>107</sup> The question being asked determines which costs are relevant. If the question is about the cost to the MoH of starting a new CWC, then marginal costs are of interest. For example, the marginal cost of travel to a new CWC outreach site is the same as the cash price of the travel. (Table 6.6, last column, row 6)

---

<sup>107</sup> The reader is reminded that these are costs which were of relevance to the RDHS, not total costs.

Table 6.6 Opportunity costs and marginal opportunity costs of S/O

Input	Opportunity costs (benefit foregone)	Marginal opportunity costs
Salaries	Zero	Zero
Vaccines	Zero	Zero
Cold chain equipment	Zero	Zero
Travel to outreach sites	= cash price	Per child - zero Per CWC - cash price Per health station - cash price
Travel to district capital	= cash price	Per child - zero Per CWC - zero Per health station - cash price
Fuel for refrigerators	= cash price	Per child - zero Per CWC - zero Per health station - cash price

The reader is reminded that these are costs which were of relevance to the RDHS, not total costs.

Because this CEA was addressed to a particular decision-maker, it adopted a very particular view of which costs to include. In short, this CEA looks at the differential, opportunity costs which were of relevance to the RDHS in Volta. The analysis describes the RHA's perspective on cost-effectiveness (and hence on "rationality").

"Differential, opportunity costs" is clearly a

clumsy phrase. In the rest of the chapter, the term "costs" is used. The reader is regularly reminded that this is an abbreviation for the differential, opportunity costs which were relevant to decisions made in the RHA. Marginal costs are considered when relevant.

This CEA excludes items such as salaries and cold chain equipment. A different interpretation of the relevant costs would have yielded very different figures. The exclusions mean that the majority of total costs have been omitted from the CEA.<sup>106</sup> A costing dominated by items such as salaries and capital costs would not have been useful to the RDHS, who had no control over these costs.

---

<sup>106</sup> In 1990, 84% of the annual national costs (capital and recurrent combined) were incurred by donors and MoH headquarters. The main items provided from Accra were salaries (44% of total costs); vaccines, needles and syringes (12%); vehicles (10%); and cold chain equipment (5%). (Waddington and Nyongator, 1991b)

The CEA addresses the question, "from the point of view of Volta Regional Health Administration, was it better (i.e. more cost-effective) to immunise children by mass campaigns or at S/O clinics?".

Information on effectiveness depended on flawed MoH records.

The analysis measured differential, opportunity costs of relevance to decisions made by the RHA in Volta. These were very different from total costs.

Marginal costs were relevant when considering the appropriate balance between S/O and mass campaigns.

D Costs

I How much did immunisations at S/O clinics cost?

This section considers the items which health stations needed to buy in order to run routine clinics; it also looks at where this money came from. Table 6.7 shows the costs<sup>109</sup> incurred in 1990 for S/O immunisations. Many clinics were cancelled because of a shortage of money - Table 6.8 estimates what it would have cost to run all the clinics.

---

<sup>109</sup> As explained at the end of the previous section, these are differential, opportunity costs.



For the reasons given in the previous section, salaries, vaccines and the capital costs of cold-chain equipment are omitted from the costing of S/O immunisations.

(1) What was bought to run static/outreach clinics?

The main running costs of giving immunisations at static and outreach clinics were:

- (a) transportation to collect vaccines and other supplies.

At least once per month, a member of staff from each health station visited the district capital to collect supplies and to submit reports.

- (b) transportation to outreach sites.

- (c) fuel for refrigerators.

Most of the refrigerators ran on kerosene; they used about four gallons of fuel per month.

- (d) stationery, soap and other sundries.

Health stations had to buy a number of small items which were not available at the Regional Medical Stores. These included exercise books, matches and soap.

## (2) The costs of S/O immunisations

Information on expenditure was only available at individual health stations; even then, it was extremely incomplete. Table 6.7 shows the estimated costs of S/O immunisations for the 9 districts in Volta. Because of the paucity of expenditure data, income was used to estimate costs. It is assumed that all the income from immunisations and ¢10 per CWC attendance<sup>110</sup> were used to pay for running the static and outreach clinics.<sup>111</sup>

It may seem a rather strange, and even circular, argument to approximate expenditure (i.e. costs) by measuring income. In fact, as we have seen, the two were extremely similar - for the simple reason that the MCH staff had no other source of income for running their clinics.

Table 6.7 shows a cost of about ¢260 per FIC through static/outreach clinics in the Volta region in 1990. This is not total cost - as described above, it is

---

<sup>110</sup> Charges for weighing children varied geographically and over time. As shown in Table 6.1, half of the attendance fee from CWCs went to the DHMT. Using ¢10 as the amount retained by the health stations is a slight over-estimate, as some clinics charged less than ¢20 for a CWC attendance.

<sup>111</sup> In practice, some charges went directly into health workers pockets. These sums were both hidden income and hidden costs. It was impossible to estimate their value.

the differential, opportunity cost of relevance to decisions made by the RHA in Volta.

Table 6.7 Static and outreach clinics - cost by district, 1990

District	Outreach clinics (per month)	Cost ¢	FIC	PIC	Cost	
					¢ per FIC	¢ per PIC
Ho	88	828,970	3,268	4,967	254	167
Hohoe	79	434,595	2,558	3,703	170	117
Jasikan	104	469,150	1,525	2,422	308	194
Keta	66	507,450	2,060	3,426	246	148
Ketu	47	614,650	2,046	4,406	300	140
Kpando	84	371,900	1,545	2,458	241	151
Kete-Krachi	48	191,410	561	1,286	341	149
Nkwanta	34	121,160	223	717	543	169
Tongu	60	409,110	1,261	2,464	324	166
<b>Total</b>	<b>610</b>	<b>3,948,395</b>	<b>15,047</b>	<b>25,849</b>	<b>262</b>	<b>153</b>

Assumption - all income from immunisations and ¢10 per CWC attendance were spent on running clinics.

The table does not show total costs - as described above, these are the differential, opportunity costs of relevance to decisions made by the RHA in Volta.

Sources:

DHMT immunisation returns to Epidemiology Division, Volta RHA.  
MCH revenue records.

(3) What would it have cost to run a full S/O programme?

So far, an incomplete S/O service has been costed. Many clinics were cancelled because there was insufficient cash available to pay for refrigerator fuel or public transport. What would it have cost to run a full S/O programme?

Table 6.8 estimates how much it would have cost to have run a full S/O programme in Volta - in other words, to have held all the S/O clinics which had been planned. The table shows that travel costs (to outreach sites and to collect vaccines) accounted for 65% of the full outreach costs.

Table 6.8 Static and outreach services - full cost by district, 1990

Dist- rict	Out- reach clinics	Travel (ç)	Station- ery, soap etc. (ç)	Refrig- erator: fuel & mainten- -ance (ç)	Cost (ç) (1)
Ho	88	660,000	238,000	180,000	1,078,000
Hohoe	79	598,000	221,000	62,000	881,000
Jasi- kan	104	780,000	281,000	160,000	1,221,000
Keta	66	495,000	178,000	40,000	713,000
Ketu	47	352,000	127,000	40,000	519,000
Kpa- ndo	84	630,000	227,000	40,000	897,000
Kete- Kra- chi	48	360,000	130,000	100,000	590,000
Nkwa- nta	34	255,000	92,000	80,000	427,000
Tongu	60	450,000	162,000	140,000	752,000
<b>Total</b>	<b>610</b>	<b>4,580,000</b>	<b>1,656,000</b>	<b>842,000</b>	<b>7,078,000,</b>

(1) The reader is reminded that these are not total costs. (see Section C (III) above)

The derivation of this table is explained in the text. Section E, point 1 (below) relates the total of ç7 million to an estimate of the number of additional FIC.

Table 6.8 was constructed as follows:

- 1 The costs of running a full-scale programme in 10 institutions in Hohoe district were identified from

records and interviews. The main components of costs were travel and refrigerator running costs. Health stations in Hohoe were sampled for the simple reason that this district ran more S/O clinics and had better expenditure records than others.

- 2 The costs for these 10 stations were then extrapolated to the region as a whole. Cost profiles were built up for each district, bearing in mind the local travel conditions and the number of gas or kerosene refrigerators in each district.

The approximate nature of these costs is emphasised. For this reason, all costs have been rounded to the nearest ₦1000.

## II How much did immunisations by mass campaign cost?<sup>112</sup>

Table 6.9 looks at the cost of mass campaigns. There were many more sources of funds for mass campaigns than were available for static/outreach. Moreover, DHMTs contributed their own resources, presumably because of the high profile given to mass campaigns and the more active involvement of DHMT staff.

---

<sup>112</sup> As explained above, these are differential, opportunity costs.

When actual figures on fees were not available, Table 6.9 assumes that C20 was charged per vaccination. Some districts did not charge in November and December - this was taken into account.

It is difficult to apply the notion of opportunity costs to Table 6.9. The money from USAID and UNICEF, which accounted for 25% of expenditure, certainly had a much lower opportunity cost than money from the other sources. The USAID and UNICEF donations, which were earmarked for immunisations, arrived in Volta in the second half of 1990; most of the money had to be used before the end of the year. This money from donors might have been excluded from the analysis, using the argument that it was "controlled" outside the region. It is included, however, because this money arrived in cash - the RHA and DHMTs potentially had a good deal of control over how it was spent.

Over 70% of the cost of mass campaigns came from the RHA's and DHMTs' "own" money (including fees), which they might have preferred to have used for other purposes. These considerations are ignored in Table 6.9, as it would be very difficult to put numbers to the different opportunity costs.

Table 6.9 Cost of mass campaigns, by district, 1990, (¢)

Dist- rict (1)	Fees	UNICEF	USAID	RHA FEs (2)	DHMT FEs (3)	Other	TOTAL
Ho	353130	141000	266700	248000	336140	40000	1384970
Jasi- kan	179700	116000	96500	276000	98650	74000	840850
Ketu	161840	81000	100000	258000	725860	40000	1366700
Kpa- ndo	11140	106600	0	0	586000	40000	743740
Kra- chi	201180	231000	200000	527200	1550590	103500	2813470
Nkw- anta	218580	306000	291700	288950	219000	80000	1404230
Tongu	116360	191000	378600	206400	586000	40000	1518360
<b>Total (%)</b>	<b>1241930 (12%)</b>	<b>1172600 (12%)</b>	<b>1333500 (13%)</b>	<b>1804550 (18%)</b>	<b>4102240 (41%)</b>	<b>417500 (4%)</b>	<b>10072320 (100%)</b>

- (1) No mass campaigns in Hohoe or Keta districts.
- (2) FEs = financial encumbrances, i.e. government money. (see Chapter 5)
- (3) The amount of DHMT FEs for Kpando and Tongu were not available; the numbers are simply averages of the other districts.

The reader is reminded that these are costs which were of relevance to the RDHS, not total costs.

Sources:  
RHA payment vouchers for FEs  
RHA ledger books, donor accounts  
DHMTs' records of fees

Table 6.10 takes the district totals from Table 6.9 and divides them by the numbers of FIC and PIC. The final 2 columns of Table 6.10 show that:

\* the (differential, opportunity) cost of fully



immunising a child through mass campaigns was  
¢2,755.

- \* the (differential, opportunity) cost of partially immunising a child through mass campaigns was  
¢1,007.

Table 6.11 shows the cost categories for mass campaigns. Almost half the money was spent on staff allowances, which were not paid at all for S/O activities. Most of the rest was spent on transport, in the form of fuel and maintenance for government vehicles.

Finally, Table 6.12 summarises the results.

Table 6.10      Cost per FIC and PIC by mass campaigns,  
1990

District (1)	Cost (¢)	FIC	PIC	Cost per FIC (¢)	Cost per PIC (¢)
Ho	1,384,970	513	1,274	2,700	1,087
Jasikan	840,850	784	1,575	1,073	534
Ketu	1,366,700	792	1,751	1,726	781
Kpando	743,740	53 (2)	116	14,033	6,412
Kete-Krachi	2,813,470	841	2,091	3,345	1,346
Nkwanta	1,404,230	467	1,858	3,007	756
Tongu	1,518,360	206	1,336	7,371	1,136
<b>Regional total</b>	<b>10,072,320</b>	<b>3,656</b>	<b>10,001</b>	<b>2,755</b>	<b>1,007</b>

- (1) No mass campaigns in Hohoe or Keta districts.  
(2) Kpando only ran one mass campaign. If this figure is correct, the children must have received previous vaccinations elsewhere.

The reader is reminded that these are costs which were of relevance to the RDHS, not total costs.

Sources:  
DHMT immunisation returns to Epidemiology Division, Volta RHA.  
Costs from Table 6.9.

Table 6.11      Mass campaign costs (¢ and percentages),  
1990

District (1)	Staff allowances	Transport	Other	TOTAL (2)
Ho	880,220 (64%)	356,140 (26%)	148,610 (11%)	1,384,970
Jasikan	305,470 (36%)	473,670 (56%)	61,710 (7%)	840,850
Ketu	591,370 (43%)	69,7920 (51%)	77,410 (6%)	1,366,700
Kete- Krachi	1,199,780 (43%)	1,396,640 (50%)	217,050 (8%)	2,813,470
Nkwanta	709,070 (50%)	473,250 (34%)	221,910 (16%)	1,404,230
Tongu	774,190 (51%)	684,250 (45%)	59,920 (4%)	1,518,360
<b>TOTAL</b>	<b>4,460,100</b> <b>(48%)</b>	<b>4,081,870</b> <b>(44%)</b>	<b>786,610</b> <b>(8%)</b>	<b>9,328,580</b>

- (1) No mass campaigns were held in Keta and Hohoe districts.  
No expenditure breakdown available for Kpando district.
- (2) The grand total is different from that in Tables 6.9 and 6.10  
because of the omission of Kpando.

The reader is reminded that these are costs which were of relevance  
to the RDHS, not total costs.

Sources:  
DHMT payment vouchers for FEs  
DHMT ledgers  
Accounts submitted by DHMTs to RHA

Table 6.12      Mass and S/O unit costs (¢), Volta, 1990

MASS CAMPAIGNS Cost per:		STATIC/OUTREACH Actual cost per:	
FIC	PIC	FIC	PIC
¢2,755	¢1,007	¢262	¢153

Derived from Tables 6.7 and 6.10.

The reader is reminded that these are costs which were of relevance  
to the RDHS, not total costs.

In Volta, in 1990:

- \* about ₵10,072,000 was spent on mass campaigns to achieve 3,656 FIC, compared with about ₵3,948,000 on S/O for 15,047 FIC.
- \* mass campaigns were less cost-effective - about ₵2,755 per FIC. This is more than ten times the cost per FIC for the S/O method.
- \* about ₵260 per FIC was spent on static/ outreach immunisations. To run a full S/O programme would have cost almost double what was actually spent.

The costs cited here are not total costs. They are the differential, opportunity costs of relevance to decisions made by the RHA in Volta.

E What conclusions can be drawn from the CEA?

Four main conclusions can be drawn from the CEA:

- \* S/O was more cost-effective than mass campaigns, given the way that resources were allocated to Volta region in 1990.
- \* There was still a role for mass campaigns in some

areas.

- \* The systems for channelling resources for S/O were extremely weak.
  - \* Signals about the availability of resources did not encourage the RHA to act cost-effectively.
- 1 Given the way that resources were allocated to Volta region in 1990, S/O was more cost-effective than mass campaigns.

The overall conclusion to be drawn from this CEA is that, given the way that resources were allocated to Volta region in 1990, S/O was a more cost-effective immunisation strategy than mass campaigns.<sup>113</sup> It would be worthwhile expanding the S/O service in favour of mass campaigns - as long as the marginal costs of S/O were less than the MCs of mass campaigns.

It is impossible to say at exactly what point the MCs of S/O would exceed those of mass campaigns. However, some general points can be made. S/O coverage could be expanded in three increasingly expensive ways - immunising more children at existing health stations and CWCs; holding more clinics at existing outreach sites;

---

<sup>113</sup> The CEA cannot judge which immunisation strategy would be more cost-effective nationally, because it excludes the costs of crucial items such as cold chain equipment.

and opening new static centres.

The marginal cost to the region of immunising more children per CWC would be very low, so long as this did not necessitate extra visits (to villages and even individual homes) to encourage people to attend.

Some increase could be affected through better publicity/health education and through better identification of non-compliers. (Non-compliers are members of the target population who receive no, or incomplete, vaccinations.) These two strategies would require training and improved supervision. These systemic changes are difficult to cost; there would be little impact on the direct, marginal costs of running S/O clinics.

Table 6.7 showed the numbers of FIC and PIC achieved through S/O. The ratio of FIC to PIC was particularly unfavourable in Kete-Krachi, Ketu, Nkwanta and Tongu.<sup>114</sup> These districts had lower numbers of FIC relative to PIC than the other districts, notably Ho and Hohoe. For every 100 PIC in Ho, 66 children were fully immunised; for every 100 PIC in Kete-Krachi, there were only 43 FIC. Improving the FIC/PIC ratio should be

---

<sup>114</sup> It is possible that children who began their course of immunisations at S/O clinics later finished the course in a mass campaign. However examination of Table 5.4 shows that the same four districts had unfavourable FIC/PIC ratios for all their vaccinations.

possible, particularly by improving record-keeping so that defaulters could be followed up. If 75% of all the children who received BCG through S/O in Volta in 1990 had ended up as FIC, there would have been about 4,300<sup>115</sup> more FIC. This is more than the total number of FIC from the mass campaigns, which cost over C10 million. These figures are speculative - however they demonstrate the potential for increasing the number of FIC by maintaining contact with children who had already been immunised at least once.

More opportunistic immunising could be done - i.e. immunising children who were attending a health facility for another reason. Again, the effect on running costs would be small.

Table 6.8 shows that it would have cost the region an estimated C7 million to have had regular clinics at the 610 existing outreach sites - C3 million more than was actually spent on S/O in 1990. The amount of cash which was needed for each outreach clinic site per year (from an existing health facility) was C11,600. If the catchment population of the outreach site was 750, there would be 22 under-ones per year.<sup>116</sup> If 50% of these were

---

<sup>115</sup> Table 5.7 shows that S/O clinics partially immunised 25,849 children - in other words, 25,849 BCGs were given. 75% of this is 19,387. The difference between this and the number of FIC is  $19,387 - 15,047 = 4,340$ , or about 4,300 children.

<sup>116</sup> Assuming 3% of the population were under-ones.

fully immunised, this would work out at about ₡1,050 per FIC per year.<sup>117</sup> The figure of ₡1,050 is considerably lower than the mass campaign cost per FIC. However it should be stressed that this is speculative - there is room for debate about the estimates of both the costs and the number of FIC which would be achieved.

Opening new health stations took a long time; moreover the RHA had little influence over their location. In 1991, several new MCH satellite centres were opened in Kete-Krachi district. The satellite centres were a compromise between outreach sites and a fully equipped health station. The satellites were permanent clinics with only one CHN and an assistant. They were located in existing buildings and no rent was paid to the host community. The main running costs were transport for the satellite staff (who had previously been under-employed at the district hospital) and for supervisory visits. None of the new clinics had refrigerators - they were not in particularly remote areas. The opportunities for such satellites were obviously limited. The costs of running clinics would be rather higher than the ₡11,600 figure used in the previous paragraph because of the costs of collecting vaccines. Even if this increased costs by one-third, the average cost per FIC would be ₡1,400. This is still more

---

<sup>117</sup> Note that, as always in this chapter, these are differential, opportunity costs incurred within the region - donor and central government costs are excluded.



cost-effective than mass campaigns. (J6.15; IB2.14)

In the long run, the high cost of mass campaigns provided another reason for lobbying for new health stations in areas which could not be served from existing facilities.

Wherever an expansion of S/O was possible - by immunising more children per clinic, improving opportunistic immunisation, visiting more outreach sites or opening new satellites - this was more cost-effective from the regional perspective than mass campaigns.

2 There was still a role for mass campaigns in some areas.

The fact that routine clinics were more cost-effective in the region as a whole does not mean that mass campaigns were completely redundant. Mass campaigns were still needed in areas which could not be reached by outreach visits or new satellite clinics.

Mass campaigns cost about 400,000 each. The marginal costs of running more campaigns would be equal to the average costs - the service would be replicated. If the effectiveness did not change, this would mean an average of 2,800 per FIC. At some point, as coverage increased, marginal costs would rise because the least

accessible children remained to be immunised.<sup>116</sup>

Mass campaigns could become more efficient by reducing the drop-out rate. Ideally, there should be at least four mass campaigns per year - this was achieved by five of the seven districts involved in mass campaigns in 1990. Of these five, however, only the campaigns in Ketu and Nkwanta were spread out over a reasonable time period. Better timing might in itself have reduced the drop-out rate, especially as the end-of-year rush coincided with poor road conditions. Improved record-keeping about drop-outs would also have helped.

3 The systems for channelling resources for S/O were extremely weak.

No well-developed systems for channelling resources for S/O existed. S/O relied rather precariously on fees, which did not yield enough money to maintain a refrigerator and to travel regularly to outreach sites. The situation was particularly unsatisfactory for remote health stations with high travel costs and a kerosene or

---

<sup>116</sup> This is what happened in Kpando. (see Table 5.10) The mass campaign there immunised relatively few children - unit costs were thus very high. Kpando is a small district. Access to health facilities is good, except for the islands in Lake Volta, which are isolated and have had little contact in the past with government health services. The mass campaign was a first attempt to reach these isolated communities.

gas refrigerator.

The availability of resources for S/O compared unfavourably with mass campaigns. Donors preferred to spend on mass campaigns - the results were quicker and more easily identifiable. Examples abounded of shortages for S/O at the same time as expensive mass campaigns were in progress. S/O was hampered by problems with managerial and bureaucratic processes. By concentrating on mass campaigns, these problems were circumvented. But the very circumvention aggravated the problem, as it distracted from the need to improve the flow of resources for S/O.

The RHA could do a lot to reduce the uncertainty and confusion about resources for S/O. Many of these suggestions are reminiscent of Chapter 5, because they refer to the basic problem of the vacuum in health station financing.

- \* The RHA could enforce a clear policy about who was to pay for travel expenses and refrigerator running costs at health stations. The most sensible option was DHMTs, which would have required a concomitant increase in their FEs. In the short term, the RHA could consider earmarking some money for DHMTs to spend on establishing routine CWCs at health stations and their outreach sites.

- \* Health stations with a proven record of accountability could be given imprests.
- \* Health stations gave half of their income from CWC attendances to DHMTs, yet cancelled clinics because of lack of money. This policy could be reviewed.
- \* Pressure from national level to abolish the CWC and immunisation fees could be resisted. The RHA could publicise the importance of the fees for financing S/O.
- \* The RHA could be sensitive to the importance of fuel costs; it could try to develop a contingency plan for price increases. [The cost of fuel was a key determinant of the cost of immunisations. Fuel prices increased dramatically in 1990 (the year of the Iraqi invasion of Kuwait) - this had a major impact on spending patterns.<sup>119</sup>]
- \* The RHA could have a clear policy on the number of staff expected to travel to outreach sites. Reducing the number of people would reduce costs.
- \* The location of existing refrigerators could be improved.

---

<sup>119</sup> Prices per gallon of diesel increased from ¢330 in January to ¢850 in December. In October 1990, the price of kerosene more than doubled - from ¢400 to ¢850 per gallon.

4 Signals about the availability of resources did not encourage the RHA to act cost-effectively; the incentives were perverse.

The CEA highlights the economic signals sent to the region by Accra. These were perverse; they did not encourage cost-effective behaviour.

One signal was that regions should not concern themselves with the cost of some items, such as capital equipment and salaries.

A second economic signal was that the earmarked donor money received in late 1990 had a zero opportunity cost - it was there for the taking, so long as it was spent quickly, which in practice meant primarily on mass campaigns. In fact, the signal was misleading. Purely in terms of efficiency, the region would have done better to refuse this money, because its own resources<sup>120</sup> were subsequently tied up in the mass campaigns. The money from donors was not sufficient to cover the cost of the campaigns. The region became locked into non-cost-effective behaviour, seduced by the existence of seemingly "free" money. Even without the considerable political pressure, this money would have been hard to

---

<sup>120</sup> The amounts involved were ₵1,804,550 for the RHA and ₵4,102,240 for the DHMTs. (from Table 6.9) This represented 1.9% and 13.0% respectively of their expenditure from FEs. (from Table 5.4)

resist. As well as increasing the absolute amount of available resources, donor money was easy to manage and was useful when there were problems with bureaucratic government procedures.

By being willing to pay for certain items, donors seemed to signal that they regarded these items as important. Daily allowances for people on mass campaigns were signalled as being a more immediate priority than reimbursements for the use of public transport; raincoats were more important than kerosene for refrigerators; many things seemed to be more important than money for lunches for S/O staff.

Except in places inaccessible to existing health stations or new satellite clinics, S/O was more cost-effective than mass campaigns. It was difficult to develop S/O when donors preferred mass campaigns and when resources were not channelled efficiently to health stations.

F Perspectives on the CEA - from health stations to headquarters

"Though managers and organization theorists often attempt to override ..... complexity by assuming that organizations are ultimately rational phenomena that must be understood with reference to their goals or objectives, this assumption often gets in the way of realistic analysis." (Morgan, 1986, p 322)

Viewed from Volta RHA, S/O was more cost-effective than mass campaigns. For the regional health economist, S/O would thus seem to be more rational. However, the CEA was only one of many possible interpretations of the mass campaign versus S/O debate. What other storylines were there? How did various groups perceive this CEA? Did static/outreach appear the "rational" choice for everyone?

The CEA posed the question, "was it better (i.e. more cost-effective) to immunise children by mass campaigns or at S/O clinics?". This gave rise to another question - was "cost-effective" an acceptable interpretation of "better"? The section looks at these questions from five perspectives - those of the RHMT, DHMTs, health stations, MoH headquarters and UNICEF.

As in Chapters 5 and 7, the viewpoints in this chapter are based on my journals and interview transcriptions. As explained in Chapter 4, copies of the chapter were shown to individuals from all the organisations used as "viewing points". Amendments were made to correct factual errors or misinterpretations.

Other perspectives could have been described. For example, the PNDC, clients and donors other than UNICEF all had points of view about the mass campaign versus S/O debate. The views discussed here make no claim to be

comprehensive; but they do make the point that by focusing on one interpretation of rationality, CEA omits many important considerations.

#### I The Regional Health Management Team

"This emphasis on immunisations is very frustrating. What is needed to deal with the situation is a mindless bureaucrat - a director who does as he is told by headquarters. But I have my own ideas about developing health systems in Volta; my dilemma is to what extent I can question national directives, without making my job unpleasant or even untenable. There are many pressures for me to give up my independence and view myself as part of a centrally-controlled machine. Conducting mass campaigns is simple political expediency." (RDHS, November 1990)

Although the CEA vindicated the RHMT's view about the advantages of static/outreach clinics, it did not capture the main point of the debate - that S/O was about institutional development, whereas mass campaigns were closer to crisis management. The immunisation rush of late 1990 disrupted existing plans; it scarcely encouraged careful planning in the future. The findings of the CEA may help the RHMT to argue its case for developing static infrastructure with Ministry of Health headquarters and with donors. But the RHMT would have continued to promote S/O if the findings of this CEA had



been different.

The problem with the CEA was that it only measured benefit along one dimension - immunisations. This reinforced the whole problem with mass campaigns - that they tended to view the Ministry of Health as an immunising machine. The multiple benefits of developing an infrastructure of DHMTs which supported static facilities were ignored.

The CEA did not capture the negative bi-products of mass campaigns - they distracted key members of staff; contradicted regional policies; negated much of the RHMT's work promoting decentralisation; and encouraged data falsification and one-dimensional decision-making. These five bi-products of mass campaigns are discussed below.

1 Mass campaigns distracted key personnel from long-term objectives. The CEA did not measure the opportunity costs of factors such as the time of a skilled RHMT member.

€ The development of a regional health information system was delayed because the responsible officer went to the field for two weeks in November 1990 to supervise a mass campaign. This coincided with an information consultant's visit, which had been planned several months previously. The staff member in

question was a district parent.<sup>121</sup> His attendance had been urgently requested by the DHMT, which was feeling pressurised to fulfil the expected coverage. (J5.114)

- 2 MoH headquarters' concentration on immunisations led it to ignore other issues and to contradict regional policies. For example, encouraging the sensible use of immunisation fees was a long-term RHMT strategy which mass campaigns disrupted.

€ Pressure from Accra led to the decision to provide immunisations free in some (poorer) districts in late 1990. The justification for this was that short-term coverage (i.e. before 31st December<sup>122</sup>) would increase. This was true. But the long-term effects were less favourable. Immunisation fees were necessary to keep the system functioning, particularly at times when there was little government or donor money. It was difficult to explain to communities why immunisations were sometimes free and sometimes not. The decision not to charge was based on short-term considerations. (letter from DMOH Nkwanta, September 1990; J5.14)

- 3 Mass campaigns tended to spoil the RHMT's relationships with local management teams (especially DHMTs), which justifiably felt

---

<sup>121</sup> District parents were members of the RHMT who were responsible for liaison with individual districts. The parents had general duties, in contrast to their usual divisional-based work. (see Chapter 3, Section D)

<sup>122</sup> As well as being the last day of the year, 31st December was the anniversary of the 1981 coup.

frustrated when the region concentrated on only one aspect of their work.

The development of teams in health stations, hospitals, districts and regions aimed to create loci of decision-making which were reasonably independent and flexible. In 1990 the MoH was at the stage of developing these teams. Insisting on immunisations as a priority reduced the autonomy of these new teams. (J5.61)

4 The pressure for 80% coverage was so intense that the accuracy of data was not sufficiently questioned.

In public, ridiculous coverage data were accepted and even reported by newspapers. Staff from areas which claimed high coverage were congratulated.

MoH headquarters adopted different public and private faces. In private, they acknowledged that the population data were only estimates and that coverage data were sometimes forged.

€ Staff from low-coverage areas (or areas with reliable information) often felt under-valued. In 1989, the alleged immunisation coverage data were announced on the radio - Volta region had the lowest coverage. Later that week, the relevant divisional head in Accra telephoned the responsible officer in Ho and told him not to be

upset by the radio announcement because it was recognised that Volta produced the most accurate, truthful data! Yet the damage to morale had already been done. (J5.111)

5     **The obsession with targets led to one-dimensional decisions, without considering wider health objectives.**

€ In September 1990, the officer who had specific responsibility for UNICEF projects in Volta region visited Ho. She was quite explicit that the immunisation of children in the target age-group should be an overriding priority from that time until December 1990. The target age-group was then identified as children who would be approximately 14 months old at the time of a planned evaluation of immunisation coverage in February 1991. Children who were too young for measles immunisation were therefore not in the "number 1 target group". Such behaviour was determined by targets, not considerations of health. (J4.66)

Mass campaigns did have one positive bi-product - large amounts of cash passed through the RHA and could be used to keep the system operating when there were problems with the flow of government cash. Not all the money needed to be passed on to districts, or used purely for immunisations.

