

Accounting Systems for New Public Sector Undertakings Management: A Case Study

Bonu, N.S

Abstract: This paper traces the existing Accounting Systems in a selected Public Sector Undertakings (PSU), in Botswana and examines how far the systems are suitable for the New Public Sector Undertakings Management (NPSUM). It concludes that the current accounting systems such as financial accounting, cost accounting, management accounting and reporting systems are not suitable for the effective and efficient management. It is suggested to adopt an Integrated Accounting System (IAS), which is to be, developed to suit the needs of a specific PSU as each PSU is different in nature and a blanket system of accounting should not be applied.

INTRODUCTION

Accounting is defined as "the art, science, interpretation, and organized method of recording all the transactions affecting the financial condition of a business or organization" (Jerry, 1983: 7). Accounting is the tool of performance measurement.

Accounting provides management with information for appropriate and timely decision making. It enables management to control various functions of the organisation in an effective manner. Accounting acts as a bridge between the two major functions of management, viz: planning and control, since the information provided by the accounting system is the vital force for sustenance of these two functions.

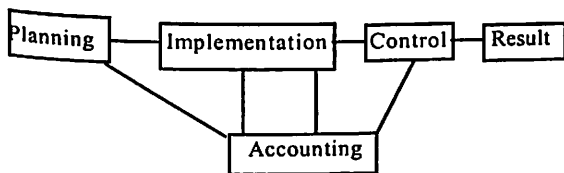


Figure 1: Chart showing the functions of accounting

In order to have an effective control system, the existence of an appropriate accounting system is a pre-requisite.

Public Sector Undertakings (PSUs)

The traditional public sector was "the segment of the total economy that includes all levels of

government and excludes business and house holds (Jerry, 1983: 404). Later on, due to the social requirements, governments entered into commercial undertakings to provide essential goods and services, called public sector undertakings (PSUs). Most of the PSUs were getting subsidies and mostly running on monopoly status, the prices of the PSUs were not based on cost or quality management. Of late the PSUs are meeting competition from some private sectors such as provision of housing, transport services, distribution of essential goods, etc. The withdrawal of subsidies by government added further more for PSUs to be managed more effectively in business-like manner or purely commercial considerations. There should be a change in the PSUs management outlook, "general attitudes both towards and within the public sector which has resulted in the emergence of a new managerial culture. This culture places greater emphasis on economy, efficiency and effectiveness in all spheres of the public sector where services are delivered (Coombs & Jenkins, 1994: ix). This requires 'new' management tools and techniques more so in action accountability (Kenneth, 1997: 29) and business process reengineering (Smith, 1994: 135). "The central thrusts of the new public [sector] management are that: public resources must be used efficiently; public managers must be held accountable for the use of the resources they consume; and public organizations must be responsive to the growing

demands of their 'clients' and 'customers' for high quality services in the 'market place'" (David & Sylvia, 1996: 26). "The changes in management in the public sector are often described in the form of lists of, 'old' ways and 'new' ways of managing" (Norman, 1997: 3).

Since 1979 the boundary between the public and private sectors has not only changed significantly but has also become increasingly blurred (Pendlebury, 1989: 1) hence it is necessary to change the approach of management in public sector undertakings.

Public sector undertakings occupy a significant place in the developing economies all over the world for a variety of reasons. These undertakings play an important role in an economy in terms of provision of essential services, creation of employment, development of basic infrastructure, contribution to GDP, etc. PSUs operate in different political, economic and social environments depending on the country in which they are operating. Again, each PSU operates in a distinct business environment within the same country. It is therefore, necessary to recognise the distinct factors that will influence the operational and financial efficiency of each undertaking, in order to manage these enterprises in an efficient and effective manner. One way of recognising these influencing factors is by developing and adopting an accounting system, which will serve the purpose meaningfully. Such recognition can be ensured by developing and adopting an accounting system which will truly reflect the effect of all such influencing factors, as the accounting system works as a mirror in which one can see what is happening in the organisation and also to grasp how the things are happening. "Accountants, auditors and financial administrators are all involved in the changing environment of public sector accounting" (Robert, 1980: xiii).

