

**AN APPRAISAL OF THE ACCOUNTING SYSTEM
IN THE COUNCIL FOR SCIENTIFIC AND
INDUSTRIAL RESEARCH (C.S.I.R.)**

BY



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ACT-93-101-0022

**PROJECT WORK SUBMITTED TO THE SCHOOL OF
BUSINESS AND MANAGEMENT STUDIES
ACCRA POLYTECHNIC IN PARTIAL FULLFILMENT
OF THE REQUIREMNT FOR THE AWARD OF THE
HIGHER NATIONAL DIPLOMA (ACCOUNTING OPTION)**

JULY 1996

SUMMARY

An appraisal of the accounting system in the CSIR was undertaken to determine the inherent financial lapses.

This was carried out using informal interviews and the examination of financial records.

The study revealed weaknesses in the organizational structure of the Finance Unit which over-burdened the Finance Officer

In the area of purchasing, the established purchasing policies were not adhered to in many areas and this resulted in financial losses to the organisation.

Regarding repairs and maintenance of official vehicles/equipments there were several instances where proper procedures were not followed.

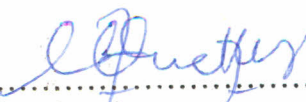
It was also observed that the public sector budget system being used by the CSIR is no longer suitable for the organisation due to the current emphasis on commercialization.

The study suggests improvement in the internal control system.

DECLARATION

I hereby declare that the work embodied in this report was done by me between January to July 1996 under the supervision of Mr. Kwabena Opuni of the University of Ghana.

Signature:.....
Student

Signature:.....
Supervisor

Dedication

To my wife Beatrice and my son Etor

Acknowledgements

I have made use of the help of several people in the writing and publication of this book. I owe first a debt of gratitude to my Supervisor, Mr. Kwabena Opuni of the University of Ghana, Legon for guiding me through this report.

I also express my gratitude to the Director of the Food Research Institute for allowing me to pursue the HND programme.

I wish to recognise here also the cooperation of the staff of the Food Research Institute and the CSIR for materials supplied to me during the course of my training. I am particularly grateful to Miss Patience Tetteh who typed the manuscript - to them all I say thank you!

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Chapter One

APPRAISAL OF THE ACCOUNTING SYSTEM IN THE C.S.I.R.

1.1 Introduction

The importance of an efficient system of accounting in any organisation, be it commercial or otherwise, cannot be over emphasized. It does not only facilitates proper control, and safeguards assets of the organisation, it also helps management in its planning for the organisational objectives.

Lack of efficient accounting system leads to a whole series of financial problems, fraud, frustration among employees, loss of public confidence and possibly, the collapse of the organisation.

Clearly, accounting systems vary enormously in their sophistication. To quote from the guideline "Accounting Systems" what constitutes an adequate accounting system will depend on the size, nature and complexity of the enterprise. In its simplest form for a small business dealing primarily with cash sales and with only a few suppliers the accounting system may only need to consist of an analysed cash book and a list of unpaid invoices.

In contrast, a Company manufacturing several different products and operating through a number of dispersed locations may need a complex accounting system to enable information required for financial statements to be assembled.

It is important to appreciate that an accounting system embraces not merely the recording function but all stages leading up to recording for each transaction stream.

It is against this background that the Government of Ghana has been advocating for the establishment of an efficient self accounting system within organisations like the Council for Scientific and Industrial Research (CSIR).

1.2 Background History

The Council for Scientific and Industrial Research (CSIR) was established in its present form on the 10th of October 1968 by the NLCD 293.

The Statutory Function of the CSIR include, among others

- a) To advise Government on scientific and technological advances likely to be of importance to material development.
- b) To encourage scientific and industrial research of importance to development in national interest of industry, technology, agriculture and medicine.
- c) To establish where it thinks necessary research institutes, units and projects and to exercise control over all or any of the research institutes and projects of the Council.
- d) To coordinate research in all its aspects in the country and in particular to provide machinery which will ensure that the research institutes of the Council, the Universities of Ghana and other institutes engaged in research in Ghana coordinate their research efforts and cooperate in research.
- e) To cooperate and liase with national and international organisations in any part of the world on matters of research.

- f) To undertake or collaborate in the collection of publication and dissemination of the results of research and of other useful technical information.
- g) To arrange and organize such central common services as may be required by organisations engaged in national research.
- h) To perform such other functions as government may assign.

Currently the CSIR exercises control over 17 research institutes, units and projects.

The total staff employed by the Council number over three thousand five hundred. Of this, about three hundred and ninety-eight are research workers while over 600 are supporting technical personnel. The rest are administrative staff supporting labour force (Table 1).

The Secretariat

The CSIR has a Secretariat (located off Augustino Neto Road, Airport Residential Area, Accra) where most of the central administrative functions are carried out. The Secretariat provides a number of common services for the institutes and units of the Council.

Restructuring of the CSIR

The Government is in the process of restructuring the CSIR to make it more responsive to private sector needs and to promote demand-driven research. A bill which seeks to re-establish the CSIR

and to regulate research as well as the application of science and technology to development has been approved by Cabinet and gazetted (July 5, 1995). It is to be laid before Parliament which is expected to enact a new CSIR Act in the course of the 1995 calendar year.

The salient features of the bill include the following:-

- . a reduction in the membership of the governing Council from 26 to 20;
- . increased representation of the private sector on the Council;
- . the addition of contract research and commercialization of research results to the functions of the Council;
- . the creation of National Sectoral Research Coordinating Committees for the following sectors;
- . Agriculture, Forestry and Fisheries
- . Health and Medicine
- . Industry and Natural Sciences
- . The Social Sciences

These Committees would function under the office of the Director-General with a Deputy Director-General in charge of each of them.

Commercialization of Research

Under the Draft Law the Council is expected, as part of its functions, "to institute a system of contract research" and to "encourage and promote the commercialization of research results".