€ In early 1990 some UNICEF immunisation money was used to pay for part of a workshop for statistics staff. Immunisation records

constituted only a small part of the subject-matter. In mid-1990, UNICEF money was borrowed to finance the training of leprosy, storekeeping and environmental staff. Although government money had been promised (and subsequently arrived), it was delayed by the late publication of the national annual budget.(J2.55)

In such cases, the existence of donor money - of which mass campaigns were a major source - allowed the system to continue running.

It was possible to use some of the extra donor money which was earmarked for immunisations in 1990 for the development of static/outreach. C2.4 million was carried over into 1991 for this purpose. The RHMT would have preferred more money to be used in this slower way; unfortunately the pressure was for quick results.<sup>123</sup> Some of the money for mass campaigns was also used for the repair of broken-down vehicles and refrigerators. This helped both mass campaigns and S/O. (J5.112)

This section has reflected the views of certain key senior members of the RHMT [especially the Regional Director of Health Services and the Senior Medical Officer (Public Health)], rather than of the team as a whole. The RHMT was not a unified body - not everyone

---

<sup>123</sup> In the language of economics, the opportunity cost of earmarked funds was lower than the OCs of funds which could be put to more general uses.

agreed that mass campaigns were a distraction to institution-building. Some felt that the mass campaigns were excellent for both Ministry of Health morale and for raising public awareness about immunisations.

Several members of the RHMT said that although they recognised that mass campaigns were too expensive to be continued, they thought that it was wrong to dismiss the value of previous campaigns. The campaigns had done a lot to raise awareness of immunisations, both within the MoH and beyond. The emphasis on immunisations was compared with the emphasis in 1991-2 on guinea worm. Whilst no-one believed that the high level of resources devoted to one issue was sustainable, it was felt necessary to have a period of consciousness-raising about certain topics.

Quick and substantial results were also good for MoH staff morale. One regional divisional head feared that morale would drop when staff realised the low levels of coverage which would be attained in the short run through S/O immunisations. (IB1.15)

These feelings were summed up by a pharmacist:

"The emphasis on mass campaigns was a good thing.....In Ghana we have a lot of problems and we can't tackle them all at once. So it's good to start with one, get it under way and

then move on to something else - it could be guinea worm or nutrition or teenage pregnancy. By concentrating on certain things, we can see some success, which is good." (IB2.31)<sup>124</sup>

The argument here was that institutional development was too general. The Ministry of Health needed to concentrate on discrete projects where progress could be clearly seen.

Another major advantage for RHMT staff was that they benefited from extra daily allowances during mass campaigns. This point is considered in more detail in the next section, which considers the views of DHMTs.

## II District Health Management Teams

From the DHMTs' point of view, mass campaigns had two main advantages over S/O - they involved more money and a sizeable portion of the money was paid directly to MoH staff or used for running the DHMT vehicle.

At district and health station level, the absolute availability of resources was a key issue. Many plans were frustrated because of the lack of resources. Mass campaigns attracted resources to districts; moreover, the money was not subject to the stifling government

---

<sup>124</sup> These arguments are very similar to the ones used to promote selective primary health care. (Walsh and Warren, 1979)

procedures for FEs.

Table 6.13 - which is not part of a conventional CEA - shows the "destinations" of the ₺14,020,715 which was spent on immunisations in 1990. The table illustrates the appeal of mass campaigns - resources were given directly to staff or used for running existing equipment, particularly the DHMT vehicle.

Table 6.13      "Destinations" of expenditure on immunisations, 1990

"Destination" of money	Mass campaigns (₺)	Static/outreach (₺)	Total
Direct payments to MoH staff	4,834,710	493,550	5,328,260
Running existing MoH equipment	4,431,820	276,390	4,708,210
Purchase of external goods and services (mostly public transport)	805,790	3,178,455	3,984,245
<b>Total</b>	<b>10,072,320</b>	<b>3,948,395</b>	<b>14,020,715</b>

Source: Derived from Tables 5.7 and 5.10.

Because their salaries were so small, perks were a key issue for most MoH staff. Without perks, it was impossible to sustain a motivated workforce. The CEA did not capture this key point. During the mass campaigns in late 1990, daily allowances of ₺500 per person per day



were paid and items such as torches, wellington boots and raincoats were distributed by the MoH and UNICEF. Viewed from this angle, mass campaigns were very desirable - they were an extremely "efficient" way of providing extra income and perks. (J5.244; J6.27; IB1.35)

In contrast, S/O brought few benefits to individual staff. The district in Volta with the highest immunisation coverage (Hohoe) had no mass campaigns in 1990. Many of the staff were disaffected: they felt that they were working hard and yet did not receive the extra allowances distributed to their colleagues in other districts which conducted mass campaigns. There were no incentives to run S/O. (IB1.98)

Just as at regional level, district staff were divided in their view of the effect of mass campaigns on teamwork. For some, campaigns provided a real focus and reason for teamwork, even though routine work was disrupted. Many district parents first became closely involved with their DHMTs during mass campaigns, when they monitored coverage and offered support. (J6.35)

For others, mass campaigns distracted DHMTs from developing a system of health care delivery:

"As a general impression it may be noted that EPI [the Expanded Programme on Immunisation, i.e. mass campaigns] tends

to usurp quite a lot of the working capacity in the districts at the expense of other activities and programmes." (DMOH, quoted in Mary Theresa Hospital, 1991)

Centralised decisions about mass campaigns stalled learning processes at district level, as illustrated by the following example.

€ In April 1990, Ho district debated how best to immunise children in the south of the district, where there was relatively poor access to health stations. The main issue was whether or not teams travelling from Ho should sleep at outreach sites or whether they should return to Ho each night. The arguments for sleeping out were that it saved fuel; allowed staff to claim night allowance payments; and increased the number of people immunised, as early mornings were a convenient time for villagers. The arguments for returning to Ho every night were that it saved expenditure on night allowances and was more convenient for staff with domestic responsibilities, especially nursing mothers. In short, sleeping in Ho was cheaper but less effective. The decision was essentially a matter of prioritising expenditure on immunisations relative to other demands on the DHMT budget. The larger the share of the FEs that was devoted to immunisations, the more children could be immunised. One mass campaign was held in April; teams slept in the villages. The DHMT decided that it would evaluate this and re-consider the issue later in the year.

Later in 1990, money was given to Ho specifically for mass

campaigns. This obviated the need to prioritise immunisations relative to other DHMT activities and to consider whether or not the April campaign (when staff slept in the villages) was an experience worth repeating. April 1991 saw a repeat of the previous April's discussions. The debate had progressed no further during the course of a whole year. The DHMT had not developed its ability to prioritise; moreover, it was stuck with the problematic precedent that staff had received extra incentives for mass campaigns. (J3.7)

DHMTs had mixed feelings about mass campaigns. They provided perks which were useful for morale. On the other hand, they distracted from routine work and made staff unwilling to work without special allowances. These points were the nub of the mass campaign versus S/O debate, yet are not reflected in the CEA.

### III Health stations

"T&T [travel and transport allowance] is never paid for our outreach visits; our claims are ignored at the district and the accounting staff just insult us. I never send my T&T claims now. Yet we have to walk long distances to villages with empty stomachs. It's not fair. Mass campaigns are better." (Medical assistant, August 1991)

The cost-effectiveness of S/O came as no surprise to MCH nurses. Their view was that S/O was cheaper

because it involved nurses doing more work for less money - outreach was exploitative. Mass campaigns entailed travel in the DHMT vehicle (more comfortable and more kudos for nurses); a daily allowance; and lunch. Outreach involved walking or unreliable public transport; no allowances; (usually) no lunch; and little job satisfaction, as the numbers being immunised were generally small. Promised reimbursements for travel expenses rarely materialised. Sometimes travel costs were met from fees, sometimes out of the nurses' own pockets.

The CEA only seemed to consider supply - what about the demand for immunisations? During mass campaigns (and, to a lesser extent, during S/O), many immunisations were done without clients understanding why. When the immunisations failed to live up to the clients' expectations (for example that it would prevent cholera, malaria or pregnancy), the reputation of immunisations was destroyed. The problem with the "80% now" argument was that at best it did not offer a choice and at worst it could lead to coercion.

€ In one village, where there were complaints about previous immunisation abscesses, villagers were told (untruthfully) that they would be fined if their children were not immunised.

The "mass" nature of the campaigns encouraged such

excesses. There was a need for long-term education. The CEA only had a one-year time horizon and thus failed to capture this issue. (J5.36, 59, 242; J6.64)

Health station staff were frustrated by pronouncements from national level that immunisation fees were illegal and akin to extortion. Health stations were expected to run an outreach service, but were not paid for kerosene or travel. They thus relied on fees. Moreover, until the fee was officially recognised, little could be done to discipline genuine cases of extortion. (J5.58)

#### IV Ministry of Health headquarters

Staff at Ministry of Health headquarters generally accepted the CEA's finding that static/outreach was more cost-effective than mass campaigns. But where was the money for S/O to come from? The main components of S/O were the very ones which donors were least willing to provide - recurrent costs such as reimbursements for public transport and lunches. This money would have had to come out of government FEs. Not only did the FEs have a much higher opportunity cost than donor money, but they were also subject to many time-consuming bureaucratic processes.

Donors gave the MoH mixed messages - they wanted

sustainable programmes, yet they wanted 80% immunisation coverage in the short term. The two were incompatible. The conventional wisdom amongst donors was that if Ministries of Health were to provide sustainable services, they should pay their own "core" recurrent costs. ("Core" is used here to mean regular activities which are regarded as a key part of the health system.) This doomed S/O to receive less support than mass campaigns.

The final decision to spend a lot of money on mass campaigns in late 1990 circumvented the MoH; it was made by the PNDC, after donor pressure.

#### V UNICEF

The CEA did not include a time-scale. What it showed was that the immunisations which could be done through S/O in 1990 were cheaper than mass campaign immunisations. The point is that UNICEF wanted to achieve 80% immunisation coverage in 1990. This could only be achieved through mass campaigns. The choice proposed by the CEA was not a real one - mass campaigns were a necessary strategy to achieve 80% coverage. This level of coverage is desirable because immunisations are a cost-effective intervention and 80% coverage affords a reasonable level of herd immunity.

UNICEF tended to be blamed for a lot of the problems surrounding immunisations. This was unfair - the Government of Ghana agreed to the 80% target.

#### VI CEA and other storylines

The various viewpoints have demonstrated that there are many ways of looking at immunisation strategies. For example, mass campaigns had the following roles:

- \* an intervention to make children healthier
- \* a source of income to supplement low government salaries
- \* an opportunity to practise teamwork
- \* an instrument of centralised control
- \* a device to raise awareness about the importance of immunisations
- \* a source of considerable frustration and job dissatisfaction
- \* an obstruction to teams learning how to set their own priorities
- \* a quick-fix solution
- \* a distraction from more important duties
- \* an impediment to decentralisation
- \* an unsustainable precedent for paying staff extra for working hard
- \* an excuse to get the DHMT vehicle repaired.

The viewpoints also highlighted the fact that an organisation's "policy" may not in fact be widely accepted within the organisation. The aim of 80% immunisation coverage in 1990 was probably the most clearly stated and widely known of the Ministry of Health's objectives. Even so, many health workers disagreed with the objective and disliked the fact that mass campaigns were used to achieve quick results. Underneath the public face of "the" Ministry of Health's objective, many other objectives were being pursued.

CEA acknowledges only one role for mass campaigns and S/O - immunising children. However the immunisation strategies served many different roles for different actors. Not all actors shared "the Ministry's" objective of 80% coverage.

G Conclusion: cost-effectiveness analysis and its organisational context

Cost-effectiveness analysis aims to identify the rational way of achieving a clear objective that can be measured along one dimension. The literature review contrasted this with the view of organisations as complex bodies, consisting of many individuals pursuing different objectives.

What conclusions can be drawn when an economic



appraisal is juxtaposed with a description of an organisation that does not adhere to the rational model? More specifically (to return to the question with which the literature review ended), how can a regional health economist deal with constraints to the implementation of the "rational" recommendations of a CEA?

This chapter has provided a specific example of this juxtaposition. The previous section concluded that mass campaigns meant different things to different health workers. The CEA simply portrayed mass campaigns as (from the Regional Director's perspective) a cost-ineffective strategy.

Five conclusions are made. These conclusions can be thought of as issues for an economist to consider when conducting economic appraisal at sub-national level.

- 1 A CEA should clearly state who "the decision-maker" is. The position of the decision-maker determines which costs are relevant.

The literature review discussed the fact that CEAs often consider rationality from "society's" or "the government's" point of view - the specific client (or decision-maker) is rarely identified. The CEA described in this chapter made explicit who the client was (the Regional Director of Health

Services) and how this affected the analysis. Not all costs were included, as some were of no consequence to the RDHS.

It might be argued that client-oriented economic appraisal is "selling out". The analysis is tailored to suit the specific circumstances of the decision-maker, whereas it should perhaps challenge the decision-maker to think about broader issues. This is a return to the dilemma between accepting or challenging constraints which was encountered several times in the literature review.

The economist can work on more than one front at once - it is not necessarily an either/or dilemma. The client-oriented economic appraisal is relevant because it deals with the issue as it confronts the decision-maker. The decision might as well be an informed one.

On a wider front, the economist can emphasise that a CEA designed for a particular decision-maker does not tell the whole story - for example including clients' costs would change the analysis.

- 2    The way in which resources are channelled may encourage behaviour that is not cost-effective.

The channels through which resources flowed into the region influenced the choice of immunisation strategy. The nature of the resource flows made it easier to conduct mass campaigns than to expand the S/O services. For example:

- \*    The financial situation at health stations was unclear. There were two main areas of confusion - the rules surrounding the use of fees and responsibility for items such as travel expenses. These issues made it difficult to develop S/O, even though relatively small amounts of money could have increased coverage more significantly than the larger amounts flowing through the "mass campaign channels".
  
- \*    Some money from donors was earmarked for immunisations and had to be used quickly. It was much easier to satisfy these conditions with single-issue mass campaigns than with the diffuse S/O clinics. Intentionally or not, donors signalled their preference for mass campaigns over S/O.

\* Because mass campaigns were regarded as special and additional to routine, there was a willingness to pay extra allowances for MoH staff. The recipients valued these allowances highly.

In short, the signals provided by the resource flows encouraged behaviour that was not cost-effective.

3 Most activities have multiple effects. Some may be difficult to incorporate into a CEA.

There were many "bi-products" of the immunisation strategies which could not be incorporated easily into the CEA.

CEA aims to identify either the cheapest way of achieving a fixed objective or how to maximise achievements for a given sum of money. In either case, the objective is explicit and capable of being summarised in a single measure. In practice, such neat objectives rarely exist. The alternatives being considered usually create bi-products which are not included in the measure of cost-effectiveness. (In this chapter, the measures of cost-effectiveness were cost-per-FIC and cost-per-PIC.)

In the case of immunisations, many health workers felt that the bi-products raised significant issues which the CEA should not ignore. For example, some argued that mass campaigns undermined institutional development and decentralised decision-making.

Ignoring bi-products is disingenuous - it ignores some of the key issues in the choice of strategy. Whilst the strength of CEA should be retained - that it clarifies the input/output implications of alternatives - the CEA will lack credibility if it ignores wider issues.

- 4 People pursue many different objectives. The fact that an issue is the subject of a policy statement (or of a CEA) does not necessarily imply that it is a shared objective.

In the example in this chapter, many objectives (both private and institutional) were being pursued at the same time. Mass campaigns fulfilled other objectives, in addition to immunising children - for example they were a significant source of additional income for health workers at all levels.

Understanding the existence of multiple, sometimes conflicting, objectives can help to explain why organisations engage in cost-ineffective behaviour.

The use to which this understanding can be put is discussed in point 5, immediately below.

- 5 A CEA leads to the identification of a number of issues which need to be tackled in order to promote the acceptance of the most cost-effective practice.

A cost-effectiveness analysis can be regarded as a one-off exercise to identify a solution to a problem. Alternatively, CEA can be seen as a process. The process of conducting the CEA uncovers areas for potential action and lobbying if an environment which is more conducive to efficiency is to be fostered.

The CEA revealed a ten-fold difference in costs (from the Regional Director's perspective). More children could be immunised for a given amount of money by S/O than by mass campaigns. It would thus seem worthwhile to encourage more S/O. By helping to understand why mass campaigns were popular, the CEA can suggest ways to encourage the system to support the more cost-effective alternative. Efforts can be made to develop incentives and channels for resources which encourage cost-effective behaviour.

There are clear limits to what can be achieved. In

the example discussed in this chapter, there were formidable political processes at work. In 1990, the decision to have mass campaigns was essentially a political one, brought about by donor pressure. These donors had considerable resources at their disposal, as well as the threat of bad publicity for Ghana if the immunisation targets were not achieved. In such an environment, CEAs may not have an immediate impact on decisions. However, the CEA can help to identify strategies which may encourage the eventual adoption of cost-effective practices.

A cost-effectiveness analysis should not be conducted in isolation from its organisational context. The analysis should specify the decision-maker to whom it is addressed. As well as looking at the value of resources, the CEA should consider how resources are channelled. The results of a CEA may well not be implemented immediately - various strategies can be used to encourage the adoption of cost-effective practices.

## Chapter 7

### Cash and Carry



## Chapter 7

### Cash and Carry -

#### one region's attempts to introduce a revolving drug fund

"The avowed aim of the PNDC is to bring health to the doorstep of every Ghanaian and at a cost that is affordable by all..... These are indeed head-splitting [issues], especially in a situation of scarce resources." (PNDC Regional Secretary, Upper East, July 1991; J6.93)

"The administrative context of cost-recovery is an important and under-examined issue." (Creese, 1990, p 16)

#### A Introduction

The previous chapter showed how a relatively simple idea (cost-effectiveness analysis) was muddled by organisational complexities. For cost-effectiveness analysis to be relevant, it must take on board organisational realities. The argument in this chapter makes the same general point, but in a different subject area. This chapter considers some economic predictions about the effect on supply and demand when a revolving drug fund is started. Because the implementation of the revolving drug fund was in reality so convoluted, the economic predictions were not found to be relevant. How

can the economic analysis and the realities of implementation be reconciled?

Chapter 5 described the substantial misappropriation of funds for drugs at national level.<sup>125</sup> Because of this mismanagement, supplies at regional level were extremely erratic. In 1989, the Government of Ghana stated its intention to introduce a national revolving drug fund, known as Cash and Carry (C&C). This scheme had been talked about for several years, with the encouragement of the World Bank. C&C would entail individual facilities buying drugs from Regional Medical Stores (RMS), which in turn would buy from Central Medical Stores (CMS). The revenue earned from selling these drugs would be used to buy more drugs - hence the term "revolving drug fund". Some categories of people would be exempt from payment, the most significant group being Ministry of Health staff and their immediate families.

From 1989 until 1992 there was prevarication at national level about Cash and Carry. Volta Regional Health Administration (RHA) felt that the drug shortages could no longer be tolerated; it unilaterally introduced its own version of C&C in 1990.

---

<sup>125</sup> See Chapter 5, Section B (I).  
Drugs accounted for well over half of the stores budget.

This chapter documents the introduction of Cash and Carry in Volta. Two main threads are interwoven:

- 1 The story of the prolonged introduction of Cash and Carry (C&C) is told chronologically.
- 2 Evidence is presented about the effect of C&C on factors such as drug supplies and the utilisation of health facilities. This is compared with economic predictions about the effects of the price signal which was introduced through C&C.

Although the story is told chronologically, the dénouement is no secret - many of the anticipated benefits of C&C were not realised in the first 9 months of operation. The chapter ends with a consideration of why the benefits were not realised. In the language of organisational theory, it considers the nature of the constraints which blurred the price signal.

The effects of Cash and Carry were established through the use of both routine data and a before-and-after survey which was conducted at 14 health facilities.<sup>126</sup> Some large facilities were deliberately selected, others were chosen randomly. A fuller account

---

<sup>126</sup> Because the facilities were organised in slightly different ways, and because they did not all keep the same records, some parts of the survey could not be completed in all 14 facilities.

of the sampling procedure is given in Appendix 6 (a). Each facility was visited twice. The first visit took place between 1 and 2 months before C&C, the second between 3 and 6 months after.

Chapter 5 discussed the importance of informal charges within the Ministry of Health, and the difficulties in measuring them. These considerations are of relevance here. There is no doubt that informal charges were widespread; quantifying them and describing them in detail was virtually impossible.<sup>127</sup> In view of their importance, reference is made to the relevance of informal charges throughout the chapter. These points are necessarily speculative.

The chapter is in ten sections. After this introduction, Sections B and C provide background information and the theoretical economic framework. Section B outlines a brief history of fees in the Ministry of Health. Section C considers what economics predicts about the effects of a revolving drug fund.

---

<sup>127</sup> A piece of circumstantial evidence is that 20% (41/200) of out-patients interviewed after their consultations said that they had paid amounts different from what was written on their official receipts. This suggests that there were also informal charges; however other explanations are possible (patient forgetfulness; confusion about charges for the variety of goods and services on offer etc.). Appendices 6 (c) and (d) give details of the interviews, which were part of the before-and-after survey.

Sections D-F describe various stages in the delayed implementation of Cash and Carry. Section D describes and analyses the drug supply system in Volta during the years 1985-90. Section E deals with the uncertainty surrounding the decision to introduce C&C at national level. C&C was in fact not implemented nationwide during the years of this study (1989-1991); it was finally introduced in 1992. Section F, which is mostly descriptive, looks at how Cash and Carry operated in Volta region. Frustrated by the vagaries of government drug supplies, Volta started its own system of C&C in October 1990. The Volta scheme was hampered by a series of national directives which emptied facilities' bank accounts, froze expenditure and ordered that all civil servants should be treated free of charge.

Section G relates some of the findings of the before-and-after survey. It includes detailed information about the effect of Cash and Carry on factors such as utilisation and prescribing.

Section H briefly considers the role of the Bamako Initiative which was operating in one pilot district in Volta and which was intended to act as a model for revolving drug schemes throughout the country.

As in previous chapters, there is a section describing different viewpoints. Section J considers the

perspectives of various actors involved with Cash and Carry - prescribers, pharmacists, accountants, patients, donors and Ministry of Health (MoH) staff who were exempt from paying for drugs.

Section K concludes the chapter by considering why the implementation of Cash and Carry encountered so many problems and by describing some ways in which the RHA tried to tackle the problems. Brief consideration is given to the fact that the types of problem encountered in Volta were not peculiar to Ghana.

#### B Fees in the Ministry of Health - a brief history

A brief history of fees for government health services is outlined below.

- 1957 Ghanaian independence. Fees abolished on ideological grounds. (Asamoah-Baah, 1991, p 10)
- 1971 Hospital Fee Act re-introduced fees. Until 1985, fees were reasonably low; until 1987 they did not include the cost of drugs.
- 1985 Fees substantially increased, partly because of World Bank prompting about cost sharing. The aim was to generate 15% of the Ministry's recurrent budget through fees. Revenue was

divided between the Ministry of Finance and Economic Planning and individual facilities. Health stations could use their share of the revenue to buy small recurrent items such as soap and kerosene.

- 1987 Facilities began to charge the "full" cost of drugs. "Full" is placed in inverted commas because the prices quoted by the Central Medical Stores were often far below the local commercial prices for bulk purchases. (J4.17)
- 1989 early 1989 - All income retained at individual health stations, but bank accounts frozen.
- 1989-92 Discussions at national level about the introduction of Cash and Carry.
- 1990 August - Greater Accra region began its own version of Cash and Carry. Each facility bought drugs from private suppliers.
- 1990 October - Volta region began its version of Cash and Carry, with the RMS buying drugs from private suppliers and selling drugs to individual health stations.
- 1991 Money in health stations' bank accounts

secretively transferred to Accra to pay MoH debts for drugs and dressings bought at national level in 1990.

1991 throughout the year - various statements that civil servants should be treated free.

1991 August - directive to freeze all health stations' drug accounts.

1992 Cash and Carry began nationwide.

C The economics - rationality through price signals?

"Fees serve two principal functions: they generate revenue from those patients who judge the service to be worthwhile at the going price; and they divert patients who either cannot pay, or who judge the services less desirable than some alternative, to other sources of care.....it is important to note that fees will have more than one effect." (Creese, 1990, p 4)

A price signal is introduced when a free government service is replaced with a revolving drug fund financed by patients' fees. Economists are interested in the effect which price signals have on supply and demand. A revolving drug fund creates signals for both buyers (patients) and sellers (health workers). Buyers decide



whether to buy government drugs or to spend their money on other goods; sellers can decide what goods to offer for sale and how to use the resultant income.

Five statements are made below about what happens when a free government service with erratic drug supplies is replaced by a revolving drug fund financed by fees.

- 1 There should be less expenditure on drugs out of the national government recurrent budget.
- 2 Drugs supplies should improve. Supplies should be more regular, reliable and appropriate. In the language of economics, supplies should increase because price has increased.
- 3 Utilisation may increase or decrease, depending on which is the stronger signal - the increased price or the (anticipated) improved quality due to better drug supplies.
- 4 There may be supplier-induced demand, depending on what incentives there are for prescribers to sell drugs.

In most markets, consumers are sovereign - they know what they want. In the health care market, however, customers (patients) tend to rely on

health professionals to tell them what they need. The health professional should act on the patient's behalf in a disinterested manner; in practice, professionals have their own interests - they may encourage demand for their own reasons, such as financial gain. In situations where a professional gains directly or indirectly from an increase in the use of services, there may be supplier-induced demand. (McGuire et al., p 160)

- 5 There should be less wastage. Prices signal the opportunity cost of wasted supplies. Here, wastage is illustrated with the issue of exemptions. It is recognised that this is a narrow interpretation; wastage covers other issues. However exemptions were the only area which could be investigated empirically.

These statements have been used to generate five questions. These questions are asked about the impact of Cash and Carry.

- 1 Was the scheme financially viable?  
Apart from exemptions, Cash and Carry was supposed to cover all the costs of drugs. (J2.94)
- 2 Did drug supplies improve?

- 3 What happened to utilisation?
- 4 Did prescribing patterns change?
- 5 Did the number of exempt patients change?  
Exemptions will decrease if their costs are to be covered by the prescribing institution itself.

This chapter considers these questions in the context of the introduction of Cash and Carry in Volta. It investigates whether or not the predictions of improved drug supplies and fewer exemptions were realised. As the story of the implementation of C&C will reveal, there were two major difficulties with this process:

- (i) the introduction of C&C was staggered - fees were raised in 1985; the buying and selling of drugs by Regional Medical Stores (i.e. the revolving drug fund proper) began 5 years later.
- (ii) implementation was messy - the price signals for demanders and suppliers were not clear. The signals to health stations staff were particularly blurred because of the confusion surrounding the use of health station revenue.

Five questions will be asked about the impact of Cash and Carry.

- 1 Was the scheme financially viable?
- 2 Did drug supplies improve?
- 3 What happened to utilisation?
- 4 Did prescribing patterns change?
- 5 Did the number of exempt patients change?

This simple before-and-after study was complicated by the fact that the implementation of Cash and Carry was both staggered and messy.

D Drug supplies and fees in the Volta region, 1985-1990

In effect, C&C was introduced in two stages - the substantial fee increase of 1985 and the actual revolving drug fund which began in 1990. This section deals with the period from 1985-1990, when fees were charged but drugs were still supplied free (and erratically) from the Central Medical Stores in Accra.

Section C specified five questions about the impact of Cash and Carry. It is only the questions related to demand (questions 3-5, above) which are of relevance at this stage. Questions 1 and 2 - "Was the scheme

financially viable?" and "Did drug supplies improve?" - are not discussed in this section. Because the health stations' revenue was not used to buy drugs, the questions are not relevant. All five questions are asked of the period after 1990 when the full revolving drug fund was in operation. (see Section G)

This section is in four parts. Part I describes the confused situation surrounding the use of income from fees. Although questions 1 and 2 cannot be answered, the description highlights many of the administrative problems which would later be encountered when Cash and Carry was introduced. Parts II-IV answer the questions about utilisation, prescribing and exemptions respectively.

I Income from fees - could somebody please explain the rules?

Government health service fees increased substantially in 1985. Throughout the period 1985-1990 patients paid for their drugs. The period can be broken down into two phases, according to how health station revenue was used. Until 1989, health stations were allowed to spend some of their revenue; thereafter, expenditure was not allowed. Volta RHA broke the embargo by beginning Cash and Carry in October 1990.

Phase 1 1985 - early 1989; health stations allowed to spend some of their revenue.

From 1985 (when fees increased substantially) until 1989, revenue was divided between the Ministry of Finance and Economic Planning and the health stations themselves. Health stations were allowed to spend their share on small recurrent items - it was hoped that this would improve the quality of the service. Revenue could not be used to buy capital items or drugs.

Some facilities bought items such as sleeping mats, torches, kerosene and soap. In general, however, the health stations proved reluctant to use their revenue. There was considerable under-spending:

"Of the eight Ministry of Health facilities visited [in Volta, 1988], four had never spent any of their revenue. Another two had only spent money on one occasion - in one case the most recent expenditure had been 22 months prior to the survey. The main cause of the reluctance to spend money was that the system was seen to be too complicated." (Waddington and Enyimayew, 1990, p 302)

Phase 2 early 1989 - October 1990<sup>128</sup> (no expenditure allowed)

In early 1989 a directive was issued stating that health stations should not spend their revenue; facilities were to save up for the beginning of Cash and Carry.<sup>129</sup> All fees were retained at the health facility, but all accounts were frozen. This directive had not officially been revoked when Volta region began C&C in 1990.

Facilities differed in their reaction to the directive. Many of the smaller or less dynamic ones more or less obeyed it; they spent little or none of their income. Considerable sums were thus accumulated - for example, one medium-sized health station had over ₵1 million in late 1989. By April 1990, the 10 health stations in Jasikan district had over ₵5 million (\$15,625)<sup>130</sup> between them. (J1.19; J3.121)

In addition to the obvious inconvenience of being unable to buy small necessary items, there was another disadvantage to this arrangement. The frozen accounts

---

<sup>128</sup> This phase lasted much longer in the regions which waited for the introduction of C&C nationally in 1992.