In this context, the accounting system is understood as the system of recording transactions and operations around the events in

such a way that will provide an opportunity to view each operation and event in an analytical and objective manner in relation to others to enable management to assess or gauge its impact on the overall operational and financial performance of the organisation and to take appropriate managerial decisions. Meigs & Meigs (1990: 5) correctly stated that "an accounting system consists of the methods and devices used by an entity to keep track of its financial activities and to summarize these activities in a manner useful to decision makers."

An effective accounting system can be defined as an integration of different sub-systems linked to objectives and disclosures, which enables the management to take appropriate decisions.

The traditional accounting systems such as accounting by cost centres (Jones and Pendlebury, 1989) and placing undue importance in measuring inputs rather than output achievement (Farry, 1989) have to be changed. Jones and Pendlebury (1989: 23) advocated introducing as many profit or investment centres as possible in public sector management.

The performance of a new public sector management (NPSM) can be effectively improved through the responsibility accounting system where the efficiency of the management is measured through plans (by budgets) and actions (by actual results) of each responsibility centre. There are four responsibility centres such as cost center, revenue center, profit centre and investment center (Horngren *et al.*, 2000: 194). In the NPSM, it is advocated to apply profit center as the basis of accounting. In the profit center system of accounting, the manager is accountable for revenues and costs. The traditional accounting system of application of cost center accounting where the manager is accountable for costs only, is to be replaced by the profit centre system of accounting in the NPSM.

In the light of the above, the accounting systems of a few Parastatals Bodies (PSUs) in Botswana are taken as case study to see whether

such accounting systems are appropriate to enable the management to discharge their functions in a more sensible manner.

HYPOTHESES DEVELOPMENT

- H₁: It is assumed that many of the public sector undertakings in Botswana are maintaining effective accounting systems.
- H₂: It is contemplated that the so-called effective accounting systems are not suited to the requirement of new public sector management.
- H₃: It is essential that accounting systems for the new public sector management should be 'tailor-made' in accordance with the nature of the undertaking.
- H₄: The effective accounting system will help Management to achieve maximum value for money.

RESEARCH DESIGN

In order to test the above stated hypotheses, it is essential to have an indepth study of the accounting systems of a selected public sector undertakings in order to locate the type of accounting systems presently in use. It is also necessary to test whether these systems are suited for the new public sector management.

There are 27 public sector undertakings (PSUs) in Botswana consisting 7 financial parastatals (PSUs), 11 non-financial enterprises and 9 non-financial parastatal institutions (Government Paper No.1, 2000). Out of the 11 non-financial parastatals, 4 undertakings operating in different business environments were selected for conducting an in-depth study of their accounting systems.

Sample Selection

Botswana Vaccine Institute (BVI), Botswana Housing Corporation (BHC), Air Botswana Corporation (ABC) and Botswana Agriculture and Marketing Board (BAMB) which are diverse

in nature and operating in different business environments were selected at random for a detailed study of their accounting systems.

Empirical Test of the Hypotheses

Botswana Vaccine Institute (BVI) BVI is a company incorporated under the Companies Act in 1982 with the main objective of manufacturing and distributing veterinary vaccines for the healthy development of livestock industry in Botswana. The subsidiary objective is to engage itself in vaccines research. The company has been in technical collaboration with Merial of France for manufacturing of vaccines. Merial also assists BVI in marketing their products under an agreement.

BVI produces seven products and supplies them to the domestic as well as international markets. About 60% of its revenue emerges from only one product i.e Foot and Mouth Disease (FMD) vaccine. The effect of other products on revenue earning is not significant as shown in Table I, which portrays the financial position of BVI.

Table 1: Botswana Vaccine Institute Product-wise revenue percentage

Product name	% of revenue
FMD Vaccine	60.0%
CBPP (Vaccine for cattle tongue disease)	15.0%
Anthrax	8.4%
Black quarters	5.5%
Rinderpest	2.6%
PPR and Trypanosomiasis	2.5%
Rabisin	2.0%
Total revenue in percentage	

Source: Compiled from BVI 1999 and 2000. Annual Reports

BVI faces two major problems such as increasing the prices of its products and sales volumes.