In connection with the new emphasis on the commercialization of research, an important 5-year project has already been launched with World Bank support aimed at assisting the CSIR to develop a more competitive and demand-driven industrial technology research culture. Technical assistance and training are being provided to the Secretariat and selected research institutes of the Council for the development of a commercialization strategy to serve especially, the needs of the private sector. The "commercialized research institutes," as they are called, are the Building and Road Research Institute, Food Research Institute, Industrial Research Institute, and Scientific Instrumentation Centre. The objective is to help raise the technological and productive capabilities of local industries and thereby enhance their competitiveness. An Industrial Design Centre is to be established under the project and a Technology and Enterprise Development Fund is to be created to assist small and medium scale industries.

Committees of Council

Five permanent Technical Committees have been set up to serve as the Council's machinery for national science and technology policy formulation and for the coordination of research nationwide. Their composition embraces all the relevant national institutions as well individual experts in specialized disciplines. The Committees are:

- National Agricultural Research Committee (NARC)
- Technical Committee on Industry and Technology

- Technical Committee on Health and Medicine
- Technical Committee on the Natural Sciences
- Technical Committee on the Social Sciences

The Committee structure of the Council further embraces (among others):

- *Executive Committee* which takes decisions on behalf of Council in between Council meetings;
- *Directors Management Committee* whose membership includes all Directors of Research Institutes of the Council;
- *Finance and Development Committee* which advises the Council on financial matters.

Research institutions are located all over the country. (Table II).

Table I: Numerical Strength of the CSIR 1995/96

NAME OF INSTITUTE/CENTRE	RESEARCH GRADE	NON.RES SENIOR GRADE	JUNIOR	DAILY RATED	TOTAL
1. Animal Research	24	27	77	99	227
2. Building & Road Res.	30	53	58	60	201
3. Crops Research	40	53	118	137	348
4. Food Research	36	39	68	39	182
5. Forestry Research	43	85	55	118	301
6. National Sci. & Technl. Info. Centre	6	12	10	4	32
7. Industrial Research	24	21	71	-	116
8. Aquatic Biology	20	27	43	35	125
9. National Atlas Dev.	3	4	3	-	10
10. National Agric Research Project	7	2	8	-	17
11. Policy Research & Strategic Planning	10	-	20	-	30
12. Oil Palm Research	23	35	373	-	431
13. Scientific Instrumentation	7	25	27	-	59
14. Soil Research	32	76	133	176	417
15. Water Resources Research	40	28	80	10	158
16. Savanna Agric Res.	20	62	116	355	553
17. Secretariat	20	80	97	30	227
18. Plant Genetic Resources Centre	10	23	20	67	120
19. National Science & Technology Press	3	5	4	-	12
	398	657	1381	1130	3,566

1.3 Purpose of the Research

The Council for Scientific and Industrial Research from records became self-accounting since 1968. Prior to this time all the Financial matters concerning the CSIR were handled by the Controller and Accountant General through the Government Treasury.

Since then there are a whole catalogue of Financial lapses, like delay in the preparation of Consolidated Accounts, submitting of returns, payment of salaries and even misapplication of funds.

Besides the problem associated with the accounts and expenditure within the Council, no proper internal controls existed.

With the CSIR becoming self-accounting, it was believed confidently that the anomalies recounted above would cease.

Unfortunately, this has not been the case. The problem of financial lapse, undue delays in preparation of final accounts, submitting of returns, payment of salaries and allowance and other expenses still persist.

The Government budgeting system or procedure has still not been re-shaped in such a way that it would reflect the aspiration needs and policies of the CSIR.

Why has this been the case in spite of the fact that the CSIR professes to have a self-accounting system? A search for an answer to this question and its subsequent solution, is one of the objects of this project.

CSIR forms part of a whole Ministry of Environment, Science and Technology. Considering the proportion of the Government Annual

Budget for Ministry of Environment, Science and Technology taken up by the CSIR it is pertinent that the Financial administration in the CSIR be given some serious attention.

The 1995 Budget figures as shown in Table (III) indicated that the CSIR takes over 80% of the entire current/capital expenditure budgets, whilst the Ministry of Environment, Science and Technology, Town and Country Planning Dept., Ghana Atomic Energy Commission, Dapit, Gratis, Environmental Protection Agency and Rural Enterprise project takes only 20%.

Thus the need for an efficient accounting system within the CSIR cannot be over emphasized.

1.4 Methodology

In order to obtain the necessary information for the study, I would very much rely on information from the CSIR Secretariat, selected Research Institutes in Accra, Projects and Units under the CSIR, the Ministry of Environment, Science and Technology and the Ministry of Finance and Economic Planning.

Formal interview with personnel of the above-mentioned organisations would also be an added advantage.

Duration

The study is supposed take about five months to complete.

1.5 Budget**Unit Cost**

Travelling Expenses	-	5,000.00
Typing Papers	-	15,000.00
Typing of Material	-	9,500.00
Binding cost	-	<u>10,000.00</u>
		<u>c39,500.00</u>

Table II: List and Location of CSIR Institutes/Projects

ACCRA

1. CSIR Secretariat (Head Office)
P.O. Box M.32, Accra
2. National Agric. Res. Project
(NARP), P.O. Box M.32, Accra
3. Animal Research Institute
P.O. Box 20, Achimota
4. Food Research Institute
P.O. Box M.20, Accra
5. Industrial Research Institute
P.O. Box M.32,
Accra
6. Institute of Aquatic Biology
P.O. Box 38, Achimota
7. Scientific Instrumentation Ctr
P.O. Box M.32, Accra
8. Water Resources Res. Inst.
P.O. Box M.32,
Accra
9. National Atlas Dev. Centre
P.O. Box M.32, Accra
10. Science & Tech. Policy Res.
Inst., P.O. Box M.32, Accra