<sup>129</sup> Despite many efforts, I have never been able to find a copy of this directive. This in itself illustrates the practical problems of implementation.

<sup>130</sup> \$1 = ₵320 in 1990.

lost value, as inflation was over 35% in 1989 and about 25% in 1990. Most of the money was not kept in interest-bearing accounts.

Many health stations disobeyed the directive. Even if the RHA had wanted to enforce the directive strictly, it would have found this difficult. Monitoring and supervision of health stations were poor; hospitals often blatantly ignored national and regional directives.

Facilities which flaunted the directive by spending revenue cited two main justifications - that drugs had to be obtained from somewhere and that the directive was unclear.

- 1 The directive not to spend money had no moral authority when supplies of drugs and other items from Central Medical Stores were grossly inadequate.

The national directive to save up for a future Cash and Carry scheme did not really make sense when current supplies from CMS were unacceptably erratic. Many facilities were simultaneously faced with drug shortages and substantial sums in their bank accounts - it is scarcely surprising that they bought their own drugs.



Some facilities - usually hospitals and the bigger health centres - overtly ran "People's Shops". Sometimes auditors objected to the People's Shops, sometimes not. Other schemes were more covert. Many staff used their own or the facility's money to buy drugs; these were then re-sold to patients at a profit. In many cases the profit was kept by the health worker. This practice was widespread, but largely undocumented. (J1.20, 22)

€<sup>131</sup> Hohoe hospital started a People's Shop in April 1990. This was essentially a revolving drug fund. It began by (not strictly legally) using the FEs<sup>132</sup> to buy ₺250,000 worth of drugs. By May 1990 it was worth ₺350,000; by December ₺1.4 million. Hohoe's enterprise was actively supported by the District Secretary (the political head of the district), who believed that Cash and Carry would not be implemented nationwide in 1990. He also encouraged the hospital to ignore the "frozen accounts" directive. Considerable sums were spent out of the hospital fees - for example, ₺950,000 was used to repair the refrigerator in the morgue. (J2.65; J6.100; Hohoe Hospital, 1991)

The People's Shops kept their records on drug supplies and revenue totally separate from government records. Because of the official ambivalence towards People's Shops, the data collected by the MoH only

---

<sup>131</sup> As in previous chapters, "€" denotes an example.

<sup>132</sup> FEs = financial encumbrances. FEs are explained in Chapter 5.

covered drugs supplied by CMS. The data were thus incomplete. This meant that calculations such as the average utilisation of common drugs per out-patient were invalid. (J3.24, 105; J4.13)

Informally, national level encouraged some local initiatives. This is just one example of the mixed messages received from national level - formally, the reality of drug shortages was ignored; informally, the need to supplement CMS drug supplies was acknowledged. Health station staff suffered from these double standards - there was no course of action that they could follow without being open to criticism. (J3.67; J5.22)

ε In May 1990, the MoH Planning Unit, concerned about declining revenue throughout the country (caused by drug shortages at CMS), positively encouraged hospitals to use their FEs for drugs. This informal advice contradicted a radio message in March 1990, reminding staff that fees were not to be spent at all.

2 The directive was unclear; moreover, it was contradicted by other statements from the MoH, the Controller and Accountant-General (CAG) and the Ministry of Finance and Economic Planning (MoFEP). (J2.94)

There was confusion about whether the directive

applied only to income from drugs, as this was the money which would be used for Cash and Carry. Drug sales were not the only source of income for health stations - money was also raised by charging for (amongst other services) consultations; laboratory tests; deliveries; cold storage for corpses; and in-patient accommodation and food. It was never clear if the directive applied only to revenue from drug sales.

The lack of clarity about the use of non-drug revenue opened the door to spending. Given that many facilities did not even know the breakdown of their income, it was obviously impossible to monitor if drug revenue was being spent.

One hospital regarded the fees as only "partly frozen", citing a verbal directive at a Conference of Regional Directors and Divisional Heads which stated that money could be borrowed from the account to buy drugs, as long as it was repaid. (J3.22)

The MoH, CAG and MoFEP often issued contradictory statements. Moreover, the MoH often contradicted itself. Unofficially, senior national figures in the MoH advised regional staff to ignore some CAG circulars.

In theory, the 1989 directive was very simple - health facilities were not allowed to spend their

income. In practice, there were many ambiguities and very little enforcement. The directive was not credible, given the erratic nature of drug supplies from CMS. De facto decision-making was decentralised. Many health stations took the initiative to spend some of their revenue. Supervision was poor; the ambiguity and lack of credibility of the national directive meant that unacceptable uses of the money could go unnoticed.

If this rather simple administrative directive could not be implemented, what would happen when Cash and Carry was introduced?

## II Utilisation - can't pay, won't pay?

"The drugs prescribed were irregularly acquired because relatives were not able to afford them. This makes our whole hospital look like a child's game. There was no point in referring him because of the cost." (mortality conference report on the death of a patient, Ho hospital, 1991)

One of the questions posed in Section C was "What happened to utilisation?". It was stated that an increase in price could lead to an increase or decrease in utilisation, depending on which was the stronger signal - the increased price or the (possible) improved quality.

Utilisation is represented here by out-patient attendance at all government hospitals and health stations in Volta. Table 7.1 and Figure 7.1 show out-patient attendances from 1984-1991. No data are available for 1988. The figures were compiled from out-patient returns from individual facilities, which were sent via District Health Management Teams to the RHA. The returns for 1988 had been lost.

Utilisation dropped dramatically when fees were introduced in June 1985. Clearly, the intended quality improvements through the use of retained income were not sufficient to counteract the effect of the price increase. Attendance did not approach its early 1985 levels until early 1989 (or conceivably 1988). Utilisation was relatively stable in 1990 and 1991 - Cash and Carry (which began in October 1990) seemed to have little impact on out-patient attendance.

Table 7.2 shows per capita out-patient attendance in 1984, 1989 and 1991. Because of the uncertainty about the rate of population growth, low and high population estimates are given for the latter two years. (The most recent census was in 1984.) With the low population estimate, per capita out-patient utilisation dropped by about one-third between 1984 and 1989. Using the high estimate, it more than halved.

It was often said in the Ministry of Health that much of the decline in utilisation in 1985 was due to the end of frivolous, unnecessary over-consumption of free services. Table 7.2 suggests that this is unlikely. Even in 1984, per capita visits to government health facilities were at the low rate of 0.28 per year.<sup>133</sup>

Another possible explanation of the decline in utilisation in 1985-86 is that drug supplies at facilities in Volta worsened. This contention cannot be proved either way. However it seems unlikely to be true, given that both the financial position of the Ministry of Health and the balance of payments improved over the period. In particular, the Ministry of Health was substantially better off (in both dollar and cedi terms) in 1986 than in 1985. It is unlikely that the availability of drugs explains the drop in utilisation in 1985-6; the increase in price seems to be the most reasonable explanation.

Clearly, some previous users of the service were unwilling and/or unable to patronise the government health system after the price rise. The extent of inability to pay is unknown; however anecdotal evidence

---

<sup>133</sup> See Waddington and Enyimayew (1990, pp 299-300) for a development of this argument.

suggests that it is not uncommon.<sup>134</sup> This inability can have serious consequences - as demonstrated by the quotation at the beginning of this sub-section. The Mortality Conference concluded that the patient died in Ho hospital because the family could not afford to pay for regular drugs or for a referral. (J1.20, J1.42)

In an undocumented number of cases, patients were unable to afford all the drugs prescribed. They thus bought only some of the drugs. The decision about which drugs was often made by a dispenser or the patient, without the involvement of the prescriber. Thus vitamins were often preferred to antibiotics, for example, because they were cheaper. Little was known about what happened after a prescription was written - the effect of fees on the actual consumption of drugs is unknown. (J5.82)

---

<sup>134</sup> Ghanaian literature often refers to problems with paying for health care. For example in Amarteifio's popular "Bediako the Adventurer" (1985), Bediako dreams that his grandmother is taken to Korle-bu teaching hospital and worries how the hospital bill will be paid.

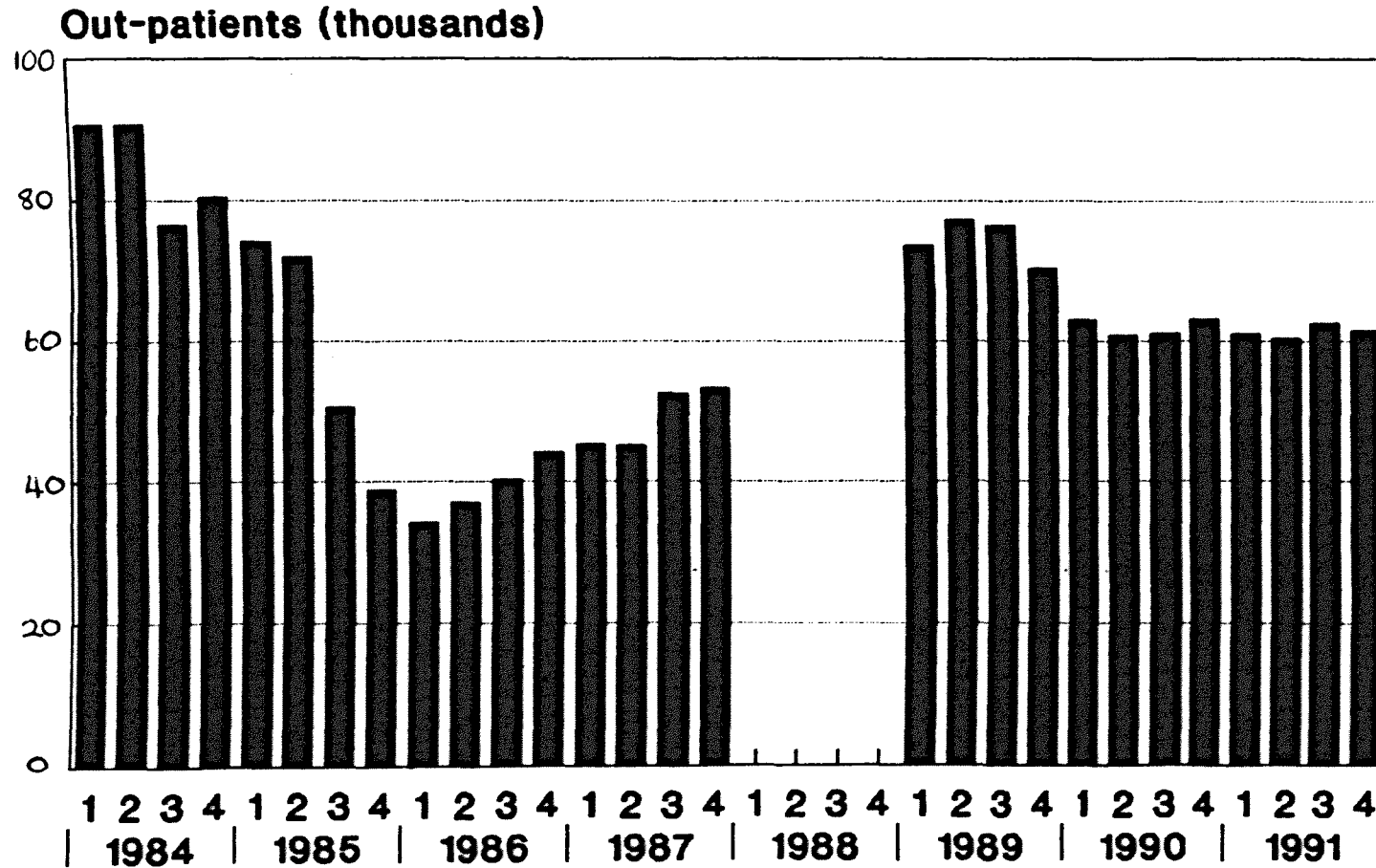
Table 7.1 Out-patient attendance at government facilities in Volta, 1984-1991 (quarterly)

Quarter	Out-patients
January-March 1984	90,681
April-June 1984	90,681 (1)
July-September 1984	76,465
October-December 1984	80,382
January-March 1985	74,075
April-June 1985	71,986 (fees increased)
July-September 1985	50,623
October-December 1985	38,847
January-March 1986	34,202
April-June 1986	36,961
July-September 1986	40,307
October-December 1986	44,163
January-March 1987	45,364
April-June 1987	45,160
July-September 1987	52,519
October-December 1987	53,377
No data for 1988	
January-March 1989	73,646
April-June 1989	77,216
July-September 1989	76,518
October-December 1989	70,370
January-March 1990	63,063
April-June 1990	60,763
July-September 1990	61,058
October-December 1990	63,145 (Cash & Carry began)
January-March 1991	60,947
April-June 1991	60,348
July-September 1991	62,467
October-December 1991	61,430

(1) The fact that these two numbers are the same is a coincidence. The district sub-totals are not the same for the two quarters.



# OUT-PATIENT UTILISATION 1984-1991, QUARTERS



NO 1988 DATA

Figure 7.1 Out-patient utilisation, 1984-1991, Volta region (quarters)

Table 7.2 Per capita annual out-patient attendance at government facilities, selected years

Year	Out-patient attendance (1)	Population estimate (2)	Annual per capita attendance
1984	338,209	1,197,000	0.28
1989 (low population estimate)	297,750	1,303,000	0.23
1989 (high population estimate)		1,977,000	0.15
1991 (low population estimate)	245,192	1,347,000	0.18
1991 (high population estimate)		2,036,000	0.12

- (1) From Table 7.1. Compiled from out-patient returns from individual facilities.
- (2) The most recent population census was in 1984. Since then, there have been various estimates of population growth. The low estimates are based on 1.7% growth per year; these are the figures used by Volta RHA and in Chapter 6 of this thesis. The basis for the calculation of the high estimates is not known. However this is the figure used by the epidemiology division at national level. Although they are said to be based on 3.0% growth for Volta, the calculations are not compatible with the 1984 census.

### III Prescribing practices - a severe case of over-prescribing

One of the five key questions identified in Section C related to prescribing practices. Selling drugs may lead to supplier-induced demand, depending on what incentives there are for prescribers.

As part of the survey described at the beginning of this chapter, prescribing practices were investigated at

12 institutions before and after the introduction of Cash and Carry.<sup>135</sup> 50 out-patient prescriptions were randomly chosen from the previous month's records. The full results are shown in Appendix 6 (e).

Table 7.3 compares prescribing in Volta with data from eight other countries.<sup>136</sup> Before C&C, the average number of drugs per prescription in Volta was 4.5. 44% of prescriptions included an injection; 32% an antibiotic and 38% a vitamin.<sup>137</sup> The table shows that the average number of drugs per prescription in Volta and the percentage of prescriptions including an injectable were high by international standards.

Without adequate knowledge of morbidity patterns, it is impossible to state what "ideal" prescribing patterns should look like. However INRUD very tentatively suggests that figures of 1-2 drugs per prescription; 22-25% of prescriptions including an antibiotic; and 15-20% including an injection would be reasonable. (INRUD News, 1992, p 12) This suggests that there was considerable over-prescribing in Volta.

---

<sup>135</sup> The survey as a whole involved 14 institutions. Two did not keep the records required for reviewing prescriptions.

<sup>136</sup> This comparison is possible due to the extremely practical work done by the International Network for the Rational Use of Drugs (INRUD), based in Management Sciences for Health, Boston, U.S.A.

<sup>137</sup> International comparisons for vitamins were not available.

Table 7.3 International comparison of prescribing

	# facilities surveyed	Average # drugs per prescription	% prescriptions including an antibiotic	% prescriptions including an injectable
Volta, Ghana Pre-C&C	12	4.5	32%	44%
Volta, Ghana C&C	12	4.3	56%	66%
Uganda	42	1.9	56%	48%
Indonesia	20	3.3	43%	17%
Bangladesh	23	1.4	31%	<1%
Nepal	20	2.1	43%	5%
Nigeria	21	3.8	48%	37%
Tanzania	20	2.2	39%	29%
Malawi	72	1.8	34%	19%
Zimbabwe	56	1.3	29%	11%

Source: INRUD News, 1992, p 12

Having established that prescribing practices were poor, a small test was conducted during the Cash and Carry training workshops in October-November 1990 to see if poor prescribing was due to a lack of knowledge. Participants were given a simple test - they were asked to write a prescription for an 18-year old man with malaria. 53 prescriptions were completed by 27 enrolled nurses, 3 enrolled nurse/midwives, 13 medical assistants, 6 nursing officers, 3 community health nurse/midwives and 1 state registered nurse. It was

clearly stated that malaria was the only diagnosis. Nevertheless, the average number of drugs prescribed was 3.7; 15 different drugs were mentioned. 75% of prescriptions included a vitamin. [The ideal answer would have been chloroquine tablets alone or with an analgesic.] 34 (64%) of the respondents prescribed a chloroquine injection, which is not recommended for routine use. Whilst the shortcomings of this simple test are acknowledged, it does suggest that knowledge about rational prescribing was inadequate. [More details of this test are given in Appendix 7.]

Attitudes that fostered multiple prescribing were widespread. At one district training workshop, all the prescribers agreed that most patients had multiple problems and should be treated simultaneously for three or four complaints. Prescribing six or seven drugs at once was regarded as acceptable, even conscientious. There was general agreement that ideally there should be "vitamins with everything" - often vitamin B complex ("B-Co"), even though this was not even on the essential drugs list. The conviction that B-Co improved the appetite was widespread. (J5.21, 122, 171; J7.41)

In 1990, before Cash and Carry began, there was considerable over-prescribing. Prescribers lacked knowledge; professional attitudes tended to favour multiple prescribing. Because there are no "before"

data, it is not known whether prescribing practices changed when fees were increased in 1985. In other words, it is not known if the increase in fees led to supplier-induced demand. In the period after 1989, when fees were indefinitely frozen, there was little incentive for the prescriber to sell unnecessary treatments, i.e. for supplier-induced demand. The picture changes when one considers under-the-counter charges. These existed; beyond surmising that they were likely to cause supplier-induced demand, their precise effects are unknown.

#### IV Exemptions - "we deserve free drugs: look at our pay"

One of the questions in Section C related to exemptions. If there were fees, but some people could be exempted, there might be a tendency to over-use the exemption privilege. This section looks at what happened between 1985 and 1990.

The 1985 fees legislation specified several categories of people who were entitled to free health care, including drugs. The exact details of the legislation were not widely known. In retrospect, it is clear that the rules were understood and applied differently throughout Volta and that the system was abused. Until 1990, nobody took an interest in

monitoring exemptions; no information about exemptions was routinely collected at district level or above. The system of exemptions operated laxly between 1985 and 1990; it was difficult to tighten procedures when Cash and Carry began. (J4.72)

It was generally agreed that the following were exempt from payment:

- \* Ministry of Health staff and their immediate families, consisting of one spouse and four children up to the age of 18<sup>138</sup>
- \* paupers
- \* treatments for certain diseases such as leprosy, tuberculosis and cholera<sup>139</sup>.

There was more confusion about the following groups - sometimes they were said to be exempt, sometimes not:

- \* MCH clients
- \* traditional birth attendants (who for many purposes

---

<sup>138</sup> There was even some confusion about this category. Some versions said children under the age of 16; the 1985 legislation stipulated a staff member plus three dependants. (Asamoah-Baah, 1991, p 10)

<sup>139</sup> The national policy of free treatment for patients with cholera was not supported by resources. The Cash and Carry scheme in Volta was forced to supply drugs which it had bought to cholera patients free of charge. The Senior Medical Officer (Public Health) agreed that C&C should be reimbursed for these drugs; the problem was that he had no FE which allowed him to do this. (J5.141, 143, 248)

- had been encouraged to think of themselves as members of the health care team)
- \* members of health station management committees
  - \* other drugs for people with the exempt diseases (TB, leprosy etc.)
  - \* contacts of cholera patients
  - \* war veterans
  - \* retired Ministry of Health staff
  - \* people who had provided voluntary labour to build a health station
  - \* prisoners. (J2.76; J5.22-23, 135-7, 141, 248; IB1.90)

In addition to all these potentially exempt groups, chiefs and other prominent local figures often persuaded health workers to treat them free.

In terms of the value of drugs received, much the largest exempt group was Ministry of Health staff.<sup>140</sup> In 1989, 38% (by value) of all drug issues at Ho hospital went to MoH staff. The comparable figure for Hohoe hospital was 33%; in Greater Accra, exemptions for Ministry of Health staff ranged between 30% and 40% of all drugs issued (by value). The percentage of drugs issued free was generally lower at health stations than in hospitals, where staff tended to go for treatment.

---

<sup>140</sup> In the context of exemptions, "staff" is used to mean Ministry of Health staff and their immediate families.



(UNDP, 1989; J1.2; J5.100)

The figures on consumption of drugs by staff are striking when one considers that in 1989 just over 1% of the population of Volta consumed at least 30% of all the government drugs.<sup>141</sup> Drugs were not issued to MoH staff only when they were in need. Staff stockpiled some of the drugs they received; passed them on to friends or relatives; or sold them. Doctors also tended to prescribe particularly expensive drugs to colleagues - for example staff were often prescribed ampicillin injections, which were many times more expensive than the co-trimoxazole or amoxycillin generally prescribed to the general public.<sup>142</sup> (J5.72)

In contrast, the system of exemptions for paupers was under-used. In practice, only blind or mad people and the occasional destitute individual were declared paupers. In-charges were reluctant to exempt members of the public. (Waddington and Enyimayew, 1990, p 301)

The levels of exemptions for MoH staff seem

---

<sup>141</sup> Assuming that Volta's population was 1,303,000 and that the payroll of the Ministry of Health was 2,500, with each worker having five dependents.

<sup>142</sup> Against the wishes of many doctors, and with no complementary training, ampicillin capsules had been removed from the essential drugs list. As a cost-cutting measure, this rather backfired. Because doctors still liked ampicillin, they shifted their prescribing to injections, which were much more expensive. (J6.65)

excessive. The reasons for this were political and practical - pay levels were poor; it would have been difficult to prevent pilferage. But the exemptions seriously undermined the aims of the fees - to generate income and reduce frivolous consumption.

Section C specified five questions about financial viability, drug supplies, utilisation, prescribing and exemptions. This section asked these questions about the period 1985-1990, when fees were charged but Cash and Carry had not been introduced.

The first two questions (about financial viability and drug supplies) were not relevant because the income from fees was not used to buy drugs. There was no reason to expect improved drug supplies or a decrease in government expenditure on drugs.

Utilisation dropped when fees were increased in 1985. Per capita attendance had not regained its 1984 levels by 1991. There was considerable over-prescribing, although this cannot be equated with supplier-induced demand. Exemptions for MoH were very high; exemptions for other groups (including paupers) were low.

Most of the revenue earned at health stations was not used by the Ministry of Health. Facilities were allowed to spend some of their income before 1989. Not much was spent - health workers thought the regulations were too complicated.

What happened from 1985-90 was the limbo of a partial revolving drug fund. There was no incentive to maximise revenue at either facility level (by reducing exemptions), or at national level (by increasing stocks).

E To be or not to be? - headquarters' hesitant steps towards Cash and Carry

"The government is convinced that the Ministry of Health lacks the capacity to implement the Cash and Carry system. A committee has therefore been appointed to review the Ministry's Cash and Carry proposals." (Secretary for Health, review of 1990; J6.82)

Section D described the problems with the use of fee income and with erratic drug supplies between 1985 and 1990. Despite these problems (which C&C was intended to solve), no definite moves were made to introduce Cash and Carry at national level until 1992. Considerable uncertainty surrounded national drug supplies during the years 1989-1992. Officially, Ministry of Health headquarters commended C&C; in practice, it was delayed, ignored, stalled and at times actively discouraged. Nationwide C&C finally began in 1992 - after the duration of this study (1989-1991).

The considerable uncertainty centred around three main questions:

- 1 When would reliable supplies of drugs be available for sale from Central Medical Stores and/or when would the rules be relaxed about buying drugs commercially?

- 2 When would the health facilities' accounts be unfrozen?
- 3 Who would be exempt from paying for health care and how would facilities be reimbursed for the drugs they issued free of charge?

Until these three questions were answered, no national Cash and Carry scheme could begin. The policy vacuum caused problems for regions which intended to start their own C&C schemes.

Whilst regional concerns focussed on the three practical questions above, the real reasons for the excessive delays in the implementation of Cash and Carry at national level lay in the absence of both political and executive will. There were three main reasons for this lack of enthusiasm:

- (a) Cash and Carry was a matter of extreme political sensitivity, both because reasonably-priced drugs were alleged to be a crucial source of support for the government, and because C&C was specified as a condition of the World Bank loan.
- (b) Cash and Carry was intended to replace a system which informally supplemented the salaries of many Ministry of Health workers, from the very top to

the very bottom of the system.

- (c) The successful implementation of Cash and Carry relied on the introduction of a fairly complicated administrative system. Even without C&C, the MoH was known for its administrative weaknesses. MoFEP and CAG were reluctant to transfer responsibility for large sums of money to the MoH.

A description of events surrounding one potentially exempt group - civil servants - serves to illustrate the uncertainty faced by regions. The issue is a key one because if Volta had supplied civil servants with free drugs, without speedy replenishment from Accra, its Cash and Carry scheme would have been quickly bankrupted. Free health care for civil servants was a sensitive issue. The PNDC recognised that civil service salaries were too low. Raising them would be enormously expensive; perks such as free health care offered potentially good value-for-money in terms of the improvement in morale.

e In November 1990, MoH staff (including some deputy directors in Accra) were surprised by a radio announcement by the head of the Civil Service stating that treatment at government health facilities was to be provided free for civil servants. In early 1991, a circular from the Secretary for Health confirmed that all civil servants were to be treated free and stated that the modalities

would be circulated later! In other words, the policy statement was not supported with the required resources. The region, viewing the circular as political rhetoric to appease the powerful civil service, decided to ignore it, at least until one or two reminders had been received. In Volta, civil servants were charged; it was up to them to seek reimbursement from their own Ministries.

In August 1991, another version of civil service exemptions appeared in a newspaper report. This stated that the MoH would be reimbursed by the Ministry of Finance and Economic Planning for free treatment given to civil servants. In the absence of the visible implementation of this policy, Volta simply continued to charge civil servants for drugs. ("Weekly Spectator", 24/8/1991; J6.14, 83; J7.4)

Two quotations from successive issues of the weekly magazine "West Africa" illustrate the durability of this policy confusion. These quotes are from 1992, when Cash and Carry had already been under discussion for over three years.

**Quote 1:** "The government is working out details of medical allowances to be paid to all civil servants under the Free Medicare policy instituted last year, the out-going Secretary for Health, Colonel (retired) Osei-Owusu, has said." (West Africa, 9 March, 1992b)

**Quote 2:** "The escalating cost of medical care has made it difficult for the government to operate any effective

free medicare for the public servants, the Director of Medical Services, Dr. Moses Adibo, said in an interview in Accra. Dr. Adibo said the Ministry of Health could not abide by the directive that civil servants should get free medical care because all the drugs in the system could easily be exhausted while operating the scheme." (West Africa, 16 March, 1992b)

The quotes - the first from the political wing of the Ministry of Health and the second from the executive - appear to contradict each other. Yet clarity about free drugs for civil servants was essential to the success of Cash and Carry.

There was considerable hesitancy about the introduction of Cash and Carry nationally. The cost and availability of drugs was regarded as an area of great political sensitivity. Policies about free treatment for civil servants and about the use of income from drug sales were irresolute.



F Cash and Carry begins in Volta region

"The Cash and Carry system is to ensure for our clients a constant availability of essential drugs of the right quality in adequate quantities to all Ministry of Health facilities."  
(Letter from the RDHS to all health facilities, August 1990, Volta)

Section E described the lack of practical enthusiasm for Cash and Carry at national level. This section catalogues the implementation of C&C in Volta and the frustrations caused by the lack of national support. The next section (G) analyses the impact of C&C.

Cash and Carry was introduced with the available human and material resources - I was simply one member of the Cash and Carry Task Force. It was not in the philosophy of this research to drastically change the manner in which C&C was implemented. It would have been relatively easy to select some pilot facilities and to monitor the impact of Cash and Carry. Special efforts could have been made to make sure that all necessary data were available. Instead of concentrating on a research-oriented pilot project, however, I deliberately chose to monitor the implementation of C&C "warts and all". This was in keeping with the philosophy of the RHA; the Regional Director in particular was against

pilot studies because he believed that they were rarely scaled up.

#### I Poor supplies - regions take the initiative

"I am willing to take risks to introduce Cash and Carry, no matter what national level says. The present drug shortages are simply unacceptable." (RDHS Volta, 1990; J3.96)

Throughout 1989 and the first half of 1990, drug supplies from CMS to RMS were erratic.<sup>143</sup> Staff often travelled from health stations to discover that the drugs they required were not available at the Regional Medical Stores. The spasmodic supply of drugs and the delays to national Cash and Carry led some regions to implement their own C&C schemes, without national endorsement. (J1.20)

In August 1990, Greater Accra became the first region to start its own Cash and Carry scheme. Volta followed two months later, in October 1990. Regions introduced C&C in contravention of the 1989 directive to freeze health station accounts and in spite of the fact that the relevant national legislation had not been signed.

---

<sup>143</sup> Drug supplies were so poor, and the bureaucracy so cumbersome, that some Catholic hospitals in Volta finally stopped using the RMS in Ho completely in 1990. They preferred to collect all their drugs from CHAG (the Christian Health Association of Ghana) in Accra. (J5.65)

Several events marked the beginning of Cash and Carry in Volta - FEs were used to buy some basic drugs which were not available at CMS; a regional C&C bank account was opened; a consignment of drugs was delivered to each health station; and the RMS started charging health stations for drugs.