Pricing

The international market forces determine the prices of the products supplied to overseas

market. Hence, the scope for increasing the revenue through price increases is very limited. About 40% of their products are supplied to Botswana market and the Government is the sole buyer. As such the scope for realising higher revenue by increasing prices for domestic sales is also limited.

The company has engaged Merial of France to market their products. At the same time, Merial can also be a competitor in these markets in the absence of marketing assignment. The situation makes it difficult, either to increase the price or to do away with the assistance of Merial. Another peculiar situation in which BVI is caught is that their sales volumes fluctuate with the outbreaks of mimal diseases, as the vaccine off-take will be minimum in the absence of a disease outbreak.

Options for Improved Revenues

The first option available to BVI is to reduce its expenditure by adopting a variety of cost-reduction measures. This requires an accounting system, which can provide extremely detailed and analytical expenditure figures. Then, one has to examine the expenditure in terms of controllability instead of examining the variances between budgeted figures and actual. This requires the classification of various items of expenditure based on their controllability rather than functionality. Further, the company has to set the standards for incurring expenditure for different levels of production, which will enable management to decide on the appropriate cost-control and cost-reduction measures.

Secondly, BVI has to identify the areas of wasteful expenditure and minimise the wastage if not eliminated.

Thirdly, in their effort to improve capacity utilisation, BVI has to increase their sales volume by giving volume based discounts and price cuts. This decision requires detailed information as to their fixed costs and variable costs at different levels of production. Hence costs are to be analysed with reference to capacity utilisation.

The management should know the extent of price reduction possible, for higher quantities of purchase orders received. The inducement of price reduction is likely to yield increased orders.

Fourthly, appropriate product mix decisions will contribute to the elevation of their bottom line. This requires ascertainment of costs by product in the form of wise and proper allocation and apportionment of costs (in case of joint costs if any). This will help to make production planning in line with the profit planning. This will enable the management to decide the most profitable product mix, which will maximise total revenues.

Fifthly, BVI has to decide between their own marketing effort and the Merial's marketing effort. Though, this company is in existence for the last 20 years, it is still dependent upon Merial for marketing their products.

The Accounting System of BVI

The Accounting system of BVI is ACCPAC-based, capable of producing accounting information leading to the preparation of balance sheet, profit and loss account, cash flow statement and certain comparative reports on expenditure compared to the budget. BVI's present accounting system provides for a simple functional classification of expenditure like production costs, administration costs, selling and distribution costs, financial charges, etc.

To meet the challenges of NPSM, it is suggested that based on its past experience BVI has to identify the expenses into fixed, variable and semi-variable. These expenses are to be identified product-wise so that the contribution per unit can be arrived at. This enables the management to pin-point the most desirable product for production.

With the help of marginal cost analysis, appropriate product mix and pricing policy can be decided, which would be in line with the contemplated profit.

Cost control and cost reduction are the most important tools for achieving higher profitability

in any company in the event of their inability to increase sales volumes and to fetch remunerative product prices. In its policy document, the Government of Botswana clearly states that greater emphasis is to be given to cost cutting and raising productivity (National Development Plan 8, 1997: 143). For this purpose, the management has to set expenditure standards for each type of item and incorporate these standards into their annual and quarterly budgets. Further, the budgets are to be made in such a way that estimates of expenditure and revenue are based on the set standards for different levels of likely production for the year. This will provide for a meaningful comparison of actual achievement with the estimates and to analyse the reasons for negative variances, which forms the basis for management action for improvements.

BVI's present accounting system provides information in the areas of sales, production and other functional costs.

Unfortunately, the above information provided by the system will neither enable management to exercise cost control nor can it provide any clue for cost reduction. The present accounting system is not capable of answering the following questions, relevant for further managerial action.

- Which expenses are controllable by management action?
- Which are the most profitable products and which are those contributing to losses?
- What are the break-even sales for the next year at estimated prices of the different products? What should be the break-even sales at different combinations of prices and product mix?
- What is the optimum product mix the company has to adopt? .
- Which are the products, whose prices can be slashed in order to increase the sales volume?
- To what extent can price cuts or bulk orders discounts be resorted to?
- Is the cost of research commensurate with the results it is producing?
- What is the value of the results of research?