11. National Sci. & Tech. Library
Info. Centre, Box M.32,
Accra

12. National Sci. & Tech. Press
P.O. Box M.32
Accra

KUMASI

13. Building & Road Res. Inst.
Univ. P.O. Box 40, Kumasi

14. Crop Research Institute
P.O. Box 3785, Kumasi

15. Forest Research Institute
P.O. Box 63, Kumasi

16. Soil Research Institute
P.M.B., Kwadaso Post Office
Kumasi

TAMALE

17. Savanna Agric Res. Station
P.O. Box 52
Tamale

KUSI-KADE

18. Oil Palm Research Inst.
P.O. Box 74, Kade

BUNSO, E/R

19. Plant Genetic Res. Unit
P.O. Box 7, Bunso

Table III: Ministry of Environment, Science and Technology
1995 Summary of Recurrent Expenditure Programmes

HEAD	SUB HEAD	PROGRAMMES	ESTIMATES 1995
080		Main Ministry	2,692,394,00
	01	General Administration	197,968,000
	02	Town and Country Planning Dept.	802,776,000
	03	Ghana Atomic Energy Commission	1,000,586,000
	04	DAPIT	32,873,000
	05	GRATIS	324,390,000
	06	Environmental Protection Agency	222,655,000
	07	Rural Enterprises Project	111,146,000
		CSIR INSTITUTES	7,204,067,000
	01	Secretariat	816,363,000
	02	Crops Research Institute	726,687,000
	03	Animal Research Institute	450,484,000
	04	Soil Research Institute	521,760,000
	05	Soil Research (Accra Centre)	51,727,000
	06	Building & Road Research Inst.	602,767,000
	07	Food Research Institute	361,164,000
	08	Institute of Aquatic Biology	237,211,000
	09	Industrial Research Institute	305,718,000
	10	Water Resources Research Inst.	337,050,000
	11	National Atlas Dev. Centre	41,132,000
	12	Oil Palm Research Institute	609,828,000
	13	Scientific Instrumentation Centre	176,306,000
	14	Savanna Agric. Research Inst.	554,629,000
	15	Ghana Grains Dev. Project	599,883,000
	16	Science & Tech. Policy Res. Inst.	111,727,000
	17	National Sci. & Tech.Lib. & Info.	88,094,000
	18	Centre	493,595,000
	19	Forest Research Institute of Ghana Plant Genetic Resources Unit	117,942,000
		TOTAL MEST	1,440,621,000

Source: MFEP Annual Estimate 1995

Ministry of Environment, Science & Technology
1995 Summary of Capital Expenditure

DEPARTMENT/PROJECT	(CEDIS MILLION)
MAIN MINISTRY	

Ministry of Environment, Science & Tech.	150.00
Town and Country Planning Dept.	224.00
Ghana Atomic Energy Commission	390.00
DAPIT	46.00
GRATIS	525.00
Environmental Protection Agency (Logistics)	68.00
EPC - Ghana Environmental Res. Mgt. Project	750.00
CSIR INSTITUTES	

Secretariat	513.00
Crops Research Institute	263.00
Animal Research Institute	234.00
Soil Research Institute	503.00
Soil Research (Accra Centre)	323.00
Building & Road Research Inst.	120.00
Food Research Institute	180.00
Institute of Aquatic Biology	159.00
Industrial Research Institute	175.00
Water Resources Research Inst.	31.00
National Atlas Dev. Centre	194.00
Oil Palm Research Institute	97.00
Scientific Instrumentation Centre	237.00
Savanna Agric. Research Inst.	115.00
	59.00
	106.00
	67.00
	316.00
	103.00
TOTAL	5875.00

Source: Min. of Finance & Economic Planning Annual Estimates 1995

Chapter Two

2.1 Factors that contribute to inefficiency in the CSIR

In this chapter an attempt has been made to appraise the accounting system as it exists in the Council for Scientific and Industrial Research (CSIR).

The factors which have contributed to the financial mal-administration and inefficient accounting system in the CSIR may be traced to the following:

- (i) Lack of proper internal control within the system
- (ii) Lack of proper coordination within the Finance Unit.
- (iii) Lack of accounting manuals to assist the accounting personnel.
- (iv) Low educational background of some accounting staff
- (v) Lack of motivation

The appraisal, then attempts to outline the weakness and lapses which go to prove the validity of the factors stated above. The appraisal is centred on three main areas, namely:

- a) The organisational structure of the Finance Unit
- b) Payment and application of funds within the organisation
- c) Budget procedures

2.2 The organisational Structure of Finance/Accounts Unit

The weaknesses or lapses which came to light if one closely examines the organisation's structure of the Finance are:

- a) Lack of proper coordination
- b) Lack of efficient internal control and
- c) Lack of professional accountants

(Table IV) shows the former organizational structure and the command level of each officer. It shows that financial policies and payments within the CSIR are handled directly by the Finance Officer with little assistance from some senior officers from the Accounts Unit of the Secretariat. The Finance Officer is in charge of finance and is responsible for budgetary, application for release of funds from the Ministry of Finance and Economic Planning both Capital and Recurrent, transfer of funds to various Units, if any, signing of cheques for the various Projects and Units and finally attending Council's Board meetings.

The Finance Officer has the role to visit every Institute of the Council periodically and currently over seventeen Institutes/Units and he is to be accorded all possible help and cooperation by the Directors and their staff.

The purpose of the periodic visit of the Finance Officer shall be

- a) To advise on the operation of current accounting procedures.
- b) To carry-out any on-the-spot enquiries as required.
- c) To ensure that all accounts staff secure adequate theoretical and practical training.

He is to be responsible to the Secretary of the Council for other day-to-day duties assigned to him.

All other senior officers in the Finance Unit take direct instruction from the Finance Officer to whom the officers are individually responsible for their day-to-day functions.

The role of Accountants or other persons in charge of Accounts in other Institutes/Units according to the CSIR Financial regulations are:

The Accountant, or a Senior Officer in charge of accounts who shall be the most senior accounting officer at each Institute, shall, for the purpose of administration, be under the Director, but will report to the Finance Officer, through the Director, on all matters of accounting nature.

The Accountant will be responsible for keeping the financial records and books of the Institute and supervise the writing of such stores, costing, and the conduct of internal check. The Accountant will prepare the annual estimate in consultation with the Director, and will advise the Director on all financial matters.