Cash and Carry was deliberately made a semi-autonomous RHA "project", in the hope that this would speed up implementation. The region directly supervised health stations for a while, instead of the normal practice of working through DHMTs. Care had to be taken not to antagonise the districts, which would eventually be responsible for supervising C&C. (J4.32, 62; J5.31)

Cash and Carry was begun in Volta in the full knowledge that it could not be monitored fully. Moreover no comprehensive stock-taking was done, meaning that the profitability of the scheme could not be assessed exactly. It was simply felt to be too time-consuming and complicated to stock-take for more than 100 facilities. The aim of C&C was simply to improve drug supplies; no hopes of a perfect system were harboured. (J3.140)

There were no extra funds to help with the high start-up costs of Cash and Carry. Considerable sums for stationery and training came out of the RHA's regular FE. C&C training was also opportunistically included in

donor-funded workshops which occurred at appropriate times. This lack of finance was in stark contrast to the well-funded Bamako Initiative, which operated in one district in Volta. (see Section H; J5.4, 27, 52, 247)

Training was conducted in each district in October-November 1990. The workshop participants displayed a mixture of enthusiasm and tension. The enthusiasm was for the promise of improved drug supplies; the tension was about the responsibility involved and an uneasy feeling that Volta was acting in contravention of national policy. Staff were worried about complaints from auditors. Some staff also feared that improved government drug supplies and tighter monitoring would deprive them of an important source of income. (J5.250)

## II Buying and selling drugs

### (a) The drugs

Ghana has an essential drugs list. (Coen et al., 1988) This specifies which drugs may be used at health stations and at hospitals. Central Medical Stores did not keep regular stocks of the 63 drugs on the health station list. It did not even keep regular supplies of the 18 "most essential" drugs - i.e. those which could

be dispensed by "community health workers".<sup>144</sup> (Coen et al., 1988, pp 115-129) It was normal to find large quantities of specialist drugs in Central Medical Stores at the same time as the most basic drugs were absent. Cash and Carry in Volta aimed to supply hospitals and (especially) the health stations with the drugs on the essential drugs list. It planned to expand the number of drugs gradually, as the revolving fund grew. Once a drug was included on the C&C supply list, it was hoped that the supply would be reliable. A list of the drugs which the RMS aimed to stock regularly is given in Appendix 8. It is a mixture of drugs which were regarded as of high priority and those which were plentiful at CMS. (J4.16)

In October 1990, a delivery of drugs was made from RMS to all health facilities in Volta. This contained most of the commonly used drugs on the health station essential drugs list - the main omission was a dewormer. Although the RHA had planned to deliver drugs to health stations regularly, in fact this only happened once. Thereafter, health station staff had to travel to RMS to requisition and collect drugs - a continuation of the pre-C&C procedure.

---

<sup>144</sup> Although there was no national community health worker scheme, the Essential Drugs List specified which drugs could be used "at the community level".

(b) Sources of drugs

Drugs entered the Cash and Carry system from three main sources.

- 1 CMS continued to supply drugs free of charge until 1992.

Many of the drugs used in Volta's Cash and Carry were collected from CMS. Because C&C had not started at national level, these drugs were supplied to the region free of charge. RMS worked on a "get-what-you-can" principle. A pharmacist travelled from Ho to CMS weekly; he felt that the journey was not wasted so long as the value of the drugs collected was more than the cost of the transportation. (J3.141; J4.10; J5.69; J6.35, 92)

Because drugs were free from CMS, they essentially served to capitalise the C&C revolving drug fund.

- 2 Volta RHA bought some drugs with money from its FEs.

In order to get C&C started, the RHA bought some basic drugs with its FEs. ₵4,542,260 was spent in the second half of 1990. The excessive bureaucracy involved in redeeming FEs has already been discussed in Chapter 5. The purchase of drugs caused many problems, largely

because the Regional Treasury Officer did not approve. His objection was based on the fact that the RHA had no FE allocation for drugs and that in any case FEs should not have been used to buy items which would subsequently be sold. Because of bureaucratic delays, the RHA incurred temporary debts of up to ₵1.2 million to individual suppliers in Accra - this made it difficult to negotiate the best prices.

The RHA essentially used its FEs for pump-priming. It is a measure of the failure of the Ministry of Health's drug supply system that this money (which, as we saw in Chapter 5, had a high opportunity cost) had to be used to buy drugs. Headquarters had a substantial allocation for drugs and health stations had sizeable amounts in their accounts, accrued from charging fees since 1985. It should not have been necessary to use the FEs.

### 3 Cash and Carry had its own bank account.

The RHA collected money from all the health stations in Volta and opened a Cash and Carry bank account. The initial amount collected depended on the station's 1989 revenue and ranged from ₵10,000 to ₵1,400,000. This money acted as a deposit - if a facility took drugs without paying for them (the so-called "carry-no-cash stations"), the deposit would

cover the bad debt. The deposit scheme was poorly monitored - it took over six months to send out reminder letters to institutions which had not paid.

In principle, members of the Cash and Carry Task Force should have had easy access to the C&C account. In practice, the administration of the account was fraught with difficulties. The accountants were unhappy with Cash and Carry because of the extra workload and because the scheme was not sanctioned by the CAG. Moreover, they were not used to the style of work needed for the C&C account, such as collecting money from health stations and processing large expenditures quickly. Examples of problems with the financial administration of C&C include:

- \* Billing was very slow. (The accountants were more used to the RHA owing money - in these circumstances, it paid the RHA to act slowly!)
- \* The bills given to health stations were often wrong.
- \* Health station staff were often treated discourteously and impractically. If they arrived with a wrong cheque, they were sent back to correct it, even if they had travelled from as far away as Kete-Krachi!



- \* Communications between accountants and pharmacy/store personnel were poor. In one instance, a bankrupt hospital was given a lot of drugs, because the pharmacist had not been told that the hospital was unable to pay. (J6.43; J7.79)
  
- \* Signatories of the bank account were frequently absent. (J3.136, 156; J5.2, 68, 228; J6.99; IB1.67)

These various problems meant that planning drug purchases was difficult. Because of the administrative delays, and because supplies at CMS could not be predicted, the RMS sometimes received its purchases just as the same drugs arrived at CMS. (J5.5, 73, 86, 252; J6.13, 31, 41; J7.78)

(c) Prices

The RMS set its selling prices by adding an average of 10% to the wholesale commercial price.<sup>145</sup> Health stations added a further 10% when setting prices for consumers. The final selling prices were higher than those recommended by CMS, which were out-of-date and sometimes lower than the wholesale market price. The national price list thus had to be overridden. The

---

<sup>145</sup> In an effort to subsidise expensive, important drugs (particularly antibiotics), the percentage mark-up varied.

reasons for charging more than the CMS-recommended prices were carefully documented to protect against complaints. Because they were going against national directives, the Task Force was nervous of criticism and of being accused of extortion. (J4.15; J5.12)

ε Events at Korle-bu teaching hospital served as a warning; the hospital was forced to reverse its fee increases of mid-1991, which it had introduced "because fees and government money were insufficient to maintain the buildings and equipment". (Weekly Spectator, 6/7/1991; West Africa, 1991; J5.19, 67)

(d) Practical problems

"We have already achieved the hardest part of Cash and Carry - persuading patients to pay. Now it is easy. We just need to tighten our administrative procedures and get 100% accountability." (Director of Medical Services, April 1990)

The above quotation talks of "just" needing to improve administrative procedures. In fact, this was a major problem. The issue was exacerbated in Volta because it had many more health stations than any other region. There was simply neither the will nor the personnel to conduct intensive training and on-site supervision, particularly as many staff were at the same time concentrating on increasing immunisation coverage. (see Chapter 6)

Cash and Carry attempted to graft an efficient management process onto a health care delivery system which did not work well, and which was poorly supervised. Many of the practical implementation problems encountered by C&C were typical of the system as a whole. Even distributing documents to all the health stations was difficult and slow. Again and again, staff complained that they did not know the correct prices of drugs or have copies of the essential drugs list. (J5.22, 140; J6.25)

Cash and Carry did not solve all the financial problems at the health stations, which were described in Chapter 5. Systemic problems such as slow reimbursement of travel claims affected C&C implementation. It was unclear who was to cover the travel costs of health station staff collecting drugs from the RMS in Ho. (J3.97, 140; J4.11-12, 69; J5.52)

Many basic steps in C&C were in practice difficult to implement. For example, formal and on-the-job training in the use of bank accounts was a major task. Because revenue had not been spent regularly, many of the health station accounts did not operate properly. Many in-charges were not skilled at using banks; they were unsure how to obtain bank statements, how to read them and how to write a cheque correctly. Training was needed in such simple tasks as writing a letter to a

bank. (J1.20; J4.17, 34; J5.26, 178)

New storekeeping skills had to be taught. Prior to Cash and Carry, it had been sensible - from the individual facility's point of view - to stockpile drugs when they were available at RMS. Once drugs had to be paid for, staff had to learn how to link acquisitions to consumption and revenue. (J5.32)

Another problem was record-keeping. In individual institutions, records were often inconsistent - for example, dispensing and accounting records often showed completely different information about drug flows. One complication of record-keeping was that drugs came from several sources. Many institutions received drug donations. These might be in substantial quantities from well-known donors (such as UNICEF), or ad hoc gifts from small groups such as the many "Ghana friendship" associations in Europe and North America.<sup>146</sup> It was administratively difficult to keep separate records for these drugs, but donors understandably objected when their gifts were sold. (J5.20, 51, 53; J6.38)

---

<sup>146</sup> Despite the Ministry of Foreign Affairs notifying its overseas missions of the essential drugs list, Ghana continued to receive a wide variety of donated pharmaceuticals (many of which were not on the essential drugs list), with instructions in an equally wide variety of languages. (J2.99)

### III Exemptions - who will cover the costs?

"The RHA must cover exemptions from its FE. We can't pass this on to patients. I can't have my old mother directly subsidising free drugs for a healthy young nurse." (RHMT member, February 1991; J5.249)

Cash and Carry would be whittled away if it incorporated exemptions but no reimbursements. Because exemptions threatened the very existence of C&C, and because free drugs were close to the hearts of MoH staff, the discussion and administration of exemptions took a disproportionate amount of time.

When C&C was introduced in Volta, no changes were made to the rules about the categories of people who were exempt from payment. However efforts were made (through training and memoranda) to clarify the rules - only MoH staff, paupers and patients with certain diseases were genuinely eligible. (see Section D (IV), above)

The only change made to the pre-C&C system was that a ceiling of 20% of the value of drugs sold was put on exemptions. In the short run, paying for exemptions was not a problem, as the free drugs obtained from CMS more than compensated. In the longer run, Volta RHA planned to cover exemptions out of its FEs. In the very long

run, Volta hoped that Ministry of Health headquarters would reimburse regions (and hence facilities) for drugs prescribed to people who were exempt from payment. (J2.96; J5.249)

The decision to set the ceiling at 20% was a pragmatic one. Ministry of Health staff felt very strongly about their privilege of free drugs. The RHA did not want to be seen to be curbing this privilege too excessively. On the other hand, the 20% maximum would allow some of the worst abuses to be curtailed.

Individual facilities received free drugs from the region to cover exemptions - the top-up amounted to 20% of the value of drugs issued. For example, a facility requisitioning ₵100,000 worth of drugs would actually pay ₵80,000.<sup>147</sup> It was up to individual facilities to reduce their exemption rates to 20%.<sup>148</sup> This was not a problem for most health stations; the few exceptions were later followed up, providing a rare example of successful monitoring. The problem lay with the hospitals and the larger health centres in district capitals, many of which had exemption rates of over 20%.

---

<sup>147</sup> In the test at the Cash and Carry workshops, only 22% (16/72) of the respondents could calculate 20% of a simple number. (see Appendix 7)

<sup>148</sup> An exception was made for the leprosarium, which received 30% of its drugs free. This was because it provided comprehensive free care for both the students at the nurses' training schools and for people with leprosy. (J5.7, 71)

Several ways to reduce exemptions were recommended, all of which concentrated on free drugs for MoH staff, as they consumed the majority of free drugs. (J3.140; J4.10; J6.36) The following measures were suggested:

- \* a register of staff and their eligible relatives should be started.
  
- \* a form should be introduced which would have to be signed by the local divisional head before free drugs were issued.
  
- \* at hospitals, only one doctor should be able to prescribe free drugs for staff. (J1.42)  
e Ho hospital had relatively high exemption rates; one of its problems was controlling the large number of doctors. It was difficult to persuade one doctor in Ho to be responsible for staff prescriptions, as this was considered a boring and socially uncomfortable task. (J2.96)
  
- \* discussions should be held with staff about the implications of excessive exemptions. The implications of exemptions over 20% of the total value of drugs should be explained. (J2.90; J4.11; J5.104; J6.38)

Because of its concern about high exemption levels, the RHA often gave the erroneous impression that it

disapproved of free drugs for paupers. In fact, the number of exemptions for paupers was negligible. At the regional hospital in 1991, paupers accounted for a minuscule proportion [0.035%] of drugs dispensed (by value). (ten Asbroek, 1992, p 21; J5.22)

#### IV National policy - vacuums, contradictions and discouragement

Time was needed to implement Cash and Carry in Volta. Unfortunately, progress was disrupted by actions from Accra. Two events in particular jeopardised the very existence of C&C.

Firstly, in February 1991, the Ministry of Finance and Economic Planning ordered all health facilities to send 75% of their accumulated income from fees to an account in the Bank of Ghana. This was to pay the MoH bill for drugs and dressings in 1990.<sup>149</sup> When this was discussed at the April 1991 Conference of Regional Directors and Divisional Heads, many of the most senior executive figures in the MoH did not know about the order, nor about the bank account to which the money was to be sent. If the order had been obeyed, this would have broken the revolving drug fund and effectively ended Cash and Carry.

---

<sup>149</sup> In other words, the misappropriation described in Chapter 5, Section B (I), had been discovered. MoFEP asked the Ministry of Health to repay the missing money.



The RHA advised staff to ignore the circular, at least until some reminders were received. Facilities differed in their reaction to the attempts to remove money from accounts. Some staff showed considerable independence and resourcefulness. (J5.227; J6.14, 27, 84)

ε Because the circular specified "current accounts", one District Medical Officer arranged for all the institutions in his district to transfer all their money into their deposit accounts.

ε Hohoe hospital benefited from its policy of regularly spending its income. The order to transfer money came just after it had bought, with the RHA's tacit approval, a vehicle for ₵6.6 million. (J7.42)

Many facilities, however, complied with the order. Some had no choice - the required 75% was transferred from the regional hospital's bank account, without informing anyone at the hospital.

The second event which jeopardised the existence of Cash and Carry in Volta occurred six months later. On 28th August 1991, the Secretary for Health circulated a letter saying,

"With immediate effect all drug accounts are frozen and no payment should be made out of the [fees] account until further

notice." (J7.38)<sup>150</sup>

Once again, MoH headquarters had ignored the realities of what was happening in the regions. As was the case for the transfer of 75% of fees, this circular, if obeyed, would have brought Cash and Carry to a standstill. For a time, C&C purchasing was suspended in Volta because key individuals were not prepared to disobey the letter. Although an enthusiast for Cash and Carry, I could only sympathise with their attitude. The circular was repealed about a month later; the damage, however, had already been done. Those responsible for implementing C&C in Volta were very discouraged. (J7.39, 82)

In addition to these major events which threatened to thwart Cash and Carry's implementation, there were several areas in which official national guidelines were incompatible with C&C. The RHA proceeded with C&C in spite of these guidelines. Although the individual issues were perhaps trivial, they were symptomatic of the unsupportive environment in which C&C was introduced.

e Official CAG ticket receipts were so expensive and in such low denominations that small transactions operated at a loss. Rolls of

---

<sup>150</sup> In effect, this was just a re-statement of the 1989 directive. In practice this directive had all but lapsed.

1,000 tickets cost ¢2,000 and were available in ¢5, ¢10, ¢20 and ¢50 denominations.<sup>151</sup> A typical out-patient visit cost ¢420 - this required at least 9 tickets (8 x ¢50; 1 x ¢20), costing ¢18. In practice, even more tickets were used, because the staff wanted to keep separate records for the consultation charge (¢30 - 2 tickets) and the drugs (¢390 - 9 tickets). The tickets had to be bought out of the non-drug income - drug fees were reserved for buying drugs. ¢22 of the ¢30 consultation charge was thus spent on receipts. Some auditors insisted on the use of receipt tickets; many health station staff were thus nervous about not using them. To make matters worse, CAG supplies of tickets were unreliable. The RHA eventually decided to use counterfoils rather than tickets. These were still quite expensive - a receipt book with 50 receipts cost ¢500. (J2.109; J5.74; J6.39)

Outside the region, Volta staff deliberately kept quiet about Cash and Carry. They did not want to draw attention to the fact that Cash and Carry involved breaking some national rules (about the use of health station revenue, receipts, and unlimited free drugs for Ministry of Health staff). Similarly, some headquarters staff deliberately turned a benevolent blind eye to local C&C schemes. (IB1.9)

---

<sup>151</sup> Tickets for ¢100 and ¢200 also existed, but had not been offered to health stations. (J6.40)

Cash and Carry began in Volta in October 1990. It was not a true revolving drug fund because many drugs were received free from Central Medical Stores. Health stations were provided with a 20% top-up of drugs to cover cases which were exempt from payment. Most of these were Ministry of Health staff.

Cash and Carry encountered many practical problems in implementation; moreover monitoring and supervision from the regional and district levels were inadequate.

Two directives from Accra threatened the very existence of C&C and caused considerable demoralisation - 75% of the money was taken out of many health stations' bank accounts and accounts were temporarily frozen.

G Did the price signal work as intended? - the impact of Cash and Carry

Section C specified five questions about the effects of the introduction of Cash and Carry - questions about financial viability, drug supplies, utilisation, prescribing and exemptions. Parts I-V below tackle these questions. The before-and-after survey was in some ways an unsatisfactory exercise because implementation difficulties meant that Cash and Carry was not a "pure" revolving drug fund. The implications

of the implementation problems are considered in Section K.

I Was the scheme financially viable?

The financial viability of Cash and Carry in Volta was simply not known. There were too many unknown elements and "leaks" to the revolving fund.

Table 7.4 shows the sources of drugs for Cash and Carry during its first 9 months. Because such a substantial proportion of the drugs came free from CMS (70.5%), the ability of the RMS to make a financial success of the revolving drug fund was not tested.

Table 7.4 Sources of finance for Cash and Carry, October  
1990 - June 1991

Incoming drugs to RMS:	¢
from CMS	¢ 97,583,000 (70.5%)
from C&C account	¢ 36,368,000 (26.3%)
from RHA FEs	¢ 4,542,000 ( 3.3%)
TOTAL incoming drugs to RMS	¢138,493,000 (100%)
Outgoing drugs to health stations (a)	¢90,256,000 (65.2% of available drugs)

- (a) The figures in Table 7.4 suggest that CMS bought drugs which were not in demand. During the first 9 months of C&C, the value of drugs dispatched by RMS (¢90.256 million) was less than the value of drugs collected from CMS (¢97.583 million). If CMS had concentrated on basic drugs used at health stations, there would have been no need to supplement its supplies with local purchases.

Similarly, the financial viability of C&C at health stations was cushioned by a number of factors. Many stations had large amounts of money in their accounts, because of under-spending during the years 1985-89 and the subsequent freeze on expenditure. Moreover, it was not difficult for the health stations to make a "profit" out of the system and hence expand their stocks. Profits could be made from:

- \* the fact that the facility selling price was 10% higher than the price paid for drugs at RMS
- \* sales of drugs which were in situ before RMS

started charging for drugs

- \* providing less than 20% of the drugs to patients who were exempt from payment. (J5.18)

Using aggregate figures, Cash and Carry seemed to be financially viable. Table 7.4 showed that, between October 1990 and June 1991, drugs worth ¢90,256,000 were issued to health stations. For the same months, total revenue for all the health stations was ¢93,757,800.

A detailed look at individual institutions revealed a much more complicated picture. Table 7.5 compares the value of drugs collected with revenue for the 14 institutions in the before-and-after survey. This information is for the period from October 1990 until June 1991. The institutions can be classified into three types:

- 1 Three institutions earned less revenue than the value of the drugs they collected from RMS.  
If this situation continued, the revolving drug fund would be de-capitalised. These cases needed to be followed up individually.
  
- 2 Five institutions earned somewhat more revenue than the value of the drugs they collected from RMS.  
This seemed to suggest a financially successful

revolving drug fund. This was the situation which the Cash and Carry Task Force hoped to find in all institutions.

3 Six institutions earned a lot more revenue than the value of the drugs they collected from RMS.

These six institutions all earned more than 1.5 times more than the value of drugs they had collected. This difference could not be explained by low exemptions, the 10% extra charged and some stocks of drugs remaining from before Cash and Carry began.

These institutions were selling drugs that they had bought elsewhere. Although officially illegal, direct purchasing from private drug suppliers had several advantages for health stations - for example, the health facility might be nearer to the supplier than to RMS and the supplier would probably offer some "inducements" to the purchaser. Moreover, the government system had been unreliable for so long that there was an unwillingness to switch immediately to buying from RMS, even though it was the cheapest supplier.

The RHA wanted health stations to buy RMS drugs because they were cheaper and because there was some quality control. This custom did not come



automatically; Regional Medical Stores obviously had to prove its reliability first.

These findings about the extent of private drug purchasing led to a re-consideration of the aggregate figures quoted above. Between October 1990 and June 1991, ₺90,256,000 worth of drugs were issued to health stations and total revenue for all the health stations was ₺93,757,800. However, an unknown percentage of this revenue accrued from drugs bought privately. The government revolving drug fund was not necessarily earning more than the value of the drugs which it handled.

In short, the Cash and Carry Task Force was unable to assess the financial viability of the scheme. There were so many leakages and sub-systems that it was impossible to isolate which drugs and which funds constituted the government revolving drug fund.

Table 7.5 Value of drugs collected and revenue, sampled facilities, October 1990 - June 1991

Facility	Value of drugs collected (¢)	Revenue (¢)	Comments
<b>Hospitals</b>			
Ho	16,266,910	22,508,910	value of drugs < revenue
Hohoe	10,376,710	13,153,100	value of drugs < revenue
Keta	8,107,740	8,002,960	revenue < value of drugs
Kete-Krachi	3,223,860	3,363,900	value of drugs < revenue
Leprosarium	760,150	1,722,740	few drugs collected
Peki	731,830	2,019,100	few drugs collected
<b>Health stations</b>			
Aflao	818,650	7,077,440	very few drugs collected
Aveme-Danyigbe	241,150	225,690	revenue < value of drugs
Banda	386,480	1,043,660	few drugs collected
Dzolo-Gbogame	136,640	327,270	few drugs collected
Fodzoku	185,270	91,900	revenue < value of drugs
Nyive	247,740	546,860	few drugs collected
Sogakope	2,184,270	2,277,250	value of drugs < revenue
Tefle	301,300	370,470	value of drugs < revenue

## II Did drug supplies improve?

One of the advantages of a successful revolving drug fund is that goods follow money - as long as patients can afford the drugs, there should be no shortages.

As with so many other items of information, it was theoretically possible to ascertain the availability of drugs from the routinely submitted records. In practice, this was not done. Even if someone had bothered to use this information, it was of a particularly low quality. Very few of the forms about drug stocks were filled in correctly.

The availability of drugs was investigated in two ways by the before-and-after survey. Stocks were checked at institutions and patients were asked if the health station had been able to supply them with all the drugs on their prescription.

The before-and-after survey checked the availability of 7 basic drugs at sampled institutions - chloroquine tablets; chloroquine injections; paracetamol; multivitamins; vitamin B complex; co-trimoxazole and procaine penicillin injections.<sup>152</sup> All

---

<sup>152</sup> This list of drugs was selected by the Cash and Carry Task Force; it included two vitamins because these were widely regarded as basic drugs.

of these were available from RMS after C&C began. Before C&C, their availability at the Central and Regional Medical Stores had varied. Obviously, it was hoped that the improved availability of drugs at RMS would lead to an improvement in the stocks held at health facilities.

12 institutions were sampled. The results are shown in Table 7.6. The maximum possible score was 84 (12 institutions x 7 drugs). Before C&C, the score was 44; afterwards it was 54. The improvement in drug supplies was not significant at the 10% level.<sup>153</sup> After Cash and Carry had begun, 36% (30/84) of drugs were not found in stock at the health stations, even though they were available at RMS.

Table 7.6 Drugs in stock, before and after introduction of Cash and Carry

	Before C&C	During C&C	Total
In stock (1)	44	54	98
Not in stock	40	30	70
Total	84	84	168

$\chi^2 = 2.44$ ; 1 degree of freedom; not significant at 10% level.

- (1) "In stock" was defined as enough drugs for 5 adult prescriptions.

<sup>153</sup> This is supplies of drugs from RMS. Facilities invariably kept their stocks of government drugs separate from the commercially purchased drugs.

There are (at least) three possible explanations for the fact that drugs which were in plentiful supply at RMS were unavailable at individual health facilities:

- 1 Health facility staff had not visited RMS for several months. After C&C, visits to RMS were more frequent, declining from an average of 65 to 41 days apart. (n = 14 institutions) This average disguised large variations - some facilities only visited every 3 months - not frequently enough to have benefited from the gradual improvement in supplies.
- 2 Health facility staff had not specifically requisitioned a drug and RMS staff had not taken the initiative to offer it. This happened often for co-trimoxazole tablets, which had been unavailable for so long that many health station staff no longer bothered to requisition them.
- 3 As discussed in the previous section, health station staff had built up small businesses selling some drugs that had been unavailable at RMS for a long time. They did not necessarily want to collect these drugs from RMS.

The other method used to find out about the

availability of drugs was to ask patients. The results of the questionnaire are shown in Table 7.7. (see also Appendix 6 (d)) The number of patients receiving all the drugs they had been prescribed increased from 30% to 49%. (n=200) This improvement is significant at the 5% level. However, even though the situation for patients improved, just over half of the 53 patients questioned after the start of C&C were prescribed drugs which were not in stock at the health station.

Table 7.7 Patients receiving all prescribed drugs - before and during C&C, Volta

Receive all drugs?	Before C&C	During C&C	Total
Yes	44 (30%)	26 (49%)	70
No	103 (70%)	27 (51%)	130
Total	147 (100%)	53 (100%)	200

$\chi^2 = 6.26$ ; 1 degree of freedom; significant change at 5% level.

In summary, the evidence about drug supplies is mixed. The number of basic drugs available at facilities did not seem to increase significantly, yet more patients received all their drugs. Whatever the exact change brought about by Cash and Carry, there was clearly substantial room for improvement. The availability of a drug at RMS did not automatically mean its availability at health stations. The requisition

system did not work well and there was doubt about who paid for journeys to RMS. Staff had become used to the unavailability of certain drugs at RMS. Many patients were still prescribed drugs which were unavailable at the health station.

### III What happened to utilisation?

In Section D (II), we saw that the introduction of Cash and Carry in October 1990 did not seem to make any noticeable difference to out-patient attendance. (see Table 7.1 and Figure 7.1) Utilisation remained fairly stable (60,000 - 63,000 out-patients per quarter) during the 15 months after the introduction of C&C. The expectation that Cash and Carry would lead to improved supplies and hence higher utilisation was not realised.

From the patients' perspective, Cash and Carry potentially made two differences - rather more drugs should have been available and the prices of some of the drugs increased. We have already seen that there was not a significant improvement in the availability of government drugs at health stations.

Before Cash and Carry, the average price paid per prescription was €308. This increased to €352 after the introduction of C&C. (n = 500 out-patients each, before and after) Unlike in 1985, this was not enough to deter

significant numbers of patients. This was probably because the drugs were still cheaper than at the private drugstore, where they would otherwise have been bought. Because data were only available on costs at the government facilities, the survey could not assess the change in the total cost of a prescription.

#### IV Did prescribing patterns change?

".....it seems to me that you have a pattern of severe over prescribing." (Laing, personal correspondence, June 1991)

Section D (III) described the poor prescribing practices in government health stations before Cash and Carry. After the introduction of C&C, the average number of drugs per out-patient prescription remained almost the same - 4.3, compared with 4.5 before C&C. Mis-prescribing was still rife. (see Table 7.3 and Appendix 6 (e))

Data on prescribing were sent to the International Network on the Rational Use of Drugs (INRUD) in the U.S.A. for analysis. The following comments were made:

"In terms of the actual numbers [of drugs prescribed] -- these are very high by African standards.....The injection figure of 66% [after C&C] is extremely high and a figure of real concern with your background HIV situation. It is unusual for



hospitals to prescribe fewer drugs; this indicates how serious the over-prescribing is at Level B facilities [i.e. health stations].....In summary, it seems to me that you have a pattern of severe over prescribing." (Laing, personal correspondence, June 1991)

Over-prescribing had been a problem before C&C and it remained a problem. This is not surprising - there had been no obvious change in incentive for the health worker.

Excessive prescribing was a problem which could not be tackled effectively with the resources available for Cash and Carry.

V Did the number of exempt patients change?<sup>154</sup>

Before C&C, the opportunity cost of exemptions to the health facilities was foregone income. With C&C operational, the opportunity cost of exemptions under 20% was still income foregone. The implications of exemptions over 20% were more serious - they resulted in

---

<sup>154</sup> As mentioned in Section B, looking at exemptions was the only way to investigate wastage. Other information about drug wastage is purely circumstantial. The World Bank estimated in 1989 that 30-40% of drugs were not used before their expiry date. In July 1992, 10.5% of drugs held at health stations in Volta were expired. Whilst this might suggest that wastage had decreased, these ad hoc findings must be interpreted with extreme caution. (Berk, personal communication, 1990; Baseline data collection for Cash and Carry, Volta Region returns, 1992; J2.18, 100)

de-capitalisation of the revolving drug fund.

Before Cash and Carry, exemption rates had not been routinely monitored. When C&C began, information about exemptions was added to the revenue form.

Table 7.8 shows data collected from 9 of the 14 sampled institutions - the others did not record the necessary information. After the introduction of C&C, exempt cases increased as a percentage of the total number of out-patients and as a percentage of revenue. The increases are significant at the 0.1% level for both the number of exempt cases and the value of free drugs. This increase is scarcely surprising. By providing 20% of drugs free, the system seemed to signal that exemptions up to the 20% level were acceptable. As drug supplies improved, there were more drugs available to tempt Ministry of Health staff into wanting free supplies.

Although the total value of exemptions was less than 20% of revenue, some individual facilities (especially hospitals, where staff generally wanted to be treated) found it difficult to keep exemptions below 20%.