- Are the plant repairs avoidable? Are they controllable? Why are they so high, being 50% to 60% of the depreciation?
- Will the replacement of certain equipment reduce repairs? What is the cost of replacement compared to the cost of repairs?
- When is a particular equipment to be replaced in order to reduce the overall costs?
- What is the cost of idle labour and administrative staff? What is the cost of wastage of material?
- Will there be any scope for improving the capacity utilisation by balancing the capacity of different equipments? (which are related to each other).

The system will also not provide any information, which leads the management to decide upon the efficiency of any operations or activity. Hence the scope for improvement in efficiency by management action is very limited. It is therefore, necessary to revisit the information requirements of the Management in the wake of these new management initiatives. These requirements are to be incorporated in their accounting systems.

Botswana Housing Corporation

Botswana Housing Corporation (BHC) is one of the large public enterprises in Botswana, with an investment of about a billion Pula (US \$ 150 million), established under BHC Act, 1971. The objectives of the Corporation are to provide the housing needs of government, local authorities and other persons. BHC has a mission "to develop housing and other property interests and the efficient promotion of home ownership in a manner that is commercially viable and commensurate with national policy requirements" (BHC *Annual Report*, 2000: 1).

Since its inception up to the end of March 1999, the Corporation has constructed about 17 500 dwelling units and is holding a housing stock of 16,082 at the end of March 2000. The corporation employs 700 workers. It makes an average employment of about one person per

every 23 housing properties. The corporation does not deal in the development of commercial properties and commercial complexes.

Financial Performance

The Corporation operated with marginal profits up to 1993-94 and later, when it started experiencing severe liquidity crisis and operating losses, a financial restructuring exercise was undertaken in 1996-97.

After the restructuring, the Corporation is able to record profits for the years 1997-98 to present. However, the Statutory Auditors of the Corporation have been issuing a qualified report for the last several years due to shortcomings in the accounting systems.

Present Accounting System

The present accounting system provides for information leading to the preparation of annual financial statements as required by the Statute, viz. balance sheet, income statement, cash flow statement and statement of changes in equity. The system provides a break-up of income into rental income, interest and fees receivable under Tenant Purchase Scheme (TPS), interest and fees receivable under Step Ownership Scheme (SOS); gain on sale of housing properties, interest on short-term deposits and other income (Table 2). Further, in the expenditure side, it provides a functional classification of expenditure, which can be broken down into various elements of expenditure. BHC identifies each functional division as a cost centre such as management, finance, human resources, internal audit, property division, maintenance division, development and technical, and regional office, etc.

Besides the above classification of expenditure and income, the accounting system provides for accounting for fixed assets, current assets, capital and reserves and liabilities.

The financial position of BHC is given in Appendix A. It can be seen from the appendix that the return on average fixed assets employed

during 1997-98, 1998-99 and 1999-2000 is in the order of 2.45%, 3.36% and 4.88% whereas, the net profit ratio has risen from 16% in 1997-98 to 22% for the year 1999-2000. Similarly, the return on equity has increased from 9.62% in 1997-98 to 13.7% for the year 1999-2000. Due to the nature of the business and the capital structure of the enterprise, these two indicators are not relevant for the performance measurement.

Table 2: Botswana Housing Corporation Income Statement for the year ended 31 March 2000

Income	2000 P'000	1999 P'000
Rent receivable	132,360	132,179
Tenant purchase scheme-interest and fees	13,507	8,411
Step ownership scheme-interest and fees	659	239
Interest -short term deposits	9,481	6,936
Gain on sale of housing properties	2,7051	1,5450
Gain on sale of plant and equipment	221	-
Other income	7,902	4,302
	191,181	167,517
Expenditure		
Doubtful debts provision -rentals	6,659	3 000
-other debtors	-	(457)
Interest on long term borrowings	53,937	58,884
Depreciation (housing properties)	22,828	23,915
(offices, depots, plant and equipment)	2,207	1,828
Loss on sale of plant and equipment	-	154
Other operating expenditure	57,488	47,288
	143119	134612
Less		
Capitalisation (dev. costs)	(2494)	(1402)
Capitalisation of borrowing costs:		
-housing projects	(1128)	(804)
-offices, depots, plant and equipment	-	(74)
	139,497	132,332
Operating surplus	51,684	35,185

Source: Botswana Housing Corporation. 1999 and 2000. Annual Reports.