Where advice given by an Accountant is rejected by the Director, such advice should be put in writing to the Director. If the Director over-rules it the Director will be responsible for any consequence resulting from the implementation of his over-ruling.

There is no senior officer than the Finance Officer to supervise and co-ordinate the work of the other Accountants other than their Directors who are not financial personnel.

In a situation like this one should not be surprised that the internal control system is weak.

Internal Control according to the Auditing and accounting guidelines is defined as being "the Whole System of Controls, Financial and otherwise, established by the Management in order to carry on the business of the enterprise in an orderly and efficient manner, ensure adherence to management policies, safeguard the assets and secure as far as possible the completeness and accuracy of the records."

One could note from the above definition that Internal Control involves the whole system of accounting in

- a) Controlling the business
- b) Preparing financial statements, and
- c) Safeguarding the assets and
- d) Complying with statutory requirements

Besides the lapse in the internal control system the organizational structure itself does not ensure co-ordination among the Units/Institutes as they individually report direct to the Finance Officer who is already over-burdened with financial policy decision and other financial assignments directed by the Director-General.

Unfortunately, the low academic standards of some of the personnel both senior and junior officers within the Finance Unit do not allow any meaningful and effective analysis of financial statements for corrective measure to be taken (Table V).

Most of the accounting records kept by the personnel are delayed resulting in difficulties of preparing financial statements like the Consolidated Income and Expenditure accounts and the Balance Sheet.

There have been instance where information needed for immediate use are not readily available.

The accounting staff of the CSIR are also not motivated as desired. The salaries are very low; no incentives. The junior officers have a problem with promotion; sting requirement are set for them. It is not easy to get training awards. Attention is mostly on the research grade staff than the accounting staff.

Table IV: Former organizational structure of the Finance Unit

Finance Officer		
Accountants Institutes outside Accra	Accountants CSIR Secretariat & Special projects	Accountants Institutes within Accra
Assistant Accountants	Assist. Accountants	Assist. Accountants
Snr. Accounts Clerks	Snr. Accounts Clerks	Snr. Accts. Clerks
Accounts Clerks	Accounts Clerks	Accounts Clerks

(The Command Levels within the Finance Unit)

Table V: **Qualification Sample on some of the Institutes**
Senior Accounting Staff

Institute	Full Professionals	B.Sc	RSA/ GCE	Diploma Semi Professional
Secretariat	2	6	12	4
Animal Research	-	-	6	-
Building Research	-	1		
Crops Research	-	-	7	2
Food Research	-	-	4	3
Aquatic Biology	-	1	3	
National Agric. Research	-	1	1	
Oil Palm Research	-	2	2	2
Scientific Instrumentation	-	-	-	3
Soil Research	-		2	2
Water Resources Research	-	1	2	
Total	2	12	39	16

Chapter Three

3.1 Application of funds/payment

This chapter attempts to appraise the area of application of Funds/Payments. This is an area where one should expect an efficient and effective internal control within, so as to check over-expenditure, waste, misappropriation of funds.

Within the Council for scientific and Industrial Research(CSIR), unfortunately, only a little effort has been made to combat this canker which is usually common with many Government institutions. The major areas which are vulnerable to the afore-mentioned vices are:

- i. Purchases within the CSIR
- ii. Repair of official vehicles and other equipments.
- iii. Accounting records/Imprest system
- iv. Internal audit system.

The internal control system within these areas is so weak that until such a time that effective and efficient control measures are instituted within these areas the Council for Scientific and Industrial Research will continue to live with vices.

3.2 Purchases/Repair of Vehicles

An area which must engage the attention of the authorities of the CSIR as far as internal control is concerned is the system of making purchases within the CSIR. It is expected that items such as

stationery, spare parts and office facilities including curtains and many others are obtained from the CSIR/Institutes stores.

But contrary to this expectation Project Leaders and some individuals place order for large quantities of some of these items from suppliers and later submit the bills to the finance unit for settlement.

In most cases no clearance is sought from authorities as to whether there are funds to meet their intended purchase before officer commit the Council. This situation has not only contributed to the over-expenditure in the Council vote but has enriched the pockets of some of these officers who engage in such purchases, some of which are for the private use of these officers.

In some cases too, some of these items are fully paid for long before they are supplied, such purchases are described as (C.O.D) Cash on Delivery purchases. In principle there is nothing wrong with this system especially in these days of acute scarcity. But the question is whether or not the items paid for in advance would be supplied fully and within a reasonable period of time to the organisation.

Examination of paid vouchers and other available records at the accounts office indicated that large quantities of such COD purchases had not, for almost 6 months, been supplied to the Council.

There were even cases where some of these items were short supplied but no proper records had been kept to ascertain the

amount of money the suppliers concerned owed to the Council, in respect of the item which had been paid for and not supplied.

Similar practice goes with the repair of official vehicles. Notwithstanding the fact that there are workshops at the Secretariat and all institutes to service and repair vehicles, many officers and drivers have been servicing and repairing their vehicles at private garages at very high cost. Such repairs are usually unknown to the officers in charge of the workshops.

After the repairs, bills are forwarded to the respective pay officers for settlement.

When funds are not available under the maintenance of vehicles accounts some Accountants choose to settle the bill from other accounts which have no relationship with the maintenance accounts. Perhaps the most disheartening aspect of it all is that in most cases either the repair costs are highly inflated to the advantage of the mechanics and the officers concerned or no work has been done for which bills are submitted for payment. All these anomalies within the accounting system could be attributed to lack of effective and efficient internal control within the system.

Recording at the Stores

It also come to light that some of the recording systems in the Stores are also poor. It is a policy of the CSIR that all items bought by the individuals are sent to the Stores before requisitions are made

for them. There are also foreign funded projects within the CSIR, and officers on such projects usually purchase items which are kept in the Stores.

Investigation revealed that recording of items purchased by Project Officers from Donor Funds are grouped to that of Funds from the CSIR/Institutes and that makes it impossible for books of the Stores and Accounts to agree. These bring about credit balance in the Ledger Accounts of Stores which in the actual recording system need not be so.