€ In 1991, the dispensary at Ho hospital issued drugs worth €30,491,000 and collected €22,709,500 (74%) in revenue. In other

words, c7,781,500 (26%) went to people who were exempt from payment. Of this c7.78 million worth of drugs, over 99% were issued to MoH staff. Exempt diseases accounted for 0.3%; paupers for less than 0.1%. (ten Asbroek, 1992, p 21)

Table 7.8 Exemptions before and during Cash and Carry

	Before C&C	C&C operational
Value of exemptions	¢696,951	¢1,040,191
No. exempt cases	1,355	1,690
MoH staff as % exempt cases	99.3%	97.8%
Out-patients	8,078	7,631
Revenue	¢4,635,275	¢5,718,608
Exempt cases as % out-patients	16.8%	22.1%
Value of exemptions as % revenue	15.0%	18.2%

Value of exemptions relative to revenue:  $\chi^2 = 13,036$ ; 1 degree of freedom; change significant at 0.1% level.

Number of exempt cases relative to number of out-patients:  $\chi^2 = 72.5$ ; 1 degree of freedom; significant at 0.1% level.

In summary, a revolving drug fund was introduced in two stages - fees were increased in 1985, Regional Medical Stores began to buy and sell drugs in 1990. Many of the hoped-for advantages of Cash and Carry did not materialise. Implementation proved very problematic - the reasons for, and implications of, this are discussed

in Section K. Before this, the next Section looks at the Bamako Initiative. Section J then considers how various actors perceived Cash and Carry.

C&C did not yield many of the hoped-for improvements. This was partly because of how the system was designed (for example the 20% exemption level positively encouraged wastage); but it was also because of the inability of the system to change persistent bureaucratic and clinical habits. Specifically:

- 1 The financial viability of Cash and Carry could not be assessed.
- 2 Even though drug supplies improved at Regional Medical Stores, the drugs did not automatically reach the health stations.
- 3 Demand declined in 1985. Per capita utilisation rates had not recovered by 1991.
- 4 There was considerable ignorance about rational prescribing.

The issue of irrational prescribing means that drugs are different from other economic commodities. Improved availability of drugs in Ghana is necessary but not sufficient for an improved service.

- 5 The system of exemptions meant that there was considerable waste.

## H The Bamako Initiative (BI)

"I sometimes ask myself why the government encourages the Bamako Initiative, but not Cash and Carry. After all, they're pretty much the same. Perhaps the PNDC doesn't understand Bamako. Or perhaps it seems like a free gift from UNICEF, what with all the free drugs, storage facilities, vehicles and money for training. Cash and Carry requires an investment - there's not much fun in that." (DMOH, August 1991)

The Bamako Initiative (BI) was launched in 1987 in the capital of Mali by Ministers of Health from sub-Saharan Africa and by representatives from WHO and UNICEF. A UNICEF publication described the Bamako Initiative as:

".....a major new initiative for achieving universal primary health care for women and children. The mainspring of the initiative is a new way of funding and managing essential drugs for each community. The drugs, bought in bulk at low cost, would be sold at prices which, while much lower than the local retail cost, would be sufficient to finance not only the replenishment of the drugs themselves but also the development of district health services to the point at which maternal and child health care is available to all." (UNICEF, 1988b, p 56, Panel 18)

The initiative was interpreted in various ways in

different countries. In Ghana, it concentrated on drug supplies for communities, health stations and district hospitals in 5 pilot districts. One of the pilot districts - Jasikan - is in Volta region.

Careful negotiations at national level resulted in a close symmetry between the Bamako Initiative and Cash and Carry. Drug prices were to be the same throughout the country and the BI pilot districts were to use the same modalities as national C&C. It was hoped that experiences in the BI pilot districts would yield useful lessons for the introduction of nationwide Cash and Carry.

For the Bamako Initiative's first year, UNICEF provided Jasikan with free drugs. This meant that the district was able to amass significant amounts of money (C18 million by August 1991), which would later be used to benefit district services. (J6.75-6; IB1.70)

There were many more resources available for training in Jasikan than in the rest of the region. The management of the district's drug sales was consequently better, although health station staff complained about the extra workload.

Although the Bamako Initiative began in Volta at almost the same time as Cash and Carry, the BI had the

advantage of months of careful planning. The C&C Task Force looked to Jasikan for advice and suggestions. In some ways, Jasikan was able to offer support. For example, the Task Force was warned in advance that health station staff found the paperwork bewildering and that plenty of time was needed for training. Jasikan shared some of its drugs with the region when the original allocations from UNICEF led to some excess supplies. (J4.14; J6.15)

In the main, however, experiences in Jasikan did not offer useful lessons for the region. Its special status as a donor-supported pilot district cushioned it from many of the issues faced in the other districts. For example:

- \* a year after the BI had started in Jasikan, no decision had been made about how to pay for drugs supplied free of charge to exempt groups, principally MoH staff. Because UNICEF had been supplying drugs free, this issue had been avoided.
- \* the district had been protected from the government's ambivalence over C&C. No bank accounts had been emptied or suddenly frozen.
- \* Jasikan had been provided with extra money and equipment (including a vehicle) for training and

supervision.

In terms of designing a revolving drug fund for government health facilities in Volta, the model offered by Jasikan was of only limited use. The problems which were encountered in the implementation of Cash and Carry were essentially bi-passed because of Jasikan's privileged status as a pilot district.

The Bamako Initiative was similar to Cash and Carry in many ways. However it was implemented with considerably more financial and logistical support.

#### J The viewpoints

As in previous chapters, this section considers Cash and Carry from the perspectives of a number of different actors. The actors are various MoH staff, accountants (who were CAG employees), auditors, patients and donors. The groups overlap - an individual in one group may also belong to another. For example, pharmacists were also Ministry of Health employees who were entitled to free drugs.

#### I Prescribers at government health facilities

Even though there were improved drug supplies at



Regional Medical Stores, administrative problems reduced the benefit to the health facilities. It was difficult to find out what was available at RMS. Speculative visits were unrealistic because of transport problems. Public transport was unreliable; moreover it was not clear who was responsible for paying transport costs.

Many prescribers benefited financially from the informal trade in drugs. It was often the more dynamic health workers who bothered to ensure that at least their patients got drugs from somewhere. Prescribers who sold drugs privately felt frustrated when they were criticised for being "extortioners", when government supplies were totally inadequate. It was unfair that the system did not discriminate between the scrupulous and the unscrupulous. (IB1.12)

Prescribers gave two responses to accusations of over-prescribing. Firstly, they argued that patients often only presented themselves when they had multiple health problems and needed several drugs. Secondly, patients were very demanding. They often wanted several drugs, including some (preferably colourful) antibiotics. Injections and vitamin B complex were popular. It was very difficult to resist the demands of patients. Multiple prescribing was thus not necessarily due to the prescribers' ignorance.

Prescribers found it very difficult to refuse to prescribe drugs for Ministry of Health colleagues who had become used to free drugs. Most MoH staff in a district knew one another and a refusal could be taken personally.

Cash and Carry brought new responsibilities and more work. Many health workers were reluctant to shoulder these responsibilities. They felt vulnerable to criticism from auditors and treasurers about their handling of money. C&C also increased the amount of record-keeping. Some of the records were felt to be rather complicated.

## II Pharmacists

Cash and Carry entailed extra work for pharmacists. This increased their feeling of being under-valued. Only 10% of trained pharmacists entered government service; many of their colleagues were in the private sector earning considerably larger amounts of money. The feeling of being under-valued was exacerbated when doctors (also university graduates) received a large pay increase.<sup>155</sup> The government pharmacist's most lucrative responsibility was granting licenses to the private sector; they could not be blamed if they spent a lot of time on this and other money-making schemes. There was a

---

<sup>155</sup> Pharmacists' pay eventually increased in 1992.

limit to how much time could be spent on Cash and Carry.  
(J5.200)

C&C meant extra work for the pharmacists in the short run. However it would eventually free pharmacists from the need to run People's Shops. The semi-legal nature of the shops had been a source of stress; it was hoped that eventually Cash and Carry would be endorsed unambiguously at national level.

Most pharmacists believed that Cash and Carry could be financially viable, as many People's Shops had made substantial profits. The prerequisites for financial success were good management and tight controls on exemptions for MoH staff.

Pharmacists were probably the group of people who were most aware of the conflict between the demands of Ministry of Health staff for free drugs and the financial viability of C&C. They were under extreme pressure to supply drugs to colleagues free of charge; however many of them had learnt to resist this pressure when they were running People's Shops.

Many of the skills necessary for Cash and Carry were new to pharmacists. It was often not realised that pharmacists' training did not teach about stock management or how to order drugs for a specific

population size. C&C required the development of new skills; this took time. (J2.58)

The confusion about the use of health station revenue and the threat of free drugs for civil servants were very discouraging. Whilst trying to start Cash and Carry in Volta, it was very disheartening to learn that there had been yet another unenforceable circular from Accra. (J5.113)

### III MoH staff as consumers of free health care

Ministry of Health staff who enjoyed the privilege of free drugs were clearly happy that Cash and Carry promised the likelihood of better drug supplies. The benefits of free drugs had been severely reduced by the shortages at government facilities. Often staff had to buy drugs privately, for which they were not reimbursed. (Staff paid because RMS had so few drugs in stock; the People's Shops were businesses and did not dispense drugs free of charge.) Prescribers exploited the shortages by forcing staff to pay "dashes".

Most Ministry of Health staff felt passionately about their entitlement to free drugs. They felt that this perk was the one compensation for their low pay. It did not seem fair that MoH staff had to pay for drugs

from the People's Shops when teachers<sup>156</sup>, Internal Revenue staff and those working for parastatal corporations enjoyed free government drugs and reimbursements for private purchases. Moreover, there were rumours in Ho that the RHAs in Eastern and Upper West regions reimbursed their staff. (J2.85, 90; J6.14, 40)

Many staff were unaware of the dangers posed to Cash and Carry by the high level of exemptions for MoH staff. Experience at one hospital, where several meetings were held to persuade staff that exemptions had to be reduced, suggested that group responsibility could be fostered.

#### IV Accountants

"Don't tell me that Cash and Carry is under way in the provinces - [covering his ears] I simply don't want to know."  
(Senior CAG official, Accra, September 1990)

In general, all of the actors discussed in this section were in favour of Cash and Carry because of its promise of more drugs. Accountants were the least enthusiastic; they felt compromised by the fact that their employer, the Controller and Accountant-General

---

<sup>156</sup> Teachers were entitled to a fixed sum of ₵25,000 per year for medical care.

did not endorse C&C.<sup>157</sup>

Two other problems with C&C were the fact that accountants tended not to trust health stations to use funds responsibly and the considerable extra work for accountants. (J4.61; J5.138)

For some accountants, especially at regional level, Cash and Carry meetings were their first experience of prolonged multi-disciplinary teamwork. They were often frustrated by C&C meetings, which spent a lot of time discussing non-financial details.

## V Auditors

Financial regulations stated that government funds should not be used to buy goods which would subsequently be sold. Staff at the smaller health stations were not senior enough to deal with revolving funds. These were the rules. It was the job of auditors to enforce them.

---

<sup>157</sup> This is not meant to suggest that all individual accountants were obstructive to the introduction of Cash and Carry. Some district accountants provided excellent training and support for health facilities; accountants who had been involved with People's Shops in hospitals provided vital advice to the C&C Task Force.

## VI Patients<sup>158</sup>

Drug supplies were important to patients. They valued the convenience of buying all their drugs in the same place. However cost was also important. The messages about cost were mixed - some people said that the government facilities were cheaper, others said the opposite. It is not known which costs were important to patients - unit costs (government facilities cheaper) or total prescription costs (private shop often cheaper, because of incomplete doses).

Informal charges were a significant component of costs. The advantages of Cash and Carry would be reduced if it simply added to, rather than replaced, informal fees.

The availability of drugs was not enough to satisfy patients. They wanted courteous and sensitive health workers. Patients also wanted to feel that they had been examined properly - they were pleased by a physical examination; laboratory tests; or by the use of a sphygmomanometer to test blood pressure.

---

<sup>158</sup> This section is largely based on the 200 questionnaires administered during the C&C survey. (see Appendix 6 (c))

## VII Donors

Many donors were sympathetic to the aims of Cash and Carry. Utilisation of government facilities was low - better drug supplies were an important aspect of improved quality. However donors were reluctant to be actively involved in C&C for two main reasons:

- 1 The PNDC needed to clarify its policy towards Cash and Carry. Either the PNDC had to entrust the Ministry of Health to implement C&C, or an alternative had to be developed. Until the policy was clear, donors did not want to support start-up costs such as training and stationery.
  
- 2 Drug supplies were an area of corruption. Donors recognised that there were massive interests vested in the purchasing of drugs at national level - previous efforts to enforce tighter controls on drug purchases had been unsuccessful. (J5.203, 212)

Cash and Carry was not as comprehensive as the Bamako Initiative, which included drug supplies to be sold at the community level. UNICEF felt that the scope of C&C was rather limited:

"Although a significant step forward, the [Cash and Carry] scheme, which is now operational in two regions, does not yet



go beyond health centres/posts and is, therefore, not directly supportive of community-based PHC." (UNICEF, 1991)

Some issues arose more than once in this review of various viewpoints. Informal drug sales were widespread; MoH staff were concerned about the lack of national support for Cash and Carry; most health workers were enthusiastic at the promise of better supplies. Ministry of Health staff felt strongly that they were entitled to free drugs.

K Conclusion - confronting the constraints

Section G concluded that many of the hoped-for advantages of Cash and Carry (especially in terms of utilisation, improved supplies and financial viability) did not materialise. Two levels of response can be made to this conclusion. One response is to say that the conclusion is not surprising because C&C was not implemented "properly". Given the way that exemptions were organised, it is hardly surprising that they increased; given that C&C was started without national approval, it is not surprising that national policy hindered its implementation. This is true, as far as it goes.

A second, more constructive, level of response is to ask what could be done about the implementation

problems. Were these purely local issues or were they problems that might be encountered elsewhere? What were the implications of the problems for an economic analysis of revolving drug funds? These questions fit in with the aim of the thesis -to explore how a health economist at sub-national level can deal with constraints to the application of a rational mode of analysis.

This line of argument can be stated in more general terms. The chapter started with some predictions about the effects of a revolving drug fund. Economics makes generalisations about the advantages and disadvantages of different methods of financing - for example a taxation-based system will probably be equitable and have excess demand; a third-party insurance system will probably lead to supplier-induced demand. When this cause-effect method of thinking was applied to Cash and Carry in Volta, it was muddied by the inadequate implementation. The complications encountered during the intermediary stage between "before" and "after" meant that no definitive conclusions could be made.

The next two sections look at two levels of response to the constraints encountered in implementing Cash and Carry. Section I considers the strategies which can be employed locally to try to work within these constraints.

Section II takes a wider view. The problems encountered with Cash and Carry were not unique to Volta. Some broader conclusions are made about cause-effect economic models which ignore issues of implementation.

## I Identifying and managing the constraints

Four main constraints can be identified which hindered the implementation of an "ideal type" revolving drug fund.

### 1 **Political support for Cash and Carry was ambivalent.**

Examples of ambivalent support are contradictory statements about the use of health stations' revenue and extravagant offers of free drugs for civil servants. The political ambivalence meant that Cash and Carry was introduced in an environment of uncertainty; the uncertainty reduced the level of commitment to the scheme.

### 2 **The administrative capacity was inadequate.**

A revolving drug fund requires a network of staff with basic skills in handling money and drugs. Many problems were encountered with relatively simple tasks such as banking; requisitions from RMS; and the ability to calculate a 20% exemption rate.

3 Existing informal revolving drug funds supplemented the incomes of many health workers.

Cash and Carry was not introduced into a vacuum; it could not count on being immediately accepted by staff in the health stations. Informal systems of drug supplies operated in many health stations.

4 Prescribing practices were extremely poor; more drugs did not necessarily mean better treatment.

Having described the constraints, the next stage is to ask, "What can be done at regional level to deal with these constraints?"

The region essentially faced two kinds of constraints - insufficient skills (administrative; prescribing) and opposition to Cash and Carry from various groups for various reasons. Three strategies for dealing with these constraints can be identified:

(a) The region can act as a buffer between the political ambivalence at national level and its staff.

By stating its commitment to Cash and Carry, the RHA essentially took a firm stance about issues where national policy was ambiguous. The RHA clearly stated, for example, that health station

revenue was to be used to buy drugs from RMS and that civil servants were not to be provided with free drugs.

In order to be a credible buffer, the RHA also had to be clear about practices which it would not tolerate - for example, cases where informal charges were excessive.

- (b) Efforts can be made to gradually develop the Cash and Carry system.

Developing "administrative capacity" is an incremental process. The skills needed for Cash and Carry can be part of the general effort to develop technical, administrative and supervisory skills within the region - these skills would not benefit Cash and Carry alone.

In addition to some single-subject, one-off workshops at the time of the introduction of C&C, relevant topics were introduced into other workshops. This was in keeping with the region's attempts to integrate training. It also meant that subjects for which no donor training money was available - such as C&C - could benefit from donor-sponsored workshops.

(c) **Imperfection has to be tolerated.**

It was accepted that Cash and Carry was being implemented in the face of multiple, conflicting objectives and in a situation with insufficient skills. Without this acceptance, C&C would probably never have begun.

## II Are these problems unique to Volta?

If implementation was difficult simply because of some local factors, this would be of little wider interest. Were the implementation problems unique to Volta? There are two sources of evidence for answering this question - the general literature, as reviewed in Chapter 2, and descriptions of similar schemes elsewhere. These sources suggest that Volta's experiences were far from unique.

1 **Political support for Cash and Carry was ambivalent.**

The introduction of fees and/or revolving drug funds has been met with ambivalence in several countries. Ghana was not alone in experiencing months of uncertainty following the announcement of the introduction of a Cash and Carry-type scheme. Similar events happened in Uganda and Kenya. In Kenya,

"In September 1989, the government introduced cost-sharing at public health facilities.....Institutional and administrative systems were not immediately restructured to accommodate this policy change, and the user fees have since been abolished." (Overseas Development Administration, 1991)

In Uganda,

"The Inter-Ministerial Task Force on Health Financing recommended in January 1990 to introduce a 'cost-sharing' mechanism according to which patients will contribute to the cost of health services. The recommendations have not been implemented due to the political controversy that developed over it." (van der Heijden, 1991)

Uncertainty (because of political ambivalence) should not be discounted as an important effect of decisions to introduce user charges and/or revolving drug funds.

- 2 **The administrative capacity was inadequate.**  
The literature review showed that a shortage of skills is a generic problem in developing countries. This is related to general poverty. In a richer country, for example, health workers might be expected to have experience of bank accounts as

part of their general "life skills" - this cannot be relied upon in a country with generally low education levels and limited access to banks.

- 3 **The existing informal revolving drug funds supplemented the incomes of many health workers.** That civil servants pursue personal goals, and that low salaries made this virtually a necessity, were discussed in Chapter 2 (in general) and in Chapter 3 (specifically in the context of Ghana).
  
- 4 **Prescribing practices were extremely poor; more drugs did not necessarily mean better treatment.** Again, this is a matter of skills. (see point 2, above) Poor prescribing skills are widespread. A review of essential drugs programmes in 13 countries concluded:

"Providing the general public and health workers at all levels of the health care system with continuous training and regular information are preconditions for rational drugs use. It is in this area of work that gaps and weaknesses have been identified in the implementation of EDPs (Essential Drugs Programmes) and policies." (Kanji and Hardon, 1992, p 98)



In short, Volta does not seem to have been alone in the types of constraint encountered when a revolving drug fund was introduced.

In his review of the literature on user charges, Creese complained:

"The administrative context of cost-recovery is an important and under-examined issue." (Creese, 1990, p 16)

This case study has shown that the administrative (and political) context is crucial to the success or otherwise of a scheme.

Economists who advocate fees and revolving drug funds have to take some responsibility for the fact that they do not always yield the predicted benefits. Grafting fees and revolving funds onto organisations with poor management capabilities causes some predictable problems.

The chapter started by asking about the effects of a revolving drug fund on supply and demand. As the implementation problems became clear, the emphasis of this chapter moved away from the original focus on supply and demand. The realities of implementation led to a different set of questions. If governments are persuaded to introduce fees, but remain reluctant, are

uncertainties such as those encountered in Ghana likely to be commonplace? If civil servants are to be exempt from paying, does this negate many of the alleged advantages of fees and revolving drug funds? If administrative processes are weak, can the advantages of revolving drug funds be realised? If economic analysis is to be relevant at sub-national level, these issues should be confronted in concert with economic predictions. In other words, the economic analysis needs to be contextualised.

## Chapter 8

### Conclusions

## Chapter 8

### Conclusions:

#### Economics, economists and the management of constraints

"Go, go, go, said the bird: human kind  
Cannot bear so very much reality." (T.S. Eliot, 1963)

#### A A return to the literature review

Since the review of literature in Chapter 2, this thesis has been immersed in details about Ghana and its Ministry of Health; research methodologies; resource flows; immunisations and revolving drug funds. This chapter returns to the broad themes of the literature review.

The literature review presented five "lenses" (or models) for looking at and understanding organisations - rational, satisficing, bureaucratic, political and anarchic. It then considered whether organisations in developing countries had any special characteristics which differed from the industrialised countries where the lenses were originally developed. In tandem with these ways of describing organisations, the role of health economics as a prescriptive tool was discussed.

It was noted that the two bodies of literature were rather separate. Finally, the review considered coping strategies for managers who were trying to reap the benefits of decision aids based on rationality, whilst working in complex organisations with bureaucratic, anarchic and political elements.

A question was posed at the end of Chapter 2 - "How can a health economist working at sub-national level deal with constraints to rationality?" The chapter about methodology then argued that case studies should lead to some analytical generalisations:

"In analytical generalisation, the researcher tries to generalise a particular set of results to some broader theory.....The concepts developed should be applicable to other settings; results should be related back to the theory which led to the case studies." (Chapter 4, Section G)

This chapter attempts to respond to the question and to the call for analytical generalisation.

## B A return to the organisational models

As stated in the literature review, this thesis applies the organisational models. The intention was not to develop organisational theory, nor was it to question the suitability of the five particular models used in

this thesis. The relevant question to ask about the models is - "did they provide a useful heuristic device in the context in which I used them?"

For me, the answer is "yes". There were four inter-related benefits of using the models:

1 The models provide a framework for describing the workings of the Ministry of Health.

For example (the model which best describes the statement is given in brackets):

- \* For issues which attracted high level political attention, power could be exercised in a fickle manner. (political)
- \* Most health facilities were poorly supervised; some were staffed by people with considerable initiative. (anarchic)
- \* Rules were pervasive; they often served to reinforce hierarchy. Many health workers used rules for security or to replace thinking. (bureaucratic)
- \* For many issues, objectives were not clear. Many organisations other than the Ministry of Health had interests - donors, the Controller

and Accountant-General and the Ministry of Finance and Economic Planning. (political, anarchic)

- 2 **The models place economics in a wider organisational context; they provide a way of looking at economics from outside.**  
The models demonstrate that much of economics is locked into one way of thinking about organisations - the rational model.
- 3 **The models highlight the distinction between description and prescription.**  
Many economic analyses end with a prescriptive statement. The models provide a tool for thinking about how an organisation will react to particular prescriptions.
- 4 **By fostering an understanding of how organisations work, the models can help individuals to deal with complexity and ambiguity.**  
Working in a large organisation can be frustrating; understanding why organisations function as they do can help people to cope.

The importance of this function of the models should not be under-estimated. We saw in the literature review that there are various responses

to working in a complex organisation - including exit; deception; and avoiding, absorbing or repressing constraints. These are ultimately unconstructive responses. The organisational models offer one heuristic device for thinking through a more constructive response to constraints.

In summary, the use of the models as heuristic devices was fruitful. The models offered a way of thinking about the relationship between economics and organisations.

There was one problem which was encountered with the models. This is a problem of degree, rather than an absolute shortcoming. The point is perhaps best made through an example.

Descriptions of the anarchic model often cite universities and/or firms developing new computer software as examples of anarchic organisations. (Mohr, 1976, p 181; Martin, 1982) The anarchic structure suits the function of these organisations - which is to be individualistic and innovative. The anarchic model also explained many features of the Ministry of Health in Volta - many decisions were ad hoc, information was used haphazardly, there was little effective control of the health stations. But this was anarchy by default - the



Ministry was unable to exert central control, rather than unwilling. The reason for the anarchical features was not that an anarchical structure best suited the work of the organisation.

Much of what happened in the Ministry of Health was determined by the low skills level, the poor communications network and the need for individuals to supplement their salaries. It is difficult to capture this feature using the models. This shortcoming of the models leads to the question, "Are developing countries different?"

C Are developing countries different?

Six particular constraints to rational decision-making were identified from the literature as being particularly prevalent in developing countries. (Chapter 2, Section D)

- 1 civil servants pursue personal, not organisational, goals
- 2 information is extremely scarce
- 3 there is a shortage of skilled people
- 4 there is very considerable uncertainty
- 5 donors complicate decision-making
- 6 resources are scarce.

All of these factors appeared in some form in the case study chapters.

# 1 civil servants pursue personal, not organisational, goals

Civil servants pursuing personal goals was apparent in bald financial terms. Mass campaigns were favoured because they were more personally lucrative than immunisations through routine clinics. Personal financial considerations influence civil servants everywhere - the point here is that the demand for extra income was very high and the organisational and cultural sanctions were weak.

The literature review argued that the rational and satisficing models rest on the assumption that individuals adopt an organisational ethos. To meet this assumption, it was argued, organisations must provide their employees with reasonable remuneration, job satisfaction and fair treatment. These conditions were not met in the Ministry of Health. It is not surprising, then, that personal goals had such a strong effect on what actually happened in the Ministry. This is an area which is difficult to acknowledge and accommodate. It is rarely explicitly talked about. Yet a recognition of the difference between private and publicly stated goals was crucial to an understanding of the Ministry of Health.

## 2 Information is extremely scarce

Chapter 2 distinguished between a scarcity of information and the failure to use existing information. The experience of the case studies in this thesis is that it is the analysis and use of existing, routinely collected information which is the problem. Reasonable quality data on out-patient numbers, health facility revenue and immunisations were all available but not used.

There was little demand for information. The provision of information systems would not solve this. The problem in Ghana was that skills were in short supply; this was much more of an issue than the availability of information. (The issue of skills is discussed below.)

Apart from age-specific population estimates, this thesis did not require population-based or health impact information. There is a general scarcity of these kinds of information. However, as for service-based information, there is no widespread demand for this type of information. The demand for population information was largely donor-driven; it was a result of the target-orientation of the immunisation programme.

**3 there is a shortage of skilled people**

A shortage of skilled people means that it is difficult to implement change throughout a geographically diffuse organisation. The tasks handled by the Ministry of Health were not mechanical - some degree of analytic skill was necessary. The implementation of Cash and Carry, for example, was hampered by basic factors such as the relatively low numeracy of many health workers.

The literature review showed that the combination of low skills and control from above could cause workers to be risk averse. This certainly happened in the Ministry. Many health workers preferred to do nothing rather than to risk criticism.

**4 there is very considerable uncertainty**

The situation about uncertainty was found to be not quite as it was portrayed in the literature review. Uncertainty was certainly a major consideration at the regional level. There was uncertainty about when FEs would arrive; how much they would be worth; the rules surrounding health facility revenue; and what capital projects would be approved, and when.

The literature review argued that much of the

uncertainty was caused by the political and economic vulnerability of governments in developing countries. It is not clear that the uncertainty at regional level was caused by national level political and economic vulnerability. Many of the causes of uncertainty seemed more mundane - a lack of skilled staff, poor communications and the legacy of a finance system which had become rule-bound during years of economic uncertainty.

Strategies could be developed to deal with this so-called uncertainty. For example, whilst the exact level of FEs could not be predicted, spending officers could be given a reasonable idea of the minimum they could expect. More information about the availability of stores could be made available; the RHA could reduce confusion in the health stations by making a clear statement about the use of revenue.

This is not to deny the existence of genuine uncertainty - for example the large increase in fuel prices in 1990. Even here, however, there was no attempt to make sensible contingency plans. At national level, the frequency of across-the-board spending cuts indicated that there was no prioritising of savings.

## 5 donors complicate decision-making

Several illustrations of "donor-induced complications" have been given in the case studies. Whilst theoretically in favour of cost-effective practices, donors' desire for quick results led them to encourage mass immunisation campaigns. The international interest in fees-for-service which influenced many donors in the late 1980s fuelled schizophrenic government statements but was not translated into an effective scheme in Ghana.

## 6 resources are scarce.

The literature review argued that scarce resources per se influenced the nature of decision-making. The aspects mentioned in the literature review - short time horizons (immunisation targets); a pre-occupation with national solvency (drawing limits); and individual civil servants' concerns about personal solvency - have all been encountered.

The effects of scarcity are more pervasive than reflected in these ad hoc examples. As described in the quotation by Caiden and Wildavsky in the literature review, "the whole life of the society is affected by scarcity". The most pertinent manifestation of scarcity in the Ministry of Health was the absence of a

functioning institutional infrastructure. Again and again schemes failed because they attempted to graft new ideas onto a system which did not have the basic institutional infrastructure of information, communication, supervision etc.

The opportunity costs of the concentration on immunisations were particularly high because of the small amounts of resources available to the Ministry of Health at district level. A mass immunisation campaign could monopolise the time of the one good manager in a district and the only MoH vehicle. Even if a District Health Management Team disliked mass campaigns, it was scarcely likely to refuse money from donors when this perhaps afforded the only opportunity to get the DHMT vehicle mended or to buy some cold chain equipment.

The PNDC's ambivalence about Cash and Carry can also partly be explained by the scarcity of resources. It was extremely difficult for the government to reconcile expectations about health services (and the promises which politicians liked to make), with the reality of a government health budget of \$4 per person per year. The government reacted with contradictory policy statements. Whilst all societies face the conflict between expectations and the availability of resources, the conflict is more acute in developing countries.

The organisational models were a heuristic device. They provided ways of thinking about what went on in an organisation. The discussion of characteristics of the public sector in developing countries specifies some particular constraints which are likely to be encountered. The characteristic features of developing countries (such as civil servants' personalistic goals and the lack of infrastructure and skills) mean that rational techniques are even less likely to be relevant. What, then, can a rational discipline such as economics contribute?

D What does economics contribute?