The minor increase in the return is to some extent attributable to the increase in the rental tariffs, instead of their operational efficiency. Before 1997-98, the corporation was incurring losses for some time due to heavy debt servicing burden

and accumulation of arrears of rental income having remote chances of recovery. At this juncture, the government agreed for conversion of P250 million loans into equity in two instalments as part of capital restructuring plan. Though, this measure has to a great extent improved its book profit, its operational efficiency has not improved. It is evidenced by the ROCE, which is wavering between 9% and 10%. For a serious analyst, who would obviously take the qualifications of the statutory auditors into account such as:

due to shortcomings in the accounting systems and procedures for the processing and recording of rental receipts in prior years and any consequent misstatement of rental receivables at 31 March 1999, we have been unable to satisfy ourselves as to the completeness and accuracy of the amounts shown in the income statement for the current year as rental income and the related provision for doubtful debts" the actual return on capital employed will be much less than 9% (BHC Annual Report 2000,1).

The financial position indicates the inability of the management to achieve operational efficiency of the enterprise.

Accounting Tools for Improving Operational Efficiency

One of the reasons for the inability of management to improve the operational efficiency of the Corporation is lack of proper accounting tools. The present accounting system provides information on various aspects of the Corporation in a traditional functional way. For example, the expenses are ascertained for each cost centre determined on the functional basis or departmental basis, such as finance, audit, maintenance, and general management, etc. Similarly, the revenues are accumulated for each category of activities, such as rental income, interest, fees, other services, etc. Basically, this type of classification does not provide the basis for accurate estimation and their subsequent control. Instead of functional

basis, or in addition to functional basis, the accounting system should provide information relating to each controllable Profit Centre.

In this context, it would be proper to treat each housing property as a separate profit centre, and a responsible officer should be allocated the management of an appropriate number of profit centres, viz., the housing properties. The allocation of revenues and expenses should be made to each profit centre. For each profit centre a separate profile is required to be maintained as given in Appendix B. Then it would be easily known, which profit centre is contributing to the profits of the organisation and how much. Then the reasons for less or higher contribution, the reasons for incurring of higher and lower costs as compared to others and the reasons for positive/negative variances from the budgeted figures of standard costs/revenues can be easily analysed.

Such analysis can provide the required idea as to what to control and how to control various activities. The system also provides appropriate data and information for forward planning including profit planning. The departmental costs are then allocated to the profit centres, according to their actual contribution, in terms of number of hours spent on each property, which is verified by the profit centre's heads. Hence, the efficiency of departments and the level of utilisation of the existing capacities can be determined. This will reveal the over/under capacity utilisation and the exact location of the idle resources lying in the organisation.

A specific officer should be made responsible for the collection of revenues, maintenance and upkeep of all the properties entrusted to the officer. The overall profit or loss incurred by a profit centre should determine the officer's performance and rewards.

The proposed system will contribute to the overall improvement in the financial and operational performance of the corporation and to enhance its intrinsic value in terms of profitability and contribution to the exchequer.

Air Botswana Corporation

Air Botswana Corporation (ABC) was established in April 1988 under Air Botswana Act (No.4, 1988) as a wholly-owned parastatal corporation to operate commercial airlines. The Corporation has been operating in losses from its inception. By 1993-94, the Corporation had an accumulated loss of about P60million and in 1993-94, the corporation failed to service the Public Debt Service Fund (PDSF) loans due to severe cash crisis. Government intervention by way of writing-off of the PDSF loans of P75 million as part of Air Botswana restructuring and a decision to sell off one of its loss making aircraft, rescued the Corporation. As a result, the company could record profits as shown in Table 3 from 1996-97 to 1999-2000.

Table 3: Air Botswana Corporation Profits (P million)

Year	Profit (loss)	Remarks
1996-97	3.00	
1997-98	17.00	
1998-99	24.00	
1999-00	20.00	This profit is after extraordinary items such as interest income and its operating profit is only P1.30 million
2000-01	8.30	This profit is after extraordinary items such as interest income etc and its operating loss is P15.40 million

Source: Air Botswana Corporation Annual Reports (1996-2001).