3.3 Accounting Records>Returns

The following accounting records are kept in the accounts office. These are:

- a) General Ledger
- b) Recurrent Expenditure Ledger
- c) Cash Book
- e) Sundry Debtors, Staff Debtors and Sundry Creditors Ledger
- f) Journal

The General Ledger

Records of all capital or non-recurrent expenditure as well as Government grants and all special grants, in other words all fixed assets acquired and income received by the Institutes are recorded in the General ledger. Control accounts of creditors and debtors are

also maintained in the General ledger.

Recurrent Expenditure Ledger

This Ledger contains, in a suitable classified form the final and permanent records of all expenses of recurrent nature eg. Personal Emoluments and Other recurrent charges and Office expenses.

Cash Book

Transactions relating to monies on current accounts with an Institute's Bankers are recorded.

Receipts of Government Grants, special funds, donations and all moneys received are also recorded.

Payment in respect of all expenditure for goods and services are also recorded.

Sundry Debtors, Staff & Sundry Creditors Ledgers

The Sundry Debtors Ledger and Staff Debtors ledger contain only accounts with persons, firms, Governments and private institutions, public corporations, other institute of the council and members of staff who become indebted to the Institute for services, sales of good and special loans.

The Sundry Creditors Ledger contains records of all financial transactions relating to supplies of stores and other services rendered by outsiders or other bodies to the Institute. Debit entries

into the Ledger are made through the Purchase Day Book.

Journal

Records contained in this books are opening, closing and adjusting entries and all entries of a special nature for which no separate subsidiary book or record is kept.

Accounting Returns

The various accounting returns in the CSIR accounting system are designed to provide both the Institute and the Secretariat, with information regarding capital and recurrent expenditure and the value of assets held by each Institute.

The form of these returns may be changed from time to time according to the nature of the information currently required, but all such change will be notified by the Finance Officer.

Each Institute is required to submit by the 30th of the following month the following returns:

- i. Trial Balance with Schedule of Debtors and Creditors
- ii. Statements of Inter-Institute Current Accounts
- iii. Statements of Secretariat Current Account
- iv. Bank Reconciliation State (start with Bank Balance)
- v. Salary returns
- vi. Wages Returns
- vii. Superannuation returns

- viii. Statements relating to the actual expenditure to the budgeted expenditure.

Quarterly Board of Survey - Cash

It is also a policy of the CSIR that there should be a quarterly Board of Survey for Cash; this is to avenge the situation where cash could be appropriated

According to the CSIR Financial regulation any discrepancies should be reported to the Finance Officer. Membership of the Board of Survey should include the Director of the Institute, or his representative, the Internal Auditor or his representative.

Annual Accounts

It is also a policy of the CSIR to prepare annual Income and Expenditure accounts and Balance sheet; and each Institute/Unit is expected within two months after the Financial year, to submit to the Secretariat the following financial statements and supporting schedules:

- i. Income and Expenditure accounts
- ii. Balance sheet
- iii. Schedule of Fixed Assets
- iv. Schedule of Staff Debtors
- v. Schedule of other Debtors
- vi. Schedule of Investments

- vii. Schedule of Creditors
- viii. Schedule of any other figure in the Balance sheet which is made up of more than one balance.

The above will be needed for the preparation of the Consolidated accounts.

Information available indicated that most Institutes do not obey the instructions of providing the necessary accounting returns, hence records are not up-to-date at the Secretariat.

No Cash Survey are made, this usually lead to misappropriation of cash by some cashiers. It also came to light that returns for the preparation of Annual Accounts are also not presented on time which made it difficult to prepare Consolidated Accounts for the CSIR.

3.4 Imprest

According to the Financial regulation of the Council for Scientific and Industrial Research "An Imprest is an advance to a Council employee to meet payments on services of the Council which cannot be conveniently made by the Cashier in the first instance." Imprest are issued on the authority of the Directors and may be of two kinds.

- a) Special Imprest granted for a particular period.
- b) Standing Imprest which shall be recouped from time to time during the financial year concerned.

Imprests shall only be granted for clearly defined purposes. Such purposes and the authority for granting the imprest shall be

stated on a voucher covering the issue of the Imprest. Imprest shall only be used for the specific purpose for which they are issued. They shall not be used for paying bills which can conveniently be paid by the Cashier.

Standing imprest shall be returned at the end of each financial year. Special imprest shall be returned within the period allowed.

Contrary to the above imprest are now part of salaries to some employees in the Council. Imprest of any types are kept for even far over three years without being accounted for.

Imprests are used to pay bills which the cash could pay.

3.5 Internal Audit System

Another area which has to be appraised is the Internal Audit system in the CSIR. This area which is supposed to serve as a major control system within the entire organisation must be seen to be very effective and efficient. Unfortunately, this is an area where majority of staff have no higher accounting knowledge and integrity. This make very serious and detailed audit work remain on paper.

The type of audit system in use presently, and which is dictated by the academic level of the staff, is financial and compliance auditing. This system addresses itself to the traditional determination of whether funds are spent in accordance with legal and financial requirements. It does not show how resources are utilised and therefore is not an effective control device within a management cycle.

Internal Audit can be defined as "An Independent appraisal function within an organisation for the review of systems of control and the quality of performance, as a service to the organisation. It objectively examines, evaluates and reports on the adequacy of internal control as a contribution to the proper, economic, efficient and effective use of resources."

Internal audit activities should be unrestricted and Internal Auditors should have full right of access to records, assets and personnel and should review such information and explanation as they consider necessary for the performance of their duties.

In this regard, Internal auditor should be informed and consulted about any proposed changes in the system of Internal Control and may make recommendation on the standards of controls to be applied in the development of systems and procedures under review. This needs high level personnel.

Internal Audit should not be directly responsible for the development or implementation of new system or engaged in any other activity which they would normally review and appraised since this could compromise their independence.

Objectives of an Internal Audit System should be, Adherence of Management Policies; Safeguarding the Asset of the organisation; Secure as far as possible the accuracy of records. Ensure that there exists structures for achieving value for money within the organisation.