"Economics as a discipline, or mode of thought, centres upon the issue of scarcity and the consequential necessity for individuals to choose. It starts from the fundamental proposition that resources are too few to satisfy all the wants of mankind, whether they be selfish or unselfish wants, whether they be expressed by individuals or groups, whether they be represented by individuals acting on their own behalf or on the behalf of others. The idea of a resource is broad too: it includes not only the naturally provided fruits of nature but those produced by man. It also includes man himself as a resource: his time, natural aptitudes, acquired skills and so on. All economic theory is at root about how people actually choose or ought to choose given the scarcity of resources, which precludes (and will preclude for the



foreseeable future) the satisfaction of all wants for all people." (Culyer, 1985, pp 1-2; original emphasis)

This chapter has so far concentrated on the limitations of regarding organisations as rational. Given this, and given that economics has been presented as a discipline based on rationality, what is economics' relevance? Does economics ask relevant questions and produce relevant answers?

The above quotation suggests that economics does ask relevant questions. In this very general definition, Culyer includes many of the issues that have been encountered in this thesis - scarcity, skills, choice and the impossibility of pleasing everyone. If economics is about "how people actually choose or ought to choose given the scarcity of resources", then it would seem to address a real need in the Ministry of Health in Volta.

Describing organisations helps to understand the ways in which change might be fostered. But where does the direction of the change originate? Where do the prescriptions come from?

The argument here is that economics helps us to define where we want to go. This is similar to Leach's argument in his article "In defence of the rational model". Leach maintained that the rational model was the

only one which offered an alternative to the preservation of the status quo. The other models merely offered explanations of why change may be difficult to achieve.

The literature review mentioned phrases such as "vision"; "an alternative to the preservation of the status quo"; "the inspiration of normative [prescriptive] notions"; "challenging the constraints"; and the "need to be able to think holistically about health systems". "Vision" is economics' forte. Because economics concentrates on the relationships of inputs to outputs, without lingering on the processes, it can offer clear insights about alternative ways of providing services. Economic evaluations force the explicit consideration of alternative strategies. Assessments of financing methods show the inherent strengths and weaknesses of different systems.

Two "vision" statements used in the case studies are:

- \* It is desirable to immunise as many children as possible for every ₦1,000 spent.
  
- \* Government services which are free at the point of use are vulnerable to supply shortages and wastage. A revolving drug fund such as Cash and Carry offers

the potential to improve drug supplies and reduce wastage.

The economics provided the vision of where to go; along the way, constraints were encountered. How could these constraints be handled?

E Managing the constraints

Economics can provide visions of where an organisation might go; it can provide ideas about improvements to the health system. How can vision be translated into actual change? There is a need to think beyond the rational economic analysis at processes for affecting change.

Based on a paper by Collins and Harrison, the literature review identified seven responses to the tension between rational prescriptions and organisational constraints. It identified one particular response - "managing the constraints" - as of relevance to the situation being discussed here.

For a reminder of the nature of the response "managing the constraints", a quotation from Cassels and Janovsky is repeated here. The quotation describes the management of constraints in the context of primary health care (PHC):

"Management development for PHC is faced with having to reconcile conflicting demands. It must enable managers to get things done within existing - but often inappropriate and inadequate - systems and structures. Equally importantly, it must be concerned with changing those systems and structures so that they become better suited for implementing PHC policies and strategies.

Policy-makers and senior managers need to be able to analyse which are the most promising entry points for improving PHC management and implementation. They need to be able to think holistically about health systems change while acting incrementally, if the prevailing circumstances do not favour radical transformation. At all levels, health managers need to keep in mind what should be done while carrying on with what can be done given existing constraints." (Cassels and Janovsky, 1991, p 110)

This section aims to expand this description and to illustrate it with examples from health economics. Whilst the particular examples come from Volta and from work at regional level, the modus operandi has a wider application. The basic themes and methods of analysis are also applicable at health facility, district or national level. Moreover, many of the particular issues are likely to be encountered by health economists elsewhere.

What follows is a 2-stage consideration of "managing the constraints" for health economists. The general mode of thinking is far from original - it is as described by Cassels and Janovsky in the quotation above and by many other authors for different contexts. (e.g. Hogwood and Gunn, 1984; Morgan, 1986, used his "organisational metaphors" in a similar way) What is more unusual is that the stages are illustrated with factors likely to be encountered by a health economist.

### Stage 1    Identify the constraints

Having conducted an economic analysis, constraints to the desired change can be identified. This was done in each of the three case study chapters. (Chapters 5-7) There was considerable overlap of the constraints identified in the three chapters. Five general constraints emerged:

- 1    there was a lack of skills; information was not used
- 2    there were multiple, conflicting objectives (at different levels of the Ministry; donors; personal objectives of civil servants)
- 3    small amounts of money were not available in key places
- 4    rules were often unclear and/or their original purpose had been perverted

5 civil servants needed to supplement their salaries.

Table 8.1 illustrates these general constraints with examples from the three case study chapters.

Stage 2    Developing strategies for dealing with the constraints

Table 8.2 repeats the general constraints from Table 8.1 and lists some strategies which can be deployed to deal with or challenge these constraints. A number of general activities emerge from this table.

1    negotiations between different cadres.

Some conflicting objectives can be reconciled. Of particular relevance to health economists is the lack of understanding which often exists between health professionals and accountants/auditors. Health professionals are, or are thought to be, financially illiterate. The very term "health economist" suggests that the profession should be instrumental in bridging this gap.

2    teaching new skills.

Resource allocation could be improved if there were better skills in stock-keeping; banking; prescribing; and planning the expenditure of FEs.

Some problems cannot be solved merely by training; however there is a genuine skills gap. Resource issues can be included on many curricula.

3 **improving administrative procedures.**

The system of requisitioning stores was ineffective; communications about sensible rules were poor. Many health workers had no record of rules which the RHA expected them to follow. Some rules needed clarification and explanation.

4 **developing new systems.**

Some new systems were required - for example, for health station financing and perhaps to provide systematic incentives for health workers. The region could initiate these activities.

5 **using information.**

In many cases poor resource use could be identified through the use of routine information.

6 **prioritising rules.**

The region could make it clear which rules it regarded as priorities and intended to enforce. In a situation where rules were plentiful, poorly publicised and often respected, some rules could be useful in fostering an environment conducive to economic rationality.

7 lobbying and advertising the regional situation to national level and to donors.

Some of the constraints which originated outside the region were based on conflicts of interest. Others, however, were unintentional consequences of actions at national level. The region had a role to play in explaining the constraints and lobbying for change.

8 setting an example of good practice at regional level.

The RHA itself handled considerable amounts of resources and received a lot of information. It could set a good example by prioritising its expenditures and by using information systematically.

9 acting as a buffer.

Both the Cash and Carry and the immunisation case studies involved the region acting as a buffer. In a rule-bound, centralised system, local managers have to be protected from the injudicious imposition of rules from above.

In addition to these positive strategies, it must be realised that some constraints are not worth challenging - there is no room for manoeuvre.



The above activities are broadly reminiscent of the role of regions quoted in Chapter 3:

"The Regional Level is the critical link between the national headquarters and the district level and serves as a "buffer" in reconciling needs identified by districts with national concerns. Its role is to help translate central policy<sup>159</sup> into district action by providing support in the form of guidelines, protocols and procedures, to ensure coordination between districts, monitor district programme implementation and to provide feedback to districts and the national headquarters." (MoH, 1991, p 22)

The nine activities listed above could be in the job description of any regional manager. This is as it should be if economic concerns are to be brought into the mainstream of organisational life. What has emerged is essentially a description of the role of a regional manager, applied to a particular set of issues. The particular message of economic analysis is not lost - it is integrated into the life of the organisation.

---

<sup>159</sup> Note the assumption that "central policy" exists. In practice, the region often filled policy vacuums.

Table 8.1 General constraints - examples from the case studies

Constraint to uni-purpose rational decision-making	Examples from Chapter 5 - resource flows	Examples from Chapter 6 - immunisations	Examples from Chapter 7 - Cash and Carry
lack of skills; information not used	format of expenditure data not relevant to managers; poor stock-keeping skills	N/A	system not monitored; many staff unable to calculate percentages, profit/loss etc.; multiple prescribing
multiple objectives	solvency and accountability versus local flexibility	short/long time horizons; importance attached to institutional strengthening and building up trust of communities	political desire for drug availability, yet sensitive to high costs; mixed messages about free treatment for civil servants
small amounts of money not available in key places	policy vacuum about financing of health stations; few imprests; stop/go availability of FEs	S/O more cost-effective, but difficult for health stations to find the necessary cash	N/A
rules unclear and/or original purpose perverted	drawing limits and expenditure authorisations; imprests	N/A	confusion about use of health station revenue; audit requirement for official receipts
civil servants need to supplement their salaries	corruption; under-the-counter charges widespread	preference for mass campaigns because generous allowances paid	government drugs not sold even when available because private sales were source of income

Table 8.2 Types of strategies for dealing with constraints

Constraint to uni-purpose rational decision-making	Local strategies	Beyond the region
lack of skills; information not used	training; procedures and forms to be kept as simple as possible; develop systematic rewards for skill development/use of information; region to set example and to create demand for information	constant pressure on national level and donors to keep procedures and records as simple as possible; demand practical training; change information system to generate more user-friendly data
multiple objectives	recognise; encourage negotiation; clarify some objectives - e.g. priority use of FEs; sometimes region can act unilaterally	negotiate; lobby; advertise implications of national policies
small amounts of money not available in key places	develop own systems for health stations; judicious use of donor funds and fees	develop relationship of mutual trust with donor about flexible use of money to bridge temporary shortages; lobby for changes in rules and financial procedures
rules unclear and/or original purpose perverted	clear messages within region about relative importance of different rules; enforce important rules; act as buffer between national level and good managers who break rules	lobby for better rules; advertise perverse incentives created by rules; act as buffer between national level and good managers who break rules
civil servants need to supplement their salaries	recognise; clear messages about limits of acceptability; standard per diems	recognise; discuss incentive scheme to reward good, routine work

## F Contextualising the economic analysis

So far, the economic analysis and the development of strategies for implementing the findings have been presented as separate stages. This is artificial. In fact, the context in which an analysis is conducted should have some bearing on the nature of the analysis. If the economist wants to project an economic perspective with which people working at regional level can identify, then the constraints of working at regional level have to be recognised within the analysis.

Many health economics textbooks contain a checklist of questions to ask about an economic appraisal. (McGuire et al., 1988, pp 126-128; Mills and Gilson, 1988, pp 90-91) The checklist is "intended to promote critical assessment of any case-study" (McGuire et al., p 125) An analogous checklist of five questions is presented here. This checklist applies to economic analysis in general. The checklist is "intended to promote critical assessment" of economic analysis conducted for consumption at sub-national level in a developing country.

- 1 Is the role of informal, under-the-counter charges and bribes acknowledged?

Mainstream economics is interested in total prices; in theory, therefore, it is interested in the "hidden economy". In practice, however - and for the very obvious methodological reason that the issues are hard to quantify - the informal economy within a Ministry of Health is often ignored in economic analyses.

Economic analysis should at the very least acknowledge the role of the hidden economy and discuss its relevance to the issue being analysed. This can be done even when quantification is not possible.

- 2 Does the analysis consider the effect on the take-home-pay of health workers? (i.e. official take-home pay, including allowances)

The cost-effectiveness analysis of immunisation strategies demonstrated that mass campaigns provided significant amounts of extra allowances for health workers. (see Table 6.13) Health workers in districts which did not run mass campaigns were denied this extra income.

In a situation where salaries are too low to provide a reasonable standard of living, salary

supplementation is an over-riding priority for health workers at all levels of the system. Some managers would argue that a programme cannot be successful unless it provides salary supplementation.

It is unsatisfactory for an economic analysis simply to measure salary costs and to assume that this provides for 8 hours' work per day.

3 Does the analysis consider the channels through which resources flow?

At regional level, the opportunity cost of money located in different administrative channels is not the same. For example, a regional manager may be unwilling to spend \$100,000 out of the FEs on a training programme, but will happily agree to use some donor funds for the same purpose. This is perfectly logical. The opportunity costs of the FEs are very high, if this is the only source of money to pay for a perceived priority need such as renovating staff accommodation.

There are some items which a regional manager is unable to buy - another pharmacist, for example, or a large refrigerator for storing vaccines. It is not helpful if these costs are lumped together with money which the manager does control. (The request for new staff and capital goods is not irrelevant, it simply

needs to be channelled in a different way. See point 5.)

An economic analysis should be sensitive to the ways in which resources are channelled.

- 4 Does the analysis make reasonable assumptions about the level of infrastructure (including skills) available?

Many examples emerged from the case studies of a basic infrastructure that did not work adequately. Health station staff had difficulties with basic skills such as stock-keeping and calculating percentages. An analysis which implicitly assumes an efficient administrative infrastructure will not be credible.

- 5 Are recommendations directed to people who have the capacity to implement them? Is/are the client(s) for the analysis clear?

Regional managers face many constraints. The danger is that if an economic analysis incorporates too many of these constraints, it will not make a significant contribution to the issue of how to use resources more efficiently. On the other hand, ignoring the constraints reduces the immediate relevance and applicability of an analysis. In practice, the economist can work on more than one front at once.

Immediate, local, short-term recommendations can be made within the region.

The implications of national and donors' policies for efficiency can be discussed with actors who can influence these policies. It is no use telling a regional manager that things would be better if there were more vaccine carriers; it is useful to tell national level that immunisation services could be run more cost-effectively if more vaccine carriers and fewer solar refrigerators were supplied.

Recommendations should be sensitive to their audience's room for manoeuvre.

G Who does economics?

So far, the terms "economics" and "economists" have been used as if only economists can "do economics".

We have seen that the application of economic techniques requires both technical skills in economics and tactical, managerial skills. Who might combine these skills? Who should do economics - a specialist economist or a manager (from whatever background) with economic skills?

The original professional background is of little



relevance. Someone can act "as an economist" if s/he has the following:

- \* an understanding of basic economic principles.  
Economic analyses do not need to be complicated. Much of the skill lies in applying a few basic concepts (such as cost-effectiveness and opportunity cost).
- \* organisational savoir-faire - the ability to manage constraints and thus to understand how to effect change.
- \* a position of influence within the organisation.

The combination of these three characteristics is more important than excellence in one of them.<sup>160</sup> Specialist health economists with little understanding of the organisational culture and little power would tend towards econocracy.

The above discussion has concentrated on the application of economic skills by someone within an organisation. In practice, however, much economic advice is provided by consultants. A consultant's

---

<sup>160</sup> This argument mirrors the long-running debate about whether health planners should be located in separate Planning Units or whether they should be part of line management.

recommendations will not be implemented if the organisation does not have the capacity to absorb the advice. The consultant must be sensitive to the way the organisation works; the task given to the consultant must reflect organisational realities.

H The end

Chapter 1 described the problems encountered by many students in Liverpool - how to reconcile their training in economics with their work at sub-national level in a developing country. The chapter contrasted "common sense" with the concern that "economics seemed to offer bland answers based on a theoretical rationality which patently did not exist". On a purely personal basis, this thesis has been a quest to reconcile a rational decision-making tool with an understanding of how organisations work.

A wealth of literature exists about the difficult task of affecting change in large organisations. Little has been written about the very specific process of adapting health economics to be a truly applied discipline.

The message that has emerged from this thesis is that economics is not redundant just because an organisation does not incorporate all the prescriptions

resulting from an economic analysis. The basic messages of economics are still valid - there is some room for manoeuvre almost anywhere in a large organisation.

**References and**

**Bibliography**

## References

- Abbey, J.L.S. (1989) On promoting successful adjustment: some lessons from Ghana. 1989 Per Jacobsson lecture. Washington D.C.; International Monetary Fund.
- Abel-Smith, B. (1976) Value for money in health services. London; Heinemann.
- Addae, Okofo Kwesi. (1991) Another year of PNDC. West Africa. 7-13 January, p 3148.
- Aidoo, Thomas Akwasi. (1982) Rural health under colonialism and neocolonialism: a survey of the Ghanaian experience. International Journal of Health Services. 12, 4, pp 637-657.
- Aitken, Jean-Marion. (1991) The view from the front line: workers' understanding of the aims, content and form of primary health care delivery at level B [health stations] in Ghana. Liverpool School of Tropical Medicine; unpublished.
- Alban, Anita. (1987) Economic appraisal: what is the use? revisited. Presented at the Eighth Nordic Health Economists' Study Group Meeting. Copenhagen; unpublished.
- Alhassan, Susan. (1979) The river that became a lake. Tema; Ghana Publishing Corporation.
- Allison, Graham T. (1971) Essence of decision. Explaining the Cuban missile crisis. Boston; Little Brown and Company.
- Amarteifio, Victor. (1985) Bediako the Adventurer. Accra; Amaabooks.
- Anonymous. (1986) Evaluating government activity: the limits of cost-benefit analysis and other techniques. Review of "The economic ideal in British government" by Phyllis Colvin. Public Money. June, pp 59-61.
- Anyinam, Charles A. (1989) The social costs of the International Monetary Fund's adjustment programs for poverty: the case of health care development in Ghana. International Journal of Health Services. 19, 3, pp 531-547.
- Appleby, John L. (1987) Why doctors must grapple with health economics. British Medical Journal. 294, p 326.
- Arriens, Jan. (1991) Welcome to hell. Cambridge, UK; Ian Faulkner Publishing.

Asamoah-Baah, Anarfi. (1991) An option appraisal framework for health development in Ghana. Unpublished.

Asamoah-Baah, Anarfi. (1992) What is policy? In: Ministry of Health and World Health Organization. Akosombo health policy seminar. Accra.

ten Asbroek, Guus. (1992) Exempting the poor: an exploratory study in Ho Government Hospital, Ghana. Rijksuniversiteit Limburg, Maastricht; unpublished.

Barnum, Howard. (1987) Evaluating healthy days of life gained from health projects. Social Science and Medicine. 24, 10, pp 833-841.

Bates, Robert H. (1992) Social dilemmas and rational individuals: an essay on the new institutionalism. Duke University; unpublished mimeograph.

Bendor, Jonathan. (1990) Formal models of bureaucracy: a review. In: Lynn, Naomi B. and Wildavsky, Aaron (eds.). Public administration: the state of the discipline. Ch 16. Chatham, New Jersey; Chatham House Publishers.

Bermejo, Alvaro and Bekui, Amenuve. (1991) Community participation in disease control. Leeds; unpublished.

Birch, Stephen. (1987) DNA Diagnostic Laboratories. The Lancet. 332, 1, p 1434.

Blades, C.A.; Culyer, A.J. and Walker, A. (1987) Health service efficiency: appraising the appraisers - a critical review of economic appraisal in practice. Social Science and Medicine. 25, 5, pp 461-472.

Blumenfeld, Stewart N. (1983) Cost analysis of the Danfa (Ghana) project family planning component. In: Sirageldin, Ismail; Salkever, David and Osborn, Richard W. (eds.). Evaluating population programs - international experience with cost-effectiveness analysis and cost-benefit analysis. Ch 9. London, Croom Helm.

Boateng, E.O.; Ewusi, Kodwo; Kanbur, R and McKay, A. (1990) A poverty profile for Ghana 1987-8. Washington D.C.; World Bank.

Bresnen, Mike. (1988) Insights on site: research into construction project organizations. In: Bryman, Alan (ed.). Doing research in organizations. Ch 2. London; Routledge.

Brittain, Victoria. (1992) Ghana's leader tries to buck Africa's election trend. The Guardian. July 4.

- Brydon, Lynne. (1991) PAMSCAD and the health sector. Liverpool; unpublished background paper for DANIDA Mission to Ghana.
- Bryman, Alan. (1988) Introduction: 'inside' accounts and social research in organizations. In: Bryman, Alan (ed.). Doing research in organizations. London; Routledge.
- Bryman, Alan. (1989) Research methods and organization studies. London; Unwin Hyman.
- Buchanan, David; Boddy, David and McCalman, James. (1988) Getting in, getting on, getting out, and getting back. In: Bryman, Alan (ed.). Doing research in organizations. Ch 3. London; Routledge.
- Budget and Monitoring Division, Ministry of Finance and Economic Planning. (1989) The Annual Estimates for 1989, Part 1, Volume XII, Ministry of Health. Accra.
- Bukh, Jette. (1979) The village woman in Ghana. Uppsala; Scandinavian Institute of African Studies.
- Bulmer, Martin. (1988) Some reflections upon research in organizations. In: Bryman, Alan (ed.). Doing research in organizations. Ch 10. London; Routledge.
- Caiden, Naomi and Wildavsky, Aaron. (1974) Planning and budgeting in poor countries. New York; Wiley and Sons.
- Carr-Hill, Roy A. (1991a) Allocating resources to health care: is the QALY (quality adjusted life year) a technical solution to a political problem? International Journal of Health Services. 21, 2, pp 351-363.
- Carr-Hill, Roy A. (1991b) A response to Alan Williams. International Journal of Health Services. 21, 2, pp 371-2.
- Cassels, Andrew. (1988) Three models for understanding decision making in organisations. Lecture notes for the Masters in Community Health, Liverpool School of Tropical Medicine; unpublished.
- Cassels, Andrew and Janovsky, Katja. (1991) Management development for primary health care: a framework for analysis. International Journal of Health Planning and Management. 6, pp 109-124.
- Cassels, Andrew and Janovsky, Katja. (1992) A time of change: health policy, planning and organization in Ghana. Health Policy and Planning. 7, 2, pp 144-154.

Cassels, Andrew; Janovsky, Katja; Dovlo, Delanyo; Enyimayew, Nana and Asamoah-Baah, Anarfi. (1992) Improving implementation - the SDHS [Strengthening District Health Systems] initiative in Ghana. Unpublished.

Chazan, Naomi. (1991) The political transformation of Ghana under the PNDC. In: Rothchild, Donald (ed.). Ghana: the political economy of recovery. Ch 2. Boulder, Colorado; Lynne Rienner Publishers.

Christenson, Charles. (1976) Concepts, theory and techniques. Proposals for a program of empirical research into the properties of triangles. Decision Sciences. 7, pp 631-648.

Civil Service Reform Programme. (1990) The civil service reform programme - information sheet. Accra.

Cobbe, James. (1991) The political economy of education reform in Ghana. In: Rothchild, Donald (ed.). Ghana: the political economy of recovery. Ch 6. Boulder, Colorado; Lynne Rienner Publishers.

Coen, D.; Ofori-Adjei, D. and Reggi, V. (eds.) (1988) The provisional essential drugs list and national formulary of Ghana. Republic of Ghana, Ministry of Health.

Cohen, John M.; Grindle, Merilee S. and Walker, S. Tjip. (1985) Foreign aid and conditions precedent: political and bureaucratic dimensions. World Development. 13, 12, pp 1211-1230.

Collins, C. and Harrison, S. (1991) Dilemmas of public service management: a research note. Leeds; unpublished.

Colvin, Phyllis. (1985) The economic ideal in government. Manchester; Manchester University Press.

Conrad, Peter. (1990) Qualitative research on chronic illness: a commentary on method and conceptual development. Social Science and Medicine. 30, 11, pp 1257-1263.

Conyers, Diana and Hills, Peter. (1984) An introduction to development planning in the third world. Chichester; John Wiley and Sons.

Cooper, Richard Newell. (1971) Currency devaluation in developing countries. Princeton, New Jersey; Princeton University Press.



Creese, A.L. (1990) User charges for health care: a review of recent experience. Current Concerns Paper Number 1, Division of Strengthening Health Services, World Health Organization. Geneva; WHO.

Culyer, A.J. (1985) Economics. Oxford; Basil Blackwell.

Czarniawska-Joerges, Barbara. (1992) Exploring complex organizations: a cultural perspective. London; Sage Publications.

Dando, Rosemary A. (undated) Decision making in an organisation: political rather than rational - a case study. Leeds; unpublished.

Davies, Celia. (1979) Organization theory and the organization of health care: a comment on the literature. Social Science and Medicine. 13A, pp 413-422.

Department of Health and Social Security. (1983) NHS management enquiry ("The Griffiths report"). London; DHSS.

Ditton, Jason. (1977) Part-time crime. An ethnography of fiddling and pilferage. London; Macmillan Press.

Dotse, F. Mawuena. (1991) The state of training in public policy management in Ghana. Public Administration and Development. 11, pp 525-539.

Dovlo, Delanyo; Nyonator, Frank and Kanlisi, Nick. (1992) Decentralization and health systems performance in Eastern region, Ghana. Unpublished.

Drummond, M.F. (1980) Principles of economic appraisal in health care. Oxford; Oxford University Press.

Drummond, Michael and Mills, Anne. (1989) Developing economics expertise for the evaluation of primary health care. Public Administration and Development. 9, pp 83-96.

Drummond, M.F. and Stoddart, G.L. (1985) Principles of economic evaluation of health programmes. World Health Statistics Quarterly. 38, pp 355-367.

Drummond, M.F.; Stoddart, G.L.; and Torrance, G.W. (1987) Methods for the economic evaluation of health care programmes. Oxford; Oxford Medical Publications.

Economist Intelligence Unit. (1990a; May) Ghana country profile 1990-1. London; Economist Intelligence Unit.

Economist Intelligence Unit. (1990b; August) Ghana, Sierra Leone, Liberia Country Report Number 3. London; Economist Intelligence Unit.

Eggertsson, Thráinn. (1990) Economic behaviour and institutions. Cambridge; Cambridge University Press.

Eliot, T.S. (1963) Four quartets - Burnt Norton; in "The collected poems of T.S. Eliot". London; Heinemann.

Elmore, Richard F. (1978) Organizational models of social program implementation. Public Policy. 26, 2, pp 185-228.

Epidemiology Division, Ministry of Health. (1989) Report on the accelerated E.P.I. activities, Ghana, June 1988-May 1989. Accra.

Farrar, Shelley. (1992) Resource management: an economic view. Paper presented to Health Economists' Study Group Meeting, St. Andrews. Unpublished.

Fenn, Paul; McGuire, Alistair and Barker, George. (1992) Contractual flexibility and institutional choice: imposing some analysis on the NHS reforms. Paper presented to the Health Economists' Study Group Meeting, University of Sheffield. Unpublished.

Ferster, G. (1988) Health finance: recovering costs to strengthen primary health care. Ghana Health Study, volume 2. Toronto.

Garnett, J.C. (1976) Some constraints on defence policy makers. In: McGrew, Anthony G. and Wilson, M.J. (eds., 1982). Decision making - Approaches and analysis. Ch 3.6. Manchester; Manchester University Press, in association with the Open University.

Georgopoulos, Basil S. (1986) Organizational structure, problem solving, and effectiveness: a comparative study of hospital emergency services. San Francisco; Jossey-Bass Publishers.

Gerard, Karen. (1992) The state of the art of cost-utility analysis: a literature review. Paper presented to the Health Economists' Study Group Meeting, University of Sheffield. Unpublished.

Ghana Health Assessment Project Team. (1981) A quantitative method of assessing the health impact of different diseases in less developed countries. International Journal of Epidemiology. 10, 1, pp 73-80.

Giles, B.D. (1979) Economists in government: the case of Malawi. Journal of Development Studies. 15, 2, pp 216-232.

- Gould, Bill. (1990) Structural adjustment, decentralization and educational planning in Ghana. In: Simon, David (ed.). Third world regional development: a reappraisal. Ch 12. London; Paul Chapman.
- Green, Andrew. (1990) Health economics: are we being realistic about its value? Health Policy and Planning. 5, 3, pp 274-279.
- Green, Andrew and Barker, Carol. (1988) Priority setting and economic appraisal: whose priorities - the community or the economist? Social Science and Medicine. 26, 9, pp 919-929.
- Green, Reginald Herbold. (1988) Ghana: progress, problematics and limitations of the success story. IDS Bulletin. 19, 1, pp 7-15.
- Gudex, C. (1986) QALYs and their use by the health service. Discussion Paper Number 20, Centre for Health Economics, University of York.
- Gulland, Daphne M. and Hinds-Howell, David G. (1986) The Penguin dictionary of English idioms. London; Penguin Group.
- Gyimah-Boadi, E. and Rothchild, Donald. (1990) Ghana. In: Subramaniam, V. (ed.). Public administration in the third world - an international handbook. Ch 10. New York; Greenwood Press.
- Gyimah-Boadi, E. (1991) State enterprises divestiture: recent Ghanaian experiences. In: Rothchild, Donald (ed.). Ghana: the political economy of recovery. Ch 10. Boulder, Colorado; Lynne Rienner Publishers.
- Handy, Charles B. (1976) Understanding organizations. Harmondsworth, Middlesex; Penguin Books.
- Handy, Charles B. (1988) Understanding voluntary organizations. London; Penguin Books.
- Harris, J.E. (1977) The internal organisation of hospitals: some economic implications. Bell Journal of Economics. 8, pp 467-482.
- Hartley, Keith. (1992) Exogenous factors in neo-classical economics. In: Himmelstrand, Ulf (ed.). Interfaces in economic and social analysis. Ch 4. London; Routledge.
- Hawkins, Joyce M. (1979) The Oxford Paperback Dictionary. Oxford; Oxford University Press.

van der Heijden, Thomas. (1991) Economic survival strategies of health workers in Uganda. An exploratory descriptive study with emphasis on qualitative data. Liverpool School of Tropical Medicine; unpublished.

Heller, Joseph. (1963) Catch 22. London; Cape.

Hogwood, Brian W. and Gunn, Lewis A. (1984) Policy analysis for the real world. Oxford; Oxford University Press.

Hogwood, Brian W. and Peters, B. Guy. (1985) The pathology of public policy. Oxford; Clarendon Press.

Hohoe Government Hospital. (1991) Annual Report for 1990. Hohoe.

Holmes, Gillian. (1991) Public expenditure review, 1992; health sector aide memoire to the Ministry of Health. Accra; unpublished.

Holmes, G. (1992) Financial management issues in the health sector. Annex to mission report to ODA. London; unpublished.

Hyden, Goran. (1983) No shortcuts to progress. African development management in perspective. London; Heinemann.

INRUD News (Newsletter of the International Network for Rational Use of Drugs). (1992) Results of indicators studies carried out since 1990. 3, 1, p 12.

International Monetary Fund. (1990) One world, one economy - Mexico, Poland, Ghana and the IMF. Film: instructor's guide. Washington D.C.; International Monetary Fund.

Issaka-Tinorgah, Abdulai. (1986) Rational financial decisions in primary health care: a general discussion with particular reference to Ghana. Liverpool; unpublished.

Issaka-Tinorgah, Abdulai. (1989) Government policy and infant health: options for Ghana. In: Transactions of the Royal Society of Tropical Medicine and Hygiene. 83, Symposium on economic recession and infant health. Cassels, Claudia and Nabarro, David (eds.). London.

Janovsky, Gerlinde Katarina. (1979) Planning as organizational transaction and bargaining: the case of health in Kenya. Harvard University; unpublished PhD thesis.