In addition to the general characteristics of air transport such as "unutilised capacity as a wasteful capacity, capacity can neither be stored nor transferred, influence of feeder lines, influence of size of the aircraft, international agreements on the price, imbalanced capital structure and dependence on government" (Bonu 1993, 894). Air Botswana Corporation has an important character such as very fast growth of expenditure, compared to sales/revenue as well as the problem of capacity utilisation. It is,

therefore, necessary to have an accounting system, which can help control expenditure and/or reduce expenditure, increase capacity utilisation. This will contribute to the improved profitability and enhanced value of the company and will make the situation conducive to the smooth and meaningful privatisation process, which is currently in place.

Examination of the current accounting system is essential to identify whether the accounting systems cater to the needs of the better management.

Current Accounting Systems

The current accounting systems provide the conventional information as to the various expenses and the revenues that help to prepare financial statements such as income statement, balance sheet and cash flow statement. The expenditure classification disclosed in the income statement indicates that the information disclosed is neither useful nor does it serve any control purpose. Further, the classification is confusing as it shows fixed costs, variable costs and indirect costs. It does not classify the indirect costs into fixed and variable (Table 4). It is also confusing because the fixed costs are not fixed for any period.

Table 4: Air Botswana Corporation Income Statement for the year ended 31 March 2001 (P'000)

Nature of the item	2000-01	1999-00
Revenue.	98,988	89,871
Variable costs	(51,612)	(37,419)
Fixed costs	(28,364)	(19,702)
Indirect expenses	(34,361)	(31,428)
Operating income before interest	(15,349)	1,322
Non-operating income	(13,555)	14,010
(Loss)/income before interest	(1,794)	15,332
Net interest income	10,096	4,406
Income for the year before taxation	8,302	19,738
Taxation	-	-
Extraordinary item	-	-
Net income for the year	8,302	68,723

Source: Air Botswana Corporation Annual Reports, 1999-2001.

It is necessary for Air Botswana Corporation to identify the key areas of control and develop suitable accounting systems, which can provide appropriate information required to improve managerial effectiveness. At present the information provided by the accounting system does not give any clue as to which route is contributing profit or loss or which aircraft is contributing to the profit/loss. The accounting system does not reveal the capacity utilisation of the aircraft. There is no way to find out the total costs involved for each trip with a break up of fixed and variable costs etc.

It is necessary to know the total fixed costs for each trip/journey in order to take appropriate pricing decisions or discount decisions, which will improve the capacity utilisation and consequently maximise the turnover and profits of the organisation.

Each trip or journey should be treated as a profit centre and the relevant fixed and variable costs ascertained, instead of simply classifying a part of the overall expenses into fixed and variable. As per the Corporation's Annual Statements of Accounts (Table 4), most of the expenditure is fixed in nature. Hence, the break-even sales revenue per trip can be worked out. To achieve an early break-even sales per trip, the management should adopt "various ticketing types such as family fares, standby 50% fares, incentives to agencies by allotting a block of tickets to be sold by them at concession rate and to take risk of selling those tickets" (Bonu, 1993: 895). Unlike other PSUs in Botswana where "the concerned ministry acts as a pace setter in tariff fixing and works as a mediator between the government, companies and consumers" (Bonu 2000, 38) users association like International Air Transport Association (IATA) has a say in tariff fixing in Air Botswana. The Corporation can extend discounts on particular routes on special trips, in order to achieve the maximum capacity utilisation. "A wide variety of fares best allows an airline to maximize its revenue when travellers have a variety of requirements. Savings in costs

from a simple booking system thus have to be set against losses in revenue" (David 1987, 20).

Further, the company should adopt a flexible budgetary control system when budgeted costs are based on standards set for each type of expenditure. This will reveal the actual efficiency of operations as well as wastage of resources. Further, flexible budgets provide for adopting a more accurate overhead absorption rates.