Since internal auditors are employees, it is difficult to ensure

that they are truly independent in mind and attitude.

A good Internal Audit System should be the system which the Internal Auditors have freedom to report to higher management. An internal audit personnel with an objective frame of mind, having unrestricted access to records, assets and personnel.

Having personnel who have no conflicts of interest or any restriction placed upon their work by management, such things do not exist in the CSIR Internal Audit System.

An internal audit system should be able to provide management with information it requires to manage effectively, is reliable and complete. This information is not only that provided by the accounting system, it should be as a service to the organisation. Should be able to inform management that the Internal Control System is well designed, that it works in practice.

The Internal Audit should be seen as the eye of the board within the CSIR

The Internal Audit System should be seen also to be

- a) concerned with the implementation of social responsibility policies adopted by top management. An example of this is in energy saving.
- b) being concerned with the response of the Internal Control System to errors and required changes to prevent errors.
- c) being concerned with the response of the Internal Control System. The world does not stand still and the internal control system must continually change.

- d) acting as a training officer in Internal Control matters.
- e) auditing the information given to management particularly interim accounts and management accounting reports.
- f) taking a share of the external auditor's responsibility in relation to the figures in the annual accounts.

For an Internal Audit System to be effective, the Audit system should be able to ascertain, record and confirm an accounting system.

Chapter Four

4.1 In this chapter attempt is made to look at the budget system in the CSIR and its effect on the aim and objectives of the CSIR.

Effort is also made to look at shortfall in the system of preparation of budget, has on the various projects and programmes of the CSIR in Ghana today. The CSIR receives subvention from the Government to meet her programmes. The CSIR is one of the institutions in Ghana that prepares annual estimates.

4.2 **Budgeting Procedure in the CSIR**

The present budgeting system is more an instrument for the control of spending with emphasis on justification of expenditure than for the achievement of objective of some planned programmes.

The budget format focuses on the activities of the CSIR in terms of its inputs cost with little or no relationship to the outputs or outcomes expected.

Under the present system much emphasis is placed on the desire to ensure financial responsibility and accountability within the system and therefore the system is not properly aligned with the requirements of rational decision making process.

The CSIR after receiving the Policy circular from Ministry of Finance and Economic Planning prepares its budget both recurrent and capital in accordance with the policy circular. The estimates are

then prepared and sent for budget hearing in the Sector Ministry after which it is incorporated in the Sector Ministry annual estimates; for parliamentary approval.

The Council for Scientific and Industrial Research accounts, like any Government accounts, are traditionally maintained on the basis of obligation, showing the commitments which are or may be undertaken during the year or on cash disbursements basis showing the amount of goods and services paid for during the year rather than on the basis of accruals.

In the absence of accrual accounting therefore, measurements of performance cost becomes difficult in the CSIR programmes especially when capital expenditure are a significant points of total costs and where the capital outlay portion is not constant from year to year.

The accrual basis makes fiscal reports comparable and lays the basis for the analysis of the organisations or agency's costs over a period of time.

The accrual basis accomplishes this by the accounting recognition of inventories, prepaid items, deferred charges and capital outlay.

One of the factors for determining the budget estimates under the present system is the actual expenditure for the proceeding fiscal year. Normally the preparation of budget is based on data for three

fiscal period or years ie. last year (actual), this year estimated and next year (the estimated/budget).

Since, in preparing budget much emphasise is placed on the last year (actual) expenditure which is the mirror of accounts maintained on cash basis rather than on accrual basis (ie. recording transaction at the time monies are received and expended). With the addition of a small percentage provided for possible inflation in the lost of inputs, one should expect to have a budget which is not geared towards the achievement of a set of goals or has no relationship with expected output but rather a summary of the previous fiscal year's expenditure based on ability to pay for goods and services at the time.

This method of budget has been the major cause of the Council constantly running short of funds before even the fiscal year with the resultant. abandonment of very import on-going projects. Thus, to say the least, the constant under-estimation of input cost of the Council budget is direct result of the unfortunate present system of budgeting which does not take into consideration the objectives and the actual input requirements as well as the expected output of the Council.

As already indicated, the primary concern of the budget structure is the maintenance of financial controls, ie. over obligations and disbursements through rules and procedures. Such controls tends to affect the initiative of the Council and also make for a certain

administrative orientation geared more toward managements by "Rules" than by management by objectives and controls by results. The end result of this unfortunate situation is that efficiency is measured by the degree to which the organisation is able to keep within the limits of its allocated amount. Thus if the amount of money allocated is greater than required and all is spent without exceeding the limit the expenditure controller or the organization as a whole is considered to be efficient. On the other hand, if the money allocated to the organization is insufficient to meet its requirements, either a supplementary allocation is applied for, or an important programme has to be abandoned or curtailed. But I wonder whether efficiency of an organization must be measured by the results of its spending. It is strongly believed that efficiency should rather be related to the total output of the agency or organisation in terms of its available resources.

Another fundamental weakness of the present budgetary system is the undue restrictions placed on the use of money meant for a particular purpose for another. As already indicated appropriation are made under sub-head, items and sub-items. Funds are released to the Council under these headings for specific purpose. This procedure does not provide incentives or the necessary flexibilities for programmes management to accomplish desired results, at the minimum costs. For instance, funds may be released to the Director-

General of the CSIR under item (personal emolument) and 2 (travelling and transportation) for a particular period. Along the line if funds under the 2 are exhausted while the programme is half way through the Director-General of the CSIR cannot readily utilize available funds under item 1 to complete the programme under item 2 even though the available funds under item 1 may not be needed for anything at the time.

The Director-General of the CSIR has to apply for a supplementary vote or result to a cumbersome system of virement before he may be authorized by Ministry of Finance and Economic Planning as the case may be. Sometimes his application for supplementary vote may be approved after it has become too late to continue with the programme. Even at times, approval for supplementary vote would not be received before the fiscal year runs out.