Jeffries, Richard. (1991) Leadership commitment and political opposition to structural adjustment in Ghana. In: Rothchild, Donald (ed.). Ghana: the political economy of recovery. Ch 8. Boulder, Colorado; Lynne Rienner Publishers.

Jennett, B. (1988) Medical ethics and economics in clinical decision making. In: Mooney, Gavin and McGuire, Alistair (eds.). Medical ethics and economics in health care. Ch 7. Oxford; Oxford University Press.

Jones, Judy. (1991) Financial information in NHS 'inadequate'. The Independent. 22 August.

Jory, Joani. (1991) Book review: Nutritional status in Ghana by H. Alderman, World Bank, 1990. Health Policy and Planning. 6, 4, pp 399-400.

Kanji, Najmi and Hardon, Anita. (1992) What has been achieved and where are we now? In: Kanji, Najmi; Hardon, Anita; Harnmeijer, Jan Willem; Mamdani, Masuma and Walt, Gill (eds.). Drugs policy in developing countries. Ch 5. London; Zed Books.

Killick, Tony. (1976) The possibilities of development planning. Oxford Economic Papers. 28, pp 138-147.

Kirk, Jerome and Miller, Marc L. (1986) Reliability and validity in qualitative research. Qualitative research methods series, Number 1. London; Sage Publications.

Klarman, Herbert E. (1974) Application of cost-benefit analysis to the health services and the special case of technologic innovation. International Journal of Health Services. 4, 2, pp 325-352.

Korman, Nancy and Glennerster, Howard. (1990) Hospital closure. Milton Keynes; Open University Press.

Kraus, Jon. (1991) The political economy of stabilization and structural adjustment in Ghana. In: Rothchild, Donald (ed.). Ghana: the political economy of recovery. Ch 7. Boulder, Colorado; Lynne Rienner Publishers.

Lamberton, Don. (1992) Information economics: 'threatened wreckage' or new paradigm? In: Himmelstrand, Ulf (ed.). Interfaces in economic and social analysis. Ch 7. London; Routledge.

Laver, Michael. (1986) Social choice and public policy. Oxford; Basil Blackwell.

Leach, Steve. (1982) In defence of the rational model. In: Leach, Steve and Stewart, John (eds.). Approaches in public policy. Ch 1. London; George Allen and Unwin, for the Institute of Local Government Studies, University of Birmingham.

Lee, Kenneth. (1982) The economics of decision-making in the social services. International Journal of Social Economics. 9, pp 50-65.

Lee, Kenneth. (1983) Health care in the developing world: the role of economists and economics. Social Science and Medicine. 17, 24, pp 2007-2015.

Leidl, Reiner. (1988) Training health service managers: improving health by more health economics? Health Policy. 9, pp 25-37.

Lindblom, C.E. (1959) The science of muddling through. Public Administration Review. 19, pp 79-88.

Litsios, Socrates. (1976) Developing a cost and outcome evaluation system. International Journal of Health Services. 6, 2, pp 345-360.

Ludbrook, Anne. (1986) Economic appraisal in the National Health Service: a survey. Health Policy, 6, pp 21-31.

Ludbrook, Anne and Mooney, Gavin. (1984) Economic appraisal in the NHS: problems and challenges. Aberdeen; Northern Health Economics.

Marshall, Catherine and Rossman, Gretchen B. (1989) Designing qualitative research. Newbury Park, California; Sage Publications.

Martin, Joanne. (1982) A garbage can model of the research process. In: McGrath, Joseph E.; Martin, Joanne and Kulka, Richard A. (eds.). Judgment calls in research. Ch 3. London; Sage Publications.

Maru, R.; Murthy, N. and Satia, J.K. (1986) Management interventions in established bureaucracies: experiences in population-program management. In: Ickis, J.C.; de Jesus, E. and Maru, R. (eds.). Beyond bureaucracy: strategic management of social development. Ch 8. West Hartford, Connecticut; Kumarian Press.

Mary Theresa Hospital, Dodi Papase. (1991) Annual Report for 1990. Dodi Papase.

McGrath, Joseph, E. (1982) Dilemmatics: the study of research choices and dilemmas. In: McGrath, Joseph E.; Martin, Joanne and Kulka, Richard A. (eds.). Judgment calls in research. Ch 3. London; Sage Publications.

- McGuire, A.; Henderson, J. and Mooney, G. (1988) The economics of health care. An introductory text. London; Routledge and Kegan Paul.
- Miles, Matthew B. and Huberman, A. Michael. (1984) Qualitative data analysis. A sourcebook of new methods. London; Sage Publications.
- Mills, A. and Gilson, L. (1988) Health economics for developing countries: a survival kit. London; London School of Hygiene and Tropical Medicine.
- Milne, R.S. (1970) Mechanistic and organic models of public administration in developing countries. Administrative Science Quarterly. 15, 1, pp 57-66.
- Ministry of Finance and Economic Planning, Government of Ghana. (1990) Guidelines for the preparation of the 1991 budget. Accra.
- Ministry of Finance and Economic Planning, Government of Ghana. (1991) Guidelines for the preparation of the 1992 budget and 1992-94 public investment programme (PIP). File B383, circular B 3/91. Accra.
- Ministry of Health. (1991) Ghana - health in brief 1991. Geneva; World Health Organization.
- Ministry of Health and World Health Organization. (1992a) Akosombo health policy seminar. Reference: WHO/SHS/DHS/92.2. Accra; unpublished.
- Ministry of Health and World Health Organization. (1992b) Restructuring the Ministry of Health - report of a workshop. Accra; unpublished.
- Minogue, Martin. (1982) Problems in teaching public policy. Manchester; University of Manchester.
- Mohr, L.B. (1976) Organizations, decisions and courts. In: McGrew, Anthony G. and Wilson, M.J. (eds., 1982). Decision making - Approaches and analysis. Ch 3.4. Manchester; Manchester University Press, in association with the Open University.
- Montgomery, John D. (1987) Probing managerial behavior: image and reality in Southern Africa. World Development. 15, 7, pp 911-929.
- Mooney, G.H. and Drummond, M.F. (1982) The essentials of health economics. Part I, What is economics? British Medical Journal. 285, pp 949-950.
- Morgan, Gareth. (1986) Images of organization. Newbury Park, California; Sage Publications.

Morgan, Glenn. (1990) Organizations in society. London; Macmillan.

Morrow, Richard H. (1983) A primary health care strategy for Ghana. In: Morley, David; Rohde, Jon and Williams, Glen (eds.). Practising health for all. Ch 17. Oxford; Oxford Medical Publications.

Newhouse, J.P. (1970) Toward a theory of non-profit institutions: an economic model of the hospital. American Economic Review. 60, pp 64-74.

Nimo, Kwaku. (1992) Breaking a tradition - civil servants in revolt. West Africa. 3908, pp 1346-7.

Ninsin, Kwame A. (1991) The PNDC and the problem of legitimacy. In: Rothchild, Donald (ed.). Ghana: the political economy of recovery. Ch 3. Boulder, Colorado; Lynne Rienner Publishers.

Nuer, T.T. and Sharpston, M.J. (1969) Issues raised by the health development budget. Accra; unpublished.

Nyonator, Frank K and Amani, Kulthum A. (1991) The Ministry of Health Planning Unit - which role? Institute of Development Studies, Brighton; unpublished.

Ofori, Ruby. (1992) Verdict on assemblies. West Africa. 3881, pp 181-2.

Ofori-Amaah, S. (1975) Reflections on the health budget - a preliminary analysis of the 1974/'75 Ministry of Health Budget. Ghana Medical Journal. September, pp 215-222.

Ofori-Amaah, S. and Shah, K.P. (1985) Immunization glossary. Assignment Children (special edition on Universal Child Immunization by 1990). 69-72, pp 455-462. UNICEF.

Okoli, F.C. (1980) The dilemma of premature bureaucratization in the new states of Africa: the case of Nigeria. African Studies Review. 23, 2, pp 1-16.

Onions, C.T. (1983) The shorter Oxford English dictionary (2 volumes, revised and edited). Oxford; Guild Publishing.

Oshisami, K. and Dean, P.N. (1984) Financial management in the Nigerian public sector. London; Pitman.

Overseas Development Administration. (1991) Terms of reference for post of senior health planner/health economics adviser, Ministry of Health, Health Planning Unit, Nairobi, Kenya. East Kilbride; unpublished.



Ozanne, Julian. (1992) The riddle of The Chairman. Financial Times.

Patterson, K. David. (1981) Health in colonial Ghana: disease, medicine, and socio-economic change, 1900-1955. Waltham, Massachusetts; Crossroads Press.

Pauly, M. and Redisch, M. (1973) The not-for-profit hospital as a physician's co-operative. American Economic Review. 63, 1, pp 87-100.

Pellow, D. and Chazan, N. (1986) Ghana: coping with uncertainty. London; Gower.

Pfeffer, Jeffrey. (1981) Power in organizations. Cambridge, Massachusetts; Ballinger Publishing Company.

Pfeffer, Jeffrey. (1982) Organizations and organization theory. London; Pitman Publishing.

Population Crisis Committee. (1992) The international human suffering index. Washington D.C.; Population Crisis Committee.

Programme of Action to Mitigate the Social Costs of Adjustment (PAMSCAD). (1987) Ghana - programme of actions to mitigate the social costs of adjustment. Accra; unpublished.

Regional Director of Health Services, Volta Region. (1989) Outline of plans and programmes for health development in the Volta region of Ghana, 1989-1993. Ho; unpublished.

Regional Director of Health Services, Volta. (1991) A new year message. Letter to regional health management team and hospital in-charges. Ho; unpublished.

Regional Director of Health Services and Regional Health Economist, Volta Region. (1990) Financing the Ministry of Health, Volta region. Ho; unpublished.

Republic of Ghana. (1979) Financial administration regulations, 1979 (Legislative instrument 1234). Accra; Ghana Publishing Corporation.

Republic of Ghana. (1987) National programme for economic development (revised). Accra.

Republic of Ghana. (1988) Local Government Law (PNDCL 207). Accra; Assembly Press.

Republic of Ghana. (1988) Hospital Board Law (PNDCL 209). Accra; Assembly Press.

Republic of Ghana. (1990) The PNDC budget statement and economic policy for 1990. Accra; Ghana Publishing Corporation.

Republic of Ghana. (1991) The PNDC budget statement and economic policy for 1991. Accra; Ghana Publishing Corporation.

Republic of Ghana and UNICEF. (1990) Children and women of Ghana: a situation analysis. Accra; UNICEF.

Richardson, J.J. and Jordan, A.G. (1979) Governing under pressure: the policy process in a post-parliamentary democracy. London; Martin Robertson.

Riley, Stephen. (1992) Political adjustment? Democratic politics and political choice in Africa. Paper presented at the Centre of African Studies, University of Liverpool; unpublished.

Rothchild, Donald. (1991) Ghana and structural adjustment: an overview. In: Rothchild, Donald (ed.). Ghana: the political economy of recovery. Ch 1. Boulder, Colorado; Lynne Rienner Publishers.

Saasa, Oliver S. (1985) Public policy-making in developing countries: the utility of contemporary decision-making models. Public Administration and Development. 5, pp 309-321.

Seers, Dudley. (1979) The birth, life and death of development economics. Development and Change. 10, pp 707-719.

Self, Peter. (1975) Econocrats and the policy process: the politics and philosophy of cost-benefit analysis. London; Macmillan Press.

Senah, Kodjo. (1989) Problems of the health care delivery system. In: Hansen, E. and Ninsin, K.A. (eds.). The state, development and politics in Ghana. Ch 10. London; Codesria Book Series.

Simon, Herbert A. (1976) Administrative Behavior. A study of decision-making processes in administrative organization. Third edition. London; Collier Macmillan.

Simpson, J. (1982) The concise Oxford dictionary of proverbs. Oxford; Oxford University Press.

Smith, Alwyn. (1987) Qualms about QALYs. The Lancet. 332, 1 pp 1134-6.

Smith, G. and May, D. (1980) The artificial debate between rationalist and incrementalist models of decision making. Policy and Politics. 8, 2, pp 116-124.

Smithson, P. (1992) Financial constraints to sustainable health sector development in Nepal. London; Save the Children Fund (UK), unpublished.

Stewart, John. (1982) Guidelines to policy derivation. In: Leach, Steve and Stewart, John (eds.). Approaches in public policy. Ch 2. London; George Allen and Unwin.

Stewart, John. (1982) Choice in the design of policy-making systems. In: Leach, Steve and Stewart, John (eds.). Approaches in public policy. Ch 12. London; George Allen and Unwin.

Stonecash, J. (1980) Politics, wealth and public policy: the significance of political systems. In: Dye, T.R. and Gray, V. (eds). The determinants of public policy. Ch 2. Toronto; Heath.

Streeten, Paul. (1983) Development dichotomies. World Development. 11, 10, pp 875-889.

Strong, Philip and Robinson, Jane. (1990) The NHS - under new management. Milton Keynes; Open University Press.

Thompson, Victor A. (1964) Administrative objectives for development administration. Administrative Science Quarterly. 9, pp 91-108.

Todaro, Michael P. (1982) Economics for a developing world. Harlow, Essex; Longman.

Twumasi, Patrick A. (1979) A social history of the Ghanaian pluralistic medical system. Social Science and Medicine. 13B, pp 349-356.

Udén, Lars. (1992) The limits of economic imperialism. In: Himmelstrand, Ulf (ed.). Interfaces in economic and social analysis. Ch 15. London; Routledge.

UNICEF, Accra. (1988a) Adjustment policies and programmes to protect children and other vulnerable groups in Ghana. In: Cornia, Giovanni Andrea; Jolly, Richard and Stewart, Frances (eds.). Adjustment with a human face, Volume 2. Ch 4. Oxford; Oxford University Press.

UNICEF. (1988b) The state of the world's children 1988. Oxford; Oxford University Press.

UNICEF. (1991) The Bamako Initiative in Ghana.

UNICEF. (1992) The state of the world's children 1992. Oxford; Oxford University Press.

United Nations Development Programme. (1989) UNDP analysis of management support systems. Unpublished.

USAID. (1990) The Ghana family planning and health program. Accra; unpublished.

Vieta, Kojo T. (1991) The struggle for power. West Africa. 3873, p 2004.

Vogel, Ronald J. (1988) Cost recovery in the health care sector. Selected country studies in West Africa. World Bank Technical Paper, Number 22. Washington D.C.; World Bank.

Volta Regional Health Administration. (1992) Ministry of Health, Volta Region - Annual Report, 1991. Ho.

Waddington, C. and Coleman, N.A. (forthcoming) Who controls the resources? A case study of the decentralisation of district health service financing in Ghana. Ghana Medical Journal.

Waddington, C. and Enyimayew, K.A. (1989) A price to pay: the impact of user charges in Ashanti-Akim district, Ghana. International Journal of Health Planning and Management. 4, pp 17-47.

Waddington, C. and Enyimayew, K.A. (1990) A price to pay, part 2: the impact of user charges in the Volta region of Ghana. International Journal of Health Planning and Management. 5, pp 287-312.

Waddington, C.; Letsa, A.; Diamenu, S. and Amedo, E. (1992, forthcoming) Letter to Readers' Forum. World Health Forum.

Waddington, C. and Nyonator, K.F. (1991a) Mass or outreach? - costing EPI. Paper presented to the Conference of Regional Directors and Divisional Heads, April, Cape Coast. Ho; unpublished.

Waddington, C. and Nyonator, K.F. (1991b) Financing immunisations. Paper presented to the Conference of Regional Directors and Divisional Heads, July, Bolgatanga. Ho; unpublished.

Walsh, J. and Warren, K. (1979) Selective primary health care: an interim strategy for disease control in developing countries. New England Journal of Medicine. 301, pp 967-974.

Walt, Gill and Harnmeijer, Jan Willem. (1992) Formulating an Essential Drugs Policy: WHO's role. In: Kanji, Najmi; Hardon, Anita; Harnmeijer, Jan Willem; Mamdani, Masuma and Walt, Gill (eds.). Drugs policy in developing countries. Ch 2. London; Zed Books.

- Ward, B. (1972) What's wrong with economics? London; Macmillan.
- Waterston, Albert. (1965) Development planning: lessons of experience. Oxford; Oxford University Press.
- Werlin, Herbert. (1991) Ghana and South Korea: lessons from World Bank case studies. Public Administration and Development. 11, pp 245-255.
- West Africa. (1991) From our files. 3851, p 273.
- West Africa. (1992a) Cedi rates for 6-12 January 1992. 3877, p 39.
- West Africa. (1992b) Dateline: Salaries guideline. 3886, p 427.
- West Africa. (1992c) Dateline: High medicare cost. 3887, p 474.
- Wildavsky, Aaron. (1984) The politics of the budgetary process. Fourth edition. Boston; Little, Brown and Company.
- Williams, A. (1985) Economics of coronary artery bypass grafting. British Medical Journal. 291, pp 326-329.
- Williams, Alan. (1991) Is the QALY a technical solution to a political problem? Of course not! International Journal of Health Services. 21, 2, pp 365-9.
- World Bank. (1987) Ghana: policies and issues of structural adjustment. Report Number 6635-GH. Washington D.C.; World Bank.
- World Bank. (1990) Staff appraisal report, Republic of Ghana, Second health and population project. 9029-GH. Washington D.C.; World Bank.
- World Bank Mission. (1990) Ghana - Health and population II project, Mission Aide-Memoire. Accra; unpublished.
- World Bank. (1992) World Development Report 1992. Oxford; Oxford University Press.
- World Health Organization. (1975) Health economics. Public Health Papers. 64. Geneva.
- World Health Organization. (1989) Informal consultation with health and development economists - report of meeting. Geneva; unpublished.
- World Health Organization Expert Committee. (1990) The use of essential drugs (fourth report). WHO Technical Report Series. 796.

Yankah, Kojo. (1986) The trial of J.J. Rawlings. Echoes of the 31st December Revolution. Tema; Ghana Publishing Corporation.

Yin, Robert K. (1989) Case study research: design and methods. Revised edition. Newbury Park, California; Sage Publications.

## Bibliography

Ashmore, Malcolm; Mulkey, Michael and Pinch, Trevor. (1989) Health and efficiency: a sociology of health economics. Milton Keynes; Open University Press.

Bryman, Alan. (1988) Doing research in organizations. London; Routledge.

Conn, Catherine. (1990) Management strengthening: an NGO's experience of management strengthening for district-level health teams in The Gambia. Banjul; unpublished draft.

Dye, T.R. and Gray, V. (eds.). (1980) The determinants of public policy. Toronto; Heath.

Etzioni, A. (1967) Mixed scanning: a "third" approach to decision-making. Public Administration Review. 27, December, pp 385-392.

Extended programme of immunization, World Health Organization. (1991) Regional EPI update. EPI Update (reference 91/8781). Geneva; WHO.

Himmelstrand, Ulf. (1992) Interfaces in economic and social analysis. London; Routledge.

Ickis, J.C.; de Jesus, E. and Maru, R. (eds.). (1986) Beyond bureaucracy: strategic management of social development. West Hartford, Connecticut; Kumarian Press.

Kanji, Najmi; Hardon, Anita; Harnmeijer, Jan Willem; Mamdani, Masuma and Walt, Gill (eds.). (1992) Drugs policy in developing countries. London; Zed Books.

Leach, Steve and Stewart, John (eds.). (1982) Approaches in public policy. London; George Allen and Unwin, for the Institute of Local Government Studies, University of Birmingham.

Lynn, Naomi B. and Wildavsky, Aaron (eds.). (1990) Public administration: the state of the discipline. Chatham, New Jersey; Chatham House Publishers.

McGrath, Joseph E.; Martin, Joanne and Kulka, Richard A. (1982) Judgment calls in research. London; Sage Publications.

McGrew, Anthony G and Wilson, M.J. (eds.). (1982) Decision making - Approaches and analysis. Manchester; Manchester University Press, in association with the Open University.

Mooney, Gavin and McGuire, Alistair. (1988) Medical ethics and economics in health care. Oxford; Oxford University Press.

Morley, David; Rohde, Jon and Williams, Glen. (1983) Practising health for all. Oxford; Oxford Medical Publications.

Neumann, Alfred K. (1979) Strategies for strengthening health services infrastructure: a case study in Ghana. Social Science and Medicine. 13C, pp 129-135.

Rothchild, Donald (ed.). (1991) Ghana: the political economy of recovery. Boulder, Colorado; Lynne Rienner Publishers.



# Appendices

Appendix 1      Other approaches to understanding  
organisations

As mentioned in Chapter 2 (B), the organisational models provide only one way of looking at organisations. Other approaches could have been employed. Very briefly, five other approaches are:

1      **metaphors.**

Some authors have found organisational models rather confining and unimaginative. Metaphors have been developed which offer new ways of looking at organisations. In his book "Images of Organization", Morgan likened organisations to (amongst other metaphors) psychic prisons, brains, machines, organisms and instruments of domination. The use to which Morgan put his metaphors was very similar to the descriptive/prescriptive uses of organisational models:

"To apply this method of analysis in practice [the use of metaphors], two steps are necessary. The first is to produce a diagnostic reading of the situation being investigated, using different metaphors to identify or highlight key aspects of the situation. The second step is to make a critical evaluation of the significance of the different interpretations thus produced. Through these two steps it is possible to explore the complexity

of organizations in both a descriptive and prescriptive manner." (Morgan, 1986, p 322; original emphasis)

## **2 structural contingency theory.**

The core argument of structural contingency theory is that certain elements of an organisation's structure are contingent on aspects of the organisation's internal and external environment. Examples of structure are centralisation, specialisation and size of the administrative component; examples of environment are size, technology and the degree of uncertainty faced. The most efficient structure is contingent on key aspects of the environment. (Davies, 1979, p 414; Morgan, 1990, p 70; Pfeffer, 1982, p 149)

## **3 transactional analysis.**

Transactional analysis grew out of a concern with the poor implementation record of formal plans; it was largely formulated by development planners. It concentrates on the transactions between humans and various environments. Transactional analysis aims to understand the transactional context within which organisations operate. (Janovsky, 1979, p 30)

4 administrative systems research.<sup>161</sup>

Administrative systems research aims at situation-specific knowledge about how and why bureaucracies and bureaucrats behave as they do. It also investigates how the behaviour can be changed. Administrative systems research explicitly rejects the rational model. (Cohen et al., 1985, pp 1217-9)

5 policy space

"Policy space" determines the range of policy options available to decision-makers. The space, which is bounded by a number of constraints, is the area in which governments can make effective decisions. Cohen et al. identified five components of policy space. (Other breakdowns are possible.)

- (a) global economic and political pressures
- (b) domestic political interests
- (c) intra-bureaucratic conflict
- (d) decision-makers' perspectives on problems
- (e) the consequences and legacy of past and present policies. (Cohen et al., 1985, p 1215)

There are obvious similarities between the notion of policy space and the organisational models.

---

<sup>161</sup> Approaches 3 and 4, in addition to the organisational models used in this thesis, were used by Janovsky in her study of planning in the Kenyan Ministry of Health.

Appendix 2      A wider (but brief) look at economics and organisations

"I graduated with a degree in economic sciences with a comforting awareness that economics too, and for its own reasons, is interested in what real people do when they act in real groups and why. But this knowledge was not yet very advanced compared to the knowledge of behaviour of theoretical variables in theoretical models." (Czarniawska-Joerges, 1992, p 3)

A question was posed at the beginning of the literature review (Chapter 2) - "how can rationality and constraints be reconciled?" To answer this, it is necessary to know why things happen as they do in organisations. The study of organisations is traditionally the province of anthropology, sociology and political science. (Udéh, 1992, p 273) Models and methods from these disciplines were found to be more useful for my study than were economic models.<sup>162</sup>

Neo-classical economics has tended to ignore the internal workings of organisations; it treats firms, organisations and households as if they were individuals. (Bates, 1992) It assumes rationality and maximising behaviour, arguing that they are useful

---

<sup>162</sup> The methodology used in this thesis is described in Chapter 4.

heuristic devices. The economic approach abstracts from the complexities of the real world; it gives a partial explanation of social life. (Udéhén, 1992, p 240) The literature review concentrated on health economics. This narrow branch of applied economics has essentially neo-classical foundations. It is thus not surprising that the internal dynamics of organisations are not discussed much in the health economics literature.

Some branches of economics analyse organisations in a more sophisticated fashion than does traditional neo-classicism. Five such areas are described here very briefly<sup>163</sup> - public choice; information economics; the theory of the firm; new institutionalism; and development planning. Public choice and information economics are essentially applications of neo-classicism to new subjects. The theory of the firm and new institutionalism are theoretical extensions of the neo-classical model. Development planning has been included because it is an area where rational models were applied and have been seen to fail. Explanations of these failures offer general insights about the limitations of applying rational models.

---

<sup>163</sup> A wider review could have considered branches of economics which have different underlying assumptions. (e.g. Marxism)

## 1 public choice

Public choice economics applies neo-classical theory to the political market-place. It extends the logic of neo-classicism by applying the postulate of maximisation to voters, pressure groups and bureaucracies. This has led to the prediction that bureaucracies tend to be budget-maximising and are hence overly large and inefficient. (Hartley, 1992, pp 67-68)

## 2 information economics

Information economics is a development of neo-classical economics which affords a pivotal role to information and its costs. It recognises that rationality has massive information requirements. Information is regarded as a scarce commodity. (Lamberton, 1992, p 115, 120)

## 3 the theory of the firm (ToF)<sup>164</sup>

The theory of the firm (ToF) is the only branch of economics reviewed in this section which has paid much attention to health. It has been applied to hospitals, rather than to more general health organisations.

---

<sup>164</sup> Although called "the" theory of the firm, it is in fact a composite of several theories. (McGuire et al., 1988, p 208)

The theory of the firm is discussed in this section, rather than in the section on health economics, because the ToF sits rather uneasily alongside the main body of health economics. The relationship between the ToF and recommendations to use such rational tools as economic appraisal and programme budgeting is largely unexplored.

The theory of the firm is an amendment to the neo-classical treatment of organisations as if they were individuals. Neo-classical economic theory in an environment of perfect competition allows virtually no discretion to the decision-maker in a firm. The choice is profit maximisation or bankruptcy. Once the assumption of perfect competition is relaxed, and the separation of management from ownership is acknowledged, discretion is possible. Conflicting objectives are also possible - owners and managers may have different goals.

The theory of the firm recognises that in fact decision-makers do have discretion. It opens the door to the recognition of a wide variety of motivations; conflicting objectives; and asymmetric, incomplete information. (Bendor, 1990, p 384) The ToF has moved economists' attention away from the possibility of achieving Pareto efficiency.<sup>165</sup> In other words, "perfect

---

<sup>165</sup> Pareto efficiency exists when it is impossible to reallocate resources to make any one individual better off, without making at least one other individual worse off. (Culyer, 1985, p 211)



rationality" has been challenged.

There are two main schools of thought within the theory of the firm - managerial and behavioural theories. Managerial theories stipulate various variables which managers maximise. These include the maximisation of revenue, growth and, more generally, managerial discretion. Williamson's theory of maximising managerial discretion posits that a manager's utility function depends on the number and quality of staff employed; the rewards of management (i.e. salary and perks); and "excess" (i.e. non-essential) profits. (Lee, 1982, pp 52-53)

Behavioural theories emphasise the internal structure of firms, including bargaining processes. The firm consists of individuals with competing interests. Two bodies of literature meet at this stage - economics and organisational models. Indeed one of the main exponents of satisficing - Herbert Simon - was an economist whose formulation of the model grew out of developments in the literature on the ToF. (Farrar, 1992, p 8)

The theory of the firm has been applied to hospitals. Managerial theories include income maximisation by clinicians (Pauly and Redisch, 1973); and the maximisation of both quality and quantity of

output, subject to a budget constraint. (Newhouse, 1970)

Behavioural theories concentrate on the internal organisation of hospitals, especially on the competing interests of administrators and clinicians. For example in Harris's model, clinicians tend to favour greater excess capacity and more diagnostic tests than do administrators. Policies have to acknowledge these differing interests - a policy of cost reduction aimed at administrators might not work if it does not affect the interests of clinicians. In Harris's words:

"It should be understood that the organisation [i.e. the hospital] is set up to protect the doctor from behaving as economic man." (Harris, 1977, p 469)

Georgopoulos (1986), in a study of emergency services in U.S. hospitals, agreed that clinical effectiveness and cost reduction were competing goals. However he added a third goal - job satisfaction, which at times competed with the economic and clinical objectives.

In their review of various theories of the firm as applied to hospitals, McGuire et al. point out that in the "hospital firm" it is neither clear who takes decisions (administrators or clinicians?), nor what the objectives of the hospital are. Objectives might include individual or institutional profit maximisation;

enhancing status; and a high level of quality of medical care. The authors conclude:

"Any theory of the hospital must take account of the institutional characteristics of the sector, in particular the medical motives of certain actors. To concentrate upon, for example, administrators as the major decision-makers with regard to resource allocation, is to seriously mislead analysis in that it is precisely the medical motivation and conduct, and subsequent resource consequences, which differentiates this sector from all others." (McGuire et al., 1988, p 211)

McGuire et al. acknowledge that economics may not be the best instrument for analysing the motivations and actions of health care "firms". (1988, p 226) It is not clear how this fits in with their conclusion about the role of economic appraisal. (see Chapter 2, Section C (II)) Whilst recognising that organisations do not necessarily behave rationally, McGuire et al. claim that there is nevertheless sufficient rationality to mean that economic appraisal is an important and necessary tool. This lies uneasily with their description of hospitals as firms with unclear objectives and a multitude of institutional constraints to rational decision-making.

There are obvious similarities between the theory

of the firm and the organisational models. However, the ToF has developed in a rather "idiosyncratic and unconventional" manner. (Bates, 1992) Its assumptions are rather ad hoc; this is not surprising when it is understood as an extension of neo-classical theory, which is based on rationality and maximising.

#### 4 new institutionalist economics

New institutionalism is interested in why institutions are formed. It argues that institutions exist so that individuals can escape the tension between individual and social rationality. Examples are compensation and contracts - both offer protection against socially irresponsible individual behaviour. New institutionalism looks at the relationship between the structure of an organisation and its objectives.<sup>166</sup>  
(Bates, 1992; Eggertsson, 1990, p xiii)

Interestingly, Bates - who is a key figure in new institutionalism - argues that there are limits to what economics can contribute to the understanding of organisations. He points towards anthropology for an understanding of social relationships and towards political science for insights on power and coercion.