Botswana Agriculture Marketing Board

Botswana Agriculture Marketing Board (BAMB) is a parastatal body which came into existence under Botswana Agricultural Marketing Board Act 1974 with the objective of providing a stable market with a guaranteed minimum price for scheduled produce and to ensure efficient and fair distribution. In addition, it has been entrusted with the function of managing the government's Strategic Gain Reserve (Sec. 10).

BAMB has been experiencing continuous financial losses for many years. It had an accumulated loss of over P48 million at the end of March 2000 (BAMB, 2000 Annual Report), against the Government's initial contribution of about P22 million. Main reasons for such a huge loss are: shrinking turnover year after year, under-utilisation of fixed assets, high depreciation charges, heavy maintenance expenditure, huge fixed costs and large interest burden. As a restructuring exercise, the Government of Botswana wrote-off the unpaid interest on PDSF loan and converted the loan into equity. Due to this exercise BAMB's accumulated loss was reduced to P.7 million. BAMB also shows the total revenue minus cost of goods sold, gross profit, and administrative expenses besides financial expenses. The information provided by the accounts is not useful for managerial decision-making (see Table 5).

Accounting Systems

Instead of following a simple budgetary control system, the company should follow standard

costing system for major items of identified expenditure. There is no system of controlling idle labour costs and costs associated with idle deposits. Therefore, it is necessary to re-design the accounting system and hold the specific officers responsible/accountable for the operations allotted to him. It is suggested to introduce the profit centre accounting system. Each manager is to be allocated with one or two products and product-wise accounting system is to be introduced. The fixed costs of the Board have to be allocated based on the sales revenue of each product.

Table 5: Botswana Agricultural Marketing Board Balance Sheet as at 31 March 2001 (P)

	2001	2000
ASSETS		
<i>Non-current assets</i>		
Property, plant and equipment	7,204,550	8,227,933
<i>Current assets</i>		
Inventories	2,201,694	4,291,632
Receivables and prepayment	2,609,945	1,738,914
Cash and cash equivalents	11,565,222	4,398,116
	163,771,361	20,428,662
Total assets	23,581,711	28,656,595
EQUITY AND LIABILITIES		
<i>Capital and reserves</i>		
Government grants	-	20,964,118
Government equity	26455061	-
Recallable capital	1,000,000	1,000,000
Accumulated loss	(7393610)	(48090975)
	20061451	(26126857)
<i>Non-current liabilities</i>		
Interest bearing borrowings	-	1 393 556
<i>Current liabilities</i>		
Interest bearing borrowings	-	25,120, 082
Trade and other payables	3,520, 260	28,269,814
	3,520,260	53,389,896
Total equity and liabilities	23,581,711	28,656,595

Source: Botswana Agricultural Marketing Board, Annual Report.. 2001.

Sales revenue has to be estimated early in advance and the standards should be established. Break-even sales will have to be calculated well in advance for each product. The concerned

profit centre manager has to constantly monitor the procurement of products and sales. Variances are to be reported to the Board well in advance to apply remedial measures.

The Board should have full information on the quarterly results and the variance analysis. BAMB has to adopt new public sector management with induction of professionalism into management and innovative planning.

CONCLUSIONS

The research revealed that the Public Sector Undertakings in general are maintaining the accounts as per the statutory requirements aiming at production of annual accounts such as income statements and balance sheets. These accounts or financial statements do not meet the requirement of the new public sector management.

BVI has adopted an accounting system based on ACCPAC, which is capable of producing accounting information leading to the preparation of balance sheet, profit and loss account, cash flow statement and certain comparative reports on quarterly revenue and expenditure *vis-a-vis* their budgeted figures.

BHC's accounting system provides a break-up of income, based on the elemental classification of revenue transactions, such as rental income, interest and fees receivable under Tenant Purchase Scheme (TPS), interest and fees receivable under Step Ownership Scheme (SOS), gain on sale of housing properties, interest on short-term deposits and other income whereas, expenditure is linked to functional cost centres: such as finance, maintenance, internal audit, etc. The income statements of Air Botswana Corporation do not serve any control purpose. Further, the classification is confusing as it shows fixed costs, variable costs and indirect costs. It does not classify the indirect costs into fixed and variable.

The information provided by the accounts of BAMB is also not useful for managerial decision-making, which could not provide any meaning full

information. There is no system of controlling idle labour costs and