If the Director-General is allowed to use his discretion and initiative to use or apply funds or money in the most effective manner in relation to planned accomplishments under prevailing conditions irrespective of which item has funds, most of the objectives of the Council for Scientific and Industrial Research Institute may be achieved.

Moreover, as the system of expenditure controls prohibits the carry forward of unspent balances under the various items and sub-items a natural motivation is created to make sure that the funds are

used up. The money is spent on non-essential projects, articles and services within a few weeks or months toward the end of the fiscal year. In effect therefore, the Director-General of the CSIR or the Institute as a whole has little or no real means of demonstrating or determining effective use of total resources made available to him for the accomplishment of the function for which he is responsible.

Coming to think of the definition of a budget as "Comprehensive plan or policy of an organization expressed in financial and/or quantitative terms by which an operating programme is affected for a given period for the purpose of attaining a given objective" one would only conclude that a budget, in the real sense of the word, is made by the policy makers with the Finance Unit only providing the cost data for the inputs needed for the attainment of the desired objective. Unfortunately, the whole responsibility for the preparation and execution of the estimate/budget for the Council for Scientific and Industrial Research is that of the CSIR Finance Unit.

It is therefore not surprising that the budget does not normally reflect the actual policy and objectives of the Director-General of the CSIR and has not achieved much for the CSIR over the years.

Chapter Five

5.1 Suggestions/Recommendations

In order to strengthen the Internal Control System and also maintain proper co-ordination so as to achieve efficiency in the Finance Unit the following suggestions are made.

Firstly, there should be three main divisions within the Finance Unit for control purposes, namely:-

- a. The service office of the Finance Officer
- b. Southern Sector Co-ordinating Unit
- c. Northern Sector Co-ordinating Unit

The Service Office of the Finance Officer

The service office of the Finance Office is responsible for financial policies, release of funds. Preparation and submission of expenditure returns to the Sector Ministry and Finance and Economic Planning. Preparation of Final accounts and reviewing of Internal Control System.

It is also suggested that the post of Assistant Finance Officer be created. The occupant of this position will assist the Finance Officer and also act during the absence of the Finance Officer.

He will also co-ordinate the activities of the other schedule officers, the Sector co-ordinating officers and advise them where the need arises.

For internal control purpose the Internal Audit Unit is to be separate and independent and must be made to report to only Council.

Northern/Southern Sector Co-ordinating Unit

These officers are responsible for the direct activities of the Institutes/Units as located under the two officers (see Table VII) .

Institutes/Units in the Northern and that of the Southern Sectors The officers are to co-ordinate activities of the ^{various} ~~various~~ institute, receive returns on monthly basis and submit them to the Assistant Finance Officer. Furthermore, transfer of funds to the Units/Institute would be the responsibility of these officers who work directly under the Assistant Finance Officer.

It is also suggested strongly that the Assistant Finance Officer should be qualified accountants, holders of professional qualification.

Similarly, the Sector Co-ordinators as well as the Chief Internal Auditor must have sufficient accounting knowledge at least a University degree or a full professional accountant.

Not only these officers should have sound knowledge in accounting but the supporting staff as well must all have sound knowledge in accounting at least the Royal Society of Art Stage III or GCE 'A' Level.

The present situation can be therefore improved by sponsoring the current staff for further courses in the Universities and the Polytechnics, etc. These courses must be continuous to keep the staff abreast with current trend of affairs in accounting.

Table VI: The proposed organization structure for Finance Unit

Finance Officer		
Assistant Finance Officer		
Accountant Northern Sector Office	Accountant Service Office of the Finance Officer	Accountant Southern Sector Office
Accountants of Institutes Outside Accra	Accountants CSIR Main Accounts Superannuation Car Loan Special Projects	Accountants of Institutes within Accra
Assistant Accountants	Assist. Accountants	Asst. Accountant
Snr. Accounts Clerks	Snr. Accts. Clerks	Snr. Accts. Clerks
Accounts Clerks	Accounts Clerks	Accounts Clerks

Table VII: Grouping the of Institute/Units in Sectors

Southern Sector	Northern Sector
1. Animal Research Institute	1. Building & Road Res. Inst.
2. Food Research Institute	2. Crops Research Institute
3. Industrial Research Institute	3. Forestry Research Institute
4. Scientific Instr. Centre	4. Soil Research Institute
5. Water Resources Res. Inst.	5. Savanna Agric. Res. Inst.
6. Sci. & Techno. Policy Res. Inst	6. Oil Palm Research Institute
7. Institute of Aquatic Biology	7. Plant Genetic Res. Centre

5.2 For the purpose of ensuring effective and efficient Internal Control within the application of funds in the CSIR, the following suggestions are made to regulate and account for all expenditure incurred on purchase and repair of official vehicles and other equipments.

Purchase by individual officers

For purposes of Control, purchase of items by individual officers must be permitted only when the items cannot be obtained from the Council/Institute Stores. Any officer who intends to buy items which cannot be obtained from the Store must follow the Council's policy by applying to his Head of Division for approval. A copy of the approval letter should be forwarded to the Accountant concerned which will serve as an authority to pay or reimburse the officer. In addition, the officer should forward the items when they are bought to the stores where they are taken on charge and re-issued to the officer against stores issue voucher (SIV). Where a large quantity of the item is to be bought, the officer concerned must collect proforma invoices from three recognised shops or suppliers. All payment vouchers in respect of such purchases must be duly certified by the Storekeeper to the effect that the goods/items being paid for have actually been bought and taken on charge with Goods Received Note (GRN). Furthermore, the cash receipts or sales invoices covering the purchase plus copies of the approval letter from the officers Head of Division and the Goods Received Note (GRN) must be attached to the payment voucher. Until these condition are met no payment should be effected.

Where items or stocks are bought on "Cash on Delivery " (COD) basis payment should be made only when, at least, half of the items have been supplied, especially where the amount involved is very huge. However, items involving small sum of money may be paid for before they are supplied.

The Purchase Day Book must be kept at the Accounts Office. In this book the supplier is debited with the amount paid to him whilst Cash/bank in the Cash Book is credited. As soon as the item/goods are supplied, the supplier is credited with the value or cost of the items/goods whilst the items/goods appropriate expenditure account is debited.