---

<sup>166</sup> Fenn et al. have applied new institutionalism to the issue of contracts within the U.K. National Health Service. They conclude that the key to their success is the feasibility or otherwise of monitoring the quality of health services. (Fenn et al., 1992, p 15)

(Bates, 1992)

## 5 development planning

A development plan is a conscious government effort to control key economic variables in order to hasten economic development. The variables include the exchange rate; prices of strategic commodities; and interest rates. From the 1950s until the 1970s, many developing countries embraced development planning.

Expectations of development planning were very high. (More recently, expectations have also been very high for health economics.<sup>167</sup>) These expectations have rarely been met. Writing as early as 1965, Waterston stated:

".....there have been many more failures than successes in the implementation of development plans. By far the great majority of countries have failed to realize even modest income and output targets in their plans except for short periods. What is even more disturbing, the situation seems to be worsening instead of improving as countries continue to plan." (Waterston, 1965, p 293; quoted in Todaro, 1982, p 356)

Explanations for the disappointing performance of

---

<sup>167</sup> See, for example, WHO (1975, p 7) quoted in Chapter 2, Section E.

development plans have concentrated on the following constraints (Todaro, 1982, pp 359-60<sup>168</sup>):

1 **insufficient information**

Information is often unreliable; in any case, it tends to be analysed poorly.

2 **uncertainty**

Unexpected events disrupt plans.

3 **different actors have different objectives**

For example, planning agencies are often separate from implementing agencies; there may be institutional rivalry.

4 **cumbersome and inflexible bureaucratic procedures**

Implementing agencies may adhere to rules and regulations which do not facilitate change.

5 **deficiencies in the plans themselves**

Many development plans have been inconsistent and over-ambitious; implementation has been poorly considered.

---

<sup>168</sup> The Todaro reference ("Economics for a developing world") is a textbook intended for first-year undergraduates. It is noteworthy that constraints to the implementation of development plans are often discussed in some detail in introductory development economics textbooks; in health economics textbooks, implementation problems are scarcely discussed at all.

## 6 lack of political support

The ruling élite may have priorities other than economic development - for example staying in power or promoting factional interests. (Seers, 1979, p 712)

In the language of the organisational models, development plans failed because they did not recognise that the non-rational models were at work. The constraints above include features of the satisficing, bureaucratic, political and anarchic models. Killick argues that the main reason for the poor performance of development planning is the naïvety of the implicit model of government decision-making:

".....it seems that a behavioural view of politics and decision-making in developing countries conflicts at almost every point with the, largely implicit, 'rational actor' model of politics adopted by proponents of development planning..... " (Killick, 1976, p 177)

Two main recommendations are made by those who criticise the naïvety of development planning:

- 1 planning should be short-term, continuous and flexible. It should collect and use relevant information; it should not be divorced from implementation. (Caiden and Wildavsky, 1974, ch 10;

Killick, 1976, p 179)

- 2 concentrating on planning should not mean that other "leverage points" are neglected. More economists should work in commerce ministries, finance corporations and ministries of finance; their expertise should not be isolated in planning agencies. Economists must be able to communicate with politicians and administrators. (Giles, 1979, pp 216-7; Killick, 1976, p 179)

#### Summary of Appendix 2

Some branches of economics investigate the internal workings of organisations.

Development planners have encountered problems with prescriptions based on the rational model. They conclude that plans should aim at incremental changes and that economists should not rely on plans as the only vehicle for change.

Sociology, anthropology and political science offer more flexible ways of studying organisations than does economics.



### Appendix 3      Healthy days of life lost

These measures of healthy days of life lost were calculated by the Health Planning Unit in the 1970s. This table is given in Ghana Health Assessment Project Team (1981, p 76) and in Morrow (1983, p 284).

Rank order	Disease	Healthy days of life lost (a)	% of total
1	Malaria	32,600	10.2
2	Measles	23,400	7.3
3	Pneumonia (child)	18,600	5.8
4	Sickle cell disease	17,500	5.5
5	Malnutrition (severe)	17,500	5.5
6	Prematurity	16,800	5.2
7	Birth injury	16,400	5.2
8	Accidents	14,900	4.7
9	Gastroenteritis	14,500	4.5
10	Tuberculosis	11,000	3.5
11	Cerebrovascular disease	10,400	3.3
12	Pneumonia (adult)	9,100	2.9
13	Tetanus (neonatal)	6,900	2.2
14	Cirrhosis	6,600	2.1
15	Congenital malformations	6,000	1.9
16	Complications of pregnancy	5,900	1.8
17	Hypertension	5,100	1.6
18	Intestinal obstruction	4,900	1.6
19	Typhoid	4,800	1.5
20	Meningitis	4,600	1.5
21	Hepatitis	4,600	1.5
22	Pertussis	4,600	1.5
23	Other birth diseases	4,600	1.5
24	Tetanus (adult)	4,500	1.4
25	Schistosomiasis	4,400	1.4
	Total of first 25 diseases	270,200	84.9

(a) per 1,000 persons per year

Topography

Ghana lies on the Gulf of Guinea in West Africa, bordered by Burkina Faso, Côte d'Ivoire and Togo. (see Figure 3.1) The land area is about 238,500 square kilometres - very similar to that of the U.K. There are three distinct landscapes - the narrow coastal belt in the south, the tropical rain forest and the large savannah area in the north. (Morrow, 1983, p 273)

The climate is tropical, with a fairly constant temperature throughout the year. The north of the country is significantly hotter and drier than the south. The south has two rainy seasons per year, the north only one.

The Volta dam was built in 1966 and created (at that time) the largest man-made lake in the world. It is a significant source of electricity, especially for the Volta Aluminium Company. The dam changed the topography of Ghana dramatically and involved the resettlement of about 80,000 people. (Alhassan, 1979, pp 4, 12)

---

<sup>169</sup> This Appendix draws extensively on The Ministry of Health publication "Health in brief" (1991).

## People

In 1984, the most recent census estimated the population of Ghana to be about 12,315,000. Population growth is estimated at between 2.5% and 3.7%. Volta has a lower population growth than the national average. Exact population figures are disputed - this is discussed in Chapter 3, Section D.

There are over 90 ethnic groups in Ghana. Two broad cultural groups can be distinguished - the matrilineal south and the patrilineal culture of the north and parts of Volta region. The main linguistic groups are the Akans (44%); Mole-Dagbani (16); Ewe (13%) and Ga-Adangbe (8%). The official language of Ghana is English.

An estimated 64% of adults are literate; among women the figure is 43%. Significantly fewer girls than boys are enrolled in primary and secondary school.

## Politics

In 1957, Ghana (formerly the Gold Coast) became the first country in Africa to become independent after the colonial era.

Since independence, there have been eight governments in Ghana. These are listed in Table A4.1.

Table A4.1

## Governments in Ghana, 1957-92

Regime	Years	Leader (party affiliation)
Convention People's Party (CPP) (First Republic, 1960-66)	1957-66	Kwame Nkrumah (CPP)
National Liberation Council	1966-69	Lt. Gen. J.A. Ankrah
Second Republic	1969-72	Dr. K.A. Busia (Progress Party)
Supreme Military Council I (National Redemption Council)	1972-78	Col. I.K. Acheampong
Supreme Military Council II	1978-79	Lt. Gen. Fred Akuffo
Armed Forces Revolutionary Council	1979	Flight Lt. J.J. Rawlings
Third Republic	1979-81	Dr. Hilla Limann (People's National Party)
Provisional National Defence Council (PNDC)	1981-92	Flight Lt. J.J. Rawlings

Source: Pellow and Chazan, 1986, p xvii

There are 10 regions and 110 districts in Ghana. Each region and district has a PNDC Secretary as the political head. Traditional administrative areas (traditional councils and chiefdoms) co-exist with the political and administrative districts and regions.

### Economy

Ghana is mainly rural and agricultural. From the

1890s until the 1970s, the Gold Coast/Ghana was the world's largest producer of cocoa. (Green, 1988, p 7) Other major exports are timber and palm oil. Mining (notably gold, diamonds, manganese and bauxite) replaced cocoa as the main source of foreign exchange in 1992. (Brittain, 1992)

During the 1960s, Ghana enjoyed a high standard of living, compared with its neighbours. By 1980 the standard of living had fallen drastically as a result of a combination of falling primary product prices; an over-valued currency; oil price rises and domestic mismanagement.

Ghana's income per capita was estimated to be \$400 per annum in 1990. (MoH, 1991, p 2)

### Volta Region

Volta is a long thin region, stretching along the eastern shore of Lake Volta. (see Figure 3.2) The region covers all three ecological zones - the coastal belt, the rain forest and the savannah. 7 of Volta's 9 districts (10 of the 12 new districts) lie in southern Ghana; the other two (Kete-Krachi and Nkwanta) resemble the northern regions.

The majority of people in Volta are Ewe; the Ewes

also live in much of Togo. Traditionally, the Ewe are farmers and fishers. The main agricultural crops are maize, cassava, shallots and yams. Cocoa production became widespread in the 1920s. (Bukh, 1979, p 20)

There are tarmac roads linking Accra to Ho, Hohoe, Jasikan, Kpando, Denu and Sogakope. The road to Nkwanta is frequently impassable; the ferry to Kete-Krachi runs somewhat erratically. Only Hohoe, Kpando, Aflao and (usefully) Kete-Krachi are in reasonably regular telephone contact with Ho. (Figure 3.6 shows the major roads.)

## Health

The health problems of Ghana are typical of tropical Africa. [The main diseases are ranked according to healthy days of life lost in Appendix 3.] Infant mortality estimates are shown in Table 3.5. Estimates for maternal mortality vary between 10 and 15 per 1,000 births. (MoH, 1991, p 10; World Bank, 1990, p 242) There are vast regional disparities in health status, Greater Accra being the healthiest and the Upper and Northern regions the least healthy.

The main providers of health care are the traditional private sector; private practitioners of "Western" medicine; Missions and the government.

Twumasi classified traditional healers into four groups - herbalists, cult healers, fetish priests and the leaders of syncretic<sup>170</sup> churches. All the groups use magico-religious acts and symbols for diagnosis and treatment. (Twumasi, 1979, p 349) Many Ghanaians regard traditional and modern medicine as complementary and use both systems.

About 45 non-governmental and religious organisations are involved in the health sector. The Christian Health Association of Ghana (CHAG) and the Catholic Health Secretariat serve as co-ordinating bodies for a large number of mission-run health programmes.

The 1978 Ministry of Health "Primary Health Care Strategy Paper" is cited as proof that Ghana has adopted PHC. In practice, resource allocation has not followed the PHC rhetoric about favouring rural areas, preventive care and the north of the country. Many authors have criticised the Ministry of Health for its resource allocation. In 1969, Nuer and Sharpston argued that too much money, both capital and recurrent, was spent on the hospital sector. They showed how the construction of only two hospitals slowed down the health post construction programme drastically. This debate about

---

<sup>170</sup> Syncretic means "aiming at a union or reconciliation of diverse beliefs, practices or systems". (Shorter Oxford English Dictionary)

the priority attached to primary health care has continued ever since. In 1974-5, Korle-Bu Teaching Hospital in Accra accounted for 22% of the recurrent health budget, receiving almost 3 times as much as the whole of Volta region. (Ofosu-Amaah, 1975, pp 221-2) Pro-PHC rhetoric has frequently been at odds with actual financial allocations.

The general public has tended to reinforce the interest in curative care. Many authors have noted the demand for more, larger health facilities:

".....requests from chiefs and people invariably include a clinic. A village clinic is a status symbol for that community; it is psychologically attractive and it commands a modicum of village esprit de corps. But it does not usually go with changes in sanitary habits and social values and attitudes." (Senah, 1989, p 264)

(see also, for example Morrow, 1983, p 281; Dovlo et al., 1992, pp 11, 12)



Vaccine	BCG	DPT	Oral polio	Measles
Age for first dose	from birth	from 6 weeks	from 6 weeks	from 9 months
No. of doses	1	3	3 or 4 (see note 1)	1
Interval between doses	N/A	at least 4 weeks	at least 4 weeks	N/A
Dosage	0.05 ml - 0.1 ml	0.5 ml	2-3 drops by dropper	0.5 ml
Route of administration	intradermal on right shoulder	sub-cutaneous or intramuscular on thighs/buttocks	orally	sub-cutaneous or intramuscular on left arm

(1) Additional oral polio dose to be given between birth and 6 weeks whenever possible.

Source: Epidemiology Division, Ministry of Health, Accra.

Appendix 6(a) Selection of facilities for Cash and Carry before-and-after survey

The survey was conducted at 14 health facilities. These were selected in three stages. Firstly, all institutions in Jasikan district were omitted because the Bamako Initiative was in operation there. (see Chapter 7, Section H)

Secondly, the 8 largest government institutions in Volta were deliberately included - the regional hospital, the leprosarium, 4 district hospitals and the two largest health centres, which were located in district capitals.<sup>171</sup> These institutions were chosen because of their size. Between them, they accounted for 42% (102,937/248,029) of out-patient attendances in Volta in 1990 and 64% of revenue. (C61,939,131/ C97,241,629) Because most of them also had in-patients, they accounted for an even larger percentage of drugs. Events in these facilities were thus of crucial importance to Cash and Carry. [Their inclusion was also desirable because of their potential leadership role. If C&C functioned well in the district capital, this could be used as a model for the entire district.]

---

<sup>171</sup> The four district hospitals were Hohoe, Keta, Kete-Krachi and Peki (Kpando district). The two health centres were Aflao and Sogakope, in Ketu and Tongu districts respectively.

Thirdly, 6 smaller institutions were chosen randomly from a list of the 100 or so facilities in Volta. The facilities were first listed according to the ratio of the value of drug supplies to revenue. The third institution on the list was chosen, and then every 50th one. (J6.19)

Appendix 6(b) Monitoring Cash and Carry (C&C)

This is a summary of the questions asked at the 14 sampled institutions.

A Client interviews

- 1 Did the dispensary have the drugs you needed?
- 2 How much did you pay today?
- 3 Was this too much?
- 4 Were you given a receipt? Please may we see it?
- 5 Can you tell us how/when to use the drugs you have been given?
- 6 Why did you come to the health facility today instead of going to the chemical seller or a herbalist?
- 7 Was the service at this health facility good today?
- 8 Did you have any problems with the service at this health facility today?

B Checking data at facility level

- 1 How many exemptions were there last month?
- 2 What was the total value of these exemptions?
- 3 What percentage of these exemptions were for staff?
- 4 Are bank statements available for the current and deposit accounts?

5 HOSPITALS ONLY - What is the difference between dispensary numbers and out-patient numbers?

C Sampling of OPD cards at selected institutions

Select 100 OPD cards from the previous month. Count the number of drugs prescribed for the last visit on each card. Record prescriptions, cost and age of patient for the following "diagnoses":

- \* sore throat
- \* malaria
- \* cough
- \* diarrhoea
- \* abdominal pains
- \* fever
- \* stomach ache.

At what prices are the drugs being sold?

D Physical check of drug stores at selected institutions

1 Does the storekeeper or in-charge know how many/much.....

- \* chloroquine tablets
- \* paracetamol tablets
- \* chloroquine injections
- \* multivitamin tablets
- \* ampicillin capsules
- \* procaine penicillin
- \* vitamin B complex tablets

.....are in stock? Is s/he correct?

2 How many of these are there in stock?

3 Are all these drugs - (a) dry?; (b) in good condition?; (c) before the expiry date?; (d) in undamaged packaging?

E Interviewing the in-charge

1 Is there a price list of drugs that patients can see?

2 When is the last time drugs were collected from RMS?

3 Are you experiencing shortages of C&C drugs?

4 Are there any drugs you would like to see supplied which are not?

5 When did drug prices last change?

6 Are there any non-C&C drugs sold at the facility? What? Why?

7 Has the Cash and Carry deposit been paid? How much was it?

8 Do you get patients from parastatal Boards or Corporations? Are they up-to-date with their payments?

9 Is non-drug revenue kept in a separate account? What is it used for?

10 Who is responsible for drug stocks and revenue?

11 Is non-payment a problem?

- 12 Do MCH staff supply drugs to patients at this facility? Do/will they charge for drugs under C&C?
- 13 Why does Regional Medical Stores top up drug supplies by 20%?
- 14 Is there a problem with keeping exemptions down to 20%?
- 15 Do you think that Cash and Carry is a good thing?
- 16 What problems are there with C&C?

Appendix 6(c) Client interviews - Cash & Carry

Monitoring

These questions are to be asked to 20 patients after they have collected and paid for their drugs.

Name of health facility.....

Date.....

Day of week.....

Patient number (1-20).....

1 Did the dispensary have ALL the drugs you needed?

.....

2 How much did you pay today? ₦.....

3 Was this too much?.....

4 Were you given a receipt? Please may we see it?

(Answer whether or not the receipt was for the same amount as the answer to question 2.)

.....



5 Can you tell us how/when to use the drugs you have been given? (Record whether or not the answers seem correct.)

.....

6 Why did you come to the health facility today instead of going to the chemical seller or a herbalist?

.....

.....

7 Would you come to this facility again? Why/why not?

.....

.....

8 Did you have any problems with the service at this health facility today?

.....

.....

## Appendix 6(d)

## Patient responses

Health station	n	All drugs available	Cost	Drugs "too dear"	No receipt	Receipt wrong	Cannot use drugs
<b>First round</b>							
AFLAO	7	5	1200	7	0	0	2
AVEME	7	2	60	0	1	DK	0
BANDA	3	1	320	1	1	0	0
DZOLO GB	15	2	250	0	6	3	0
FODZOKU	2	0	0	n/a	n/a	n/a	1
HO HOSP	20	13	420	4	4	4	3
HONOE	16	2	160	4	0	DK	0
KETA	9	5	890	0	0	0	1
KRACHI	10	0	140	0	0	0	2
LEPROSY	20	1	260	3	1	3	1
NYIVE	5	4	760	0	4	0	3
PEKI	13	1	780	0	1	1	1
SOGAKOPE	14	3	490	11	0	DK	0
TEFLE	6	5	300	2	1	DK	0
<b>Second round</b>							
AVEME	9	9	314	0	6	3	1
DZOLO GB	3	3	283	0	2	0	0
HO HOSP	20	8	647	9	0	18	
KRACHI	3	2	190	0	0	0	0
LEPROSY	17	3	838	3	3	9	
NYIVE	1	1	300	0	0	0	0
TOTAL, 1st round	147	44	431	32	19	11	14
TOTAL, 2nd round	53	26	429	12	11	30	1
TOTAL, all	200	70	410	44	30	41	15

Appendix 6(e) Prescriptions on out-patient cards

(n=50)	# drugs	Chloro- quine	Injec- tion	Syrup	Anal- gesic	Vita- -min	Anti- biotic	Deworm- -er	OHS
AFLAO 1	5.7	23	1	10	21	21	12	9	2
AFLAO 2	5.6	44	41	21	46	41	18	25	1
AVEME 1	3.7	19	17	6	24	6	7	14	0
AVEME 2	4.3	48	32	13	49	48	28	1	1
BANDA 1	3.9	34	33	2	36	20	16	13	0
BANDA 2	3.8	38	43	1	49	31	28	6	0
DZOLO- GB 1	6.1	27	27	18	27	28	23	4	8
DZOLO- GB 2	5.1	49	47	19	49	50	34	5	0
FODZOKU 1	3.2	38	35	25	42	24	20	2	1
FODZOKU 2	4.0	40	46	27	46	40	18	9	1
HOBHOE HOSP 1	4.2	12	10	6	14	5	11	2	0
HOBHOE HOSP 2	4.0	28	28	9	39	14	32	3	1
KETA HOSP 1	3.4	16	11	8	19	18	12	6	1
KETA HOSP 2	2.9	22	19	10	36	23	21	2	0
KRACHI HOSP 1	3.9	32	27	22	38	22	29	16	2
KRACHI HOSP 2	4.1	31	28	10	33	12	36	2	4
NYIVE 1	6.1	31	30	16	30	25	19	6	2
NYIVE 2	5.5	41	38	15	50	46	31	3	0
PEKI 1	3.8	23	19	12	24	8	7	4	3
PEKI 2	1.9	25	4	6	17	4	13	0	0
SOGA- KOPE 1	5.0	23	24	10	24	24	27	3	0
SOGA- KOPE 2	4.3	32	36	13	47	38	37	1	3
TEFLE 1	5.1	29	27	12	25	27	12	19	0
TEFLE 2	5.9	38	32	17	47	47	37	19	1
AVERAGE	4.4	31	27	13	35	26	22	7	1
PRE-C&C AVERAGE	4.5	26	22	12	27	19	16	8	2
POST- C&C AVERAGE	4.3	36	33	13	42	33	28	6	1

50 prescriptions were analysed during each visit.

Appendix 6(f) Cash & carry - questionnaire for facility in-charges

-----  
TO COMPLETE BEFORE LEAVING HO:

Name of institution.....

Number of out-patients in previous month.....

Revenue in previous month:

    non-drug revenue.....

    drug revenue.....

-----  
Date of visit.....

Day of week.....

EXEMPTIONS

1 Value of exemptions (previous month) - ¢.....

2 Number of exempt cases (previous month).....

3 Number of exempt cases who are staff or their dependents (previous month)

.....

BANK STATEMENTS

4 How many bank accounts does the facility have?.....

5 Is there a current account for drug revenue?.....

6 If yes, how much is in the drugs current account? (look at the bank statement)

.....

7 Is there a deposit account for drug revenue?.....

8 If yes, how much is in the drugs deposit account? (see the bank statement)

.....

9 Is there an account for non-drugs revenue?.....

10 If yes, is it a deposit or a current account?

.....

11 How much is in the non-drugs account? (look at the bank statement)

.....

HOSPITALS ONLY

12 How many prescriptions did the dispensary give out in the previous month?

.....

DRUG SUPPLIES

13	Store-keeper's estimate	Actual stock	Unit selling price	Soonest expiry date
----	-------------------------	--------------	--------------------	---------------------

Chloroquine tablets

Chloroquine injections

Paracetamol tablets

Multivitamin tablets

Vitamin B Complex tablets

Septrin tablets

Procaine penicillin injections (price including water)

14 Is the store clean and dry?.....

15 Are any of the drugs in damaged packaging?.....

16 Do you have an up-to-date price list?.....

17 When were drugs last collected/received from Regional Medical Stores?

.....

18 When was the last change in the selling price of drugs at the health facility?

.....

INTERVIEWS with the IN-CHARGE

19 Are any Cash & Carry drugs in short supply? Which ones?

.....  
.....

20 Are there any drugs which C&C does not supply which you would like to have distributed? Which ones?

.....  
.....

21 Are there any non-Cash & Carry drugs for sale at this facility? What? Why?

.....  
.....

22 Has the C&C deposit been paid? How much was it?

.....

23 Do any parastatal Boards or Corporations owe you money? How much?

.....  
.....

24 What do you spend non-drug revenue on?

.....  
.....

25 Is non-payment by patients a problem? What do you do if a patient says s/he does not have enough money?

.....  
.....

26 Do MCH staff supply drugs to patients at this facility? Do/will they charge for drugs under C&C?

.....

27 Why does the RMS top up drug supplies by 20%?

.....

28 Is it difficult to keep exemptions down to 20%?

.....  
.....

29 Do you think that C&C is a good thing? Why/why not?

.....  
.....

30 What problems are there with Cash & Carry?

.....  
.....

31 When did you start using the staff forms for free treatment of staff?

.....

32 Who is in charge of -

the health facility as a whole?.....

the dispensary?.....

Appendix 7      Report of a test related to Cash & Carry

As part of the introductory workshops for Cash and Carry (C&C), a test was given to 78 staff. The staff consisted of:

- \* 29 enrolled nurses
- \* 13 medical assistants
- \* 6 nursing officers
- \* 5 dispensary assistants
- \* 4 enrolled nurse/midwives
- \* 11 miscellaneous workers
- \* 10 in-charges of unidentified rank.

There were 8 questions. A summary of the results for each question is given below.

Question 1      Case of malaria

You diagnose an 18 year-old man as having malaria. (Malaria is the ONLY diagnosis.) What drugs will you prescribe for him?

This was answered by 53 people. Most prescriptions included unnecessary drugs, in spite of the emphasis on the fact that the diagnosis was malaria ONLY. The average number of drugs was 3.7; with a range of between 1 and 6; and a mode of 3. The most commonly prescribed



drugs were:

chloroquine (tablet)	-	prescribed 50 times in 53 prescriptions (94%)
paracetamol	-	prescribed 40 times in 53 prescriptions (75%)
chloroquine (injection)	-	prescribed 34 times in 53 prescriptions (64%)
Vitamin B Co	-	prescribed 25 times in 53 prescriptions (47%)
Multivitamin	-	prescribed 17 times in 53 prescriptions (32%)
aspirin/ASA	-	prescribed 8 times in 53 prescriptions (15%)
valium/diazepam	-	prescribed 6 times in 53 prescriptions (11%)
piriton/chlorpheniramine	-	prescribed 5 times in 53 prescriptions (9%)
fersolate	-	prescribed 3 times in 53 prescriptions (6%)

The Essential Drugs list for Zimbabwe (1985) suggests that chloroquine only is a satisfactory treatment. In our answers only 5 (9%) respondents used one or two drugs only.

The Ghanaian Essential Drugs List (Coen et al., 1988) provides no reason for using anything other than

chloroquine and one analgesic for the treatment of malaria. Moreover it states,

"Vitamin preparations are no substitute for adequate dietary intake. Especially, widespread use of multivitamin tablets should be discouraged...." (Coen et al., p 108)

Yet vitamins were prescribed in 40 out of 53 (75%) prescriptions - some prescriptions involved both vitamin B Complex and multivitamins.

Question 2      Case of Upper Respiratory Tract Infection

A 60-year-old woman has Upper Respiratory Tract Infection. You want to prescribe an antibiotic. What antibiotic would you prescribe for her?

The main aim of this question was to find out if health stations are prescribing drugs which are not on the health station essential drugs list. This was found to occur in 34 out of 78 answers (47%), with "ampicillin" as the most common wrong answer. (Ampicillin is no longer a health station drug.)

Question 3      Generic names

What is the generic (chemical) name for:

- (a) aspirin
- (b) ventolin?

The essential drug lists supplied to health facilities use generic names. It is thus important that health staff know these names. With a generous tolerance of wrong spellings (acetylsalicylic acid is not the easiest name to spell!), 56/72 (78%) answers were correct. This was the best answered of all the questions. The question about ventolin was answered correctly (salbutamol) by 26/72 (36%) of the respondents.

Question 4      Stocks of chloroquine tablets

Approximately how many chloroquine tablets were used at your health facility in the month of September 1990?

A very wide range of answers was accepted, based on the assumption that 80% of out-patient cases involved chloroquine; 80% were for children; and the average number of tablets given was 9. Answers ranging from half to double the predicted number were accepted. 37/72 (51%) answers were acceptable.

Question 5      20% free drugs to cover exemptions

Individual facilities receive free drugs from the region to cover exemptions - the top-up amounts to 20% of the value of drugs issued. For example, a facility requisitioning ₵100,000 worth of drugs would actually pay ₵80,000. If you go to Regional Medical Stores with a requisition for ₵15,000, how much will you have to pay?

This was the question which was most frequently answered wrongly - only 16/72 (22%) were correct.

Question 6      Calculating prices

You buy a tin of 500 chloroquine tablets at the Regional Medical Stores for ₵2,200. What should you charge for each tablet so that you will have enough money to buy another tin?

This question was answered correctly by 34/78 respondents (47%). In other words, more than half of the C&C schemes would lose money because of under-charging!

[Although the results to questions 5 and 6 appear bad, it is not only Ghanaians who have problems with arithmetic. In Britain, 60% of the population can't calculate 12% of £6000 and 40% can't divide £30.35 by 5. (New Statesman, 12 October 1990)]

Question 7      Who is exempt?

A TBA who has been trained by the Ministry of Health has malaria and comes to you for treatment. Should she pay for her consultation and for the drugs?

One of the problems with exemptions is that the categories have been found to be very flexible, stretching to include pensioners, ante-natal cases etc. 49 of the 78 respondents (60%) would give free treatment to TBAs.

Question 8      Understanding bank accounts

What is the difference between a deposit account at a bank and a current account at a bank?

C&C revenue should be kept in a deposit account, so that the money can earn interest. 44 out of the 78 (61%) respondents knew that this was the reason for opening a deposit account.

Overall results

The performance of the districts can be compared. Of the 8 districts which participated, Keta did best (with an average score of 6.4 out of 10), followed by Ketu (6.2), Hohoe (5.8), Krachi (5.7) and Tongu (5.2).

In terms of prescribing, Hohoe and Jasikan prescribed the most rationally.

### Conclusions

If Cash and Carry is to be successful, in-charges must be aware of whether they are receiving enough revenue to cover their drug costs. At the very least, they need to be able to calculate the 20% exemptions rate and unit costs. Given that more than half of the respondents were unable to answer the relevant questions, there is a need to make the Cash & Carry regulations as simple as possible and to have supervision/support for institutions.

Another prerequisite for success in C&C is that exemptions are kept at a rate of no more than 20%. This means strictly enforcing the eligibility requirements for staff exemptions.

Multiple prescribing is common. This is likely to get worse as C&C improves drug supplies. Again, improvement requires training (including about generic names) and support/supervision.

Appendix 8

Drugs to be stocked regularly by RMS,  
1990 (excluding infusions)

Drugs marked with ~ are on the WHO essential drugs list. (WHO, 1990)

Tablets

~acetylsalicylic acid (aspirin)	multivitamin
~chloroquine	~paracetamol
~chlorpromazine.	~phenobarbital
co-trimoxazole	~piperazine
~ethambutol	stiboestrol
~isoniazid	vitamin B complex
~thioacetazone/+ isoniazid	~tolbutamide
~mebendazole	
~metronidazole <sup>172</sup>	

Injections

chloroquine  
~procaine penicillin  
~quinine  
~suxamethonium  
~thiopentone sodium

Syrups

ammonium chloride crystals  
~chloroquine  
co-trimoxazole  
cough  
multivitamin  
~paracetamol  
~piperazine  
~promethazine  
~sodium chloride crystals  
trilene  
vitamin B complex

---

<sup>172</sup> Metronidazole was not on the national essential drugs list for health stations. However, a technical committee in Volta decided to allow health stations to stock it. (J6.12)