The supplier's account should constantly be reviewed to ascertain whether the items which are paid for are fully supplied on good time.

Repairs of official vehicles

For the effective control, it is suggested that no payment should be made for any repair works carried out by a private mechanic except that the repair works are authorised. Before any officer or driver may send his official vehicle to a private garage he should, seek approval from the Workshop Superintendent. If the Workshop Superintendent certifies that the repair works cannot be carried out at the Institute's own workshop due to either lack of spare parts or competent mechanics, he may authorise the repair works on the vehicle to be done at a private garage. In such a case the vehicle must be sent to the private garage by the Workshop Superintendent under a works order issued from the Workshop Superintendent and estimates for the work be collected before the vehicle is sent out for work to be done.

When the repair works are completed the vehicle should be sent to the Workshop Superintendent for test and issue report certifying that the vehicle has been properly serviced or repaired and that payment should be

made for the work done. The certificate from the Workshop Superintendent will serve as an authority for the Accountant to raise a payment voucher for the settlement of the bill presented.

Accounting Records

Looking at the various account books kept by the CSIR Finance Unit, a satisfactory work has been done on the part of record keeping but an additional account book known as the Expenditure Control Ledger is suggested to be put into use. This Ledger should contain records that readily show at any time vote, total expenditure to date and unspent balances.

Also a consolidated expenditure returns book may be kept at the Head Office which should contain compiled returns analysis from all Institutes of the CSIR as a source of quick information to the Finance Officer. This could help achieve the purpose of the various returns established in the financial regulation.

It is also suggested that imprest which are not accounted for periods stated be recouped from the salaries of the affected staff, and such employees be sanctioned.

Reconciliation of Store Ledgers with the accounts books should be made on a regular basis to avenge the differences which usually arises.

Internal Audit System

In order that the internal audit will serve as an effective control device to management, it is strongly suggested that the Internal Auditors should be made to perform audits that go beyond the traditional auditing, that is the financial and compliance auditing.

This traditional auditing should be extended to cover the modern audit approach referred to as "Performance Auditing" where the auditor will, in addition to their traditional role of determining whether funds are spent in accordance with law and financial requirements, have the responsibilities for evaluating and auditing managerial performance. The performance auditing, unlike the Financial and Compliance auditing, seeks to determine whether monies were used in an economic manner and whether desired programme objectives or results were achieved. It also seeks to determine how well Government department's programmes are working.

The fact that this audit approach is more involving academically than the financial and compliance auditing, calls for auditors who have sufficient knowledge in both Financial and Management accounting . It is therefore suggested that more accounting graduates are employed in the audit unit. It is also suggested that series of audit courses should be organised for present staff so as to raise their present academic level to enable them accept and appreciate the modern audit approach ie. the performance auditing.

Budgeting

It is therefore necessary to adopt a very critical and realistic approach to the present budgeting system which in some economic and financial circles, is referred to as Performance Budgeting or Eucumbrance Budgeting which will reflect the policies and objectives of the organisation be prepared on the basis of well defined plan and programmes. In other words a budgeting system which will strictly form part of the management cycle and thus involve the top management personnel in its preparation and implementation should be established in the Council for Scientific and Industrial Research.

Therefore, considering budgeting as one of the major components of Management Cycle, and a budget as a plan it is hoped that the appropriate budgeting system being adopted by the CSIR to achieve its objectives.

It is also suggested that there should be a Budget Committee to assess the budget of individual institute before a composite budget is prepared. It should not be an assignment which could be carried on by only the accounting personnel as it exists in most of the CSIR Institutes. This will make budget preparation in the CSIR be on uniform basis. It is my view that a zero based budget could be appropriate to the CSIR. A budget which involves high level personnel, looking at the manpower base of the CSIR.

A Zero Based Budgeting (ZBB) is defined as "a method of budgeting where all activities are re-evaluated each time a budget is formulated. Each functional budget starts with the assumption that the function does not exist and is at zero cost. Increments of cost are compared with increments

of benefit, culminating in the planning maximum benefit for a given budget cost".

Each increment of the budget has then to be justified in terms of costs related to the benefits achieved. The idea is to contain or reduce cost especially in public sector organisation like the CSIR.

In this way it is hope that tighter limits will be set and that there should not be a perpetuation of past anomalies and inefficiencies which occur when the budget amount is arrived at by adding a percentage to last year's amount.

In a zero based budgeting there is a value for money approach which challenges existing practices and expenditure and searching questions are be asked at each stage of its implementation.

A zero based budget if properly carried out results in a more efficient allocation of resources to activities and departments. It focuses attention on value for money and makes explicit the relationship between the input of resources and the output of benefits. It develops a questioning attitude and makes it easier to identify inefficient, obsolete or less cost effective operations.

The zero based budgeting leads to a greater staff and management knowledge of the operations and activities of the organisation and can increase motivation. It is a systematic way of challenging the status quo and obliges the organisation to examine alternative activities and existing cost behaviour pattern and expenditure level.

Since the CSIR is a research organisation I hope it is the right place to start with a zero based budgeting as a research project, which I charge them to do.

5.2 Conclusion

An appraisal of the accounting system in the CSIR was undertaken to determine the inherent financial lapses.

The study revealed weaknesses in the Internal Control System and the organizational structure of the Finance Unit.

In the areas of purchasing, repairs and maintenance of official vehicles/equipments it was noted that laid down policies were not being followed.

It was also observed that the public sector budget system is no longer suitable for the CSIR because of the current emphasis on commercialization.

In all these areas suggestions and recommendations were made for corrective action.

It is hoped that, the suggestions so far made on the financial administration of the Council for Scientific and Industrial Research (CSIR) will result in the strengthening of the Internal Control System which may, in turn, bring about efficiency, effectiveness and economy within the Council. The CSIR would, in theory and practice, become full self accounting when its accounting system is further developed, so as to eliminate most of the lapses catalogued in the report.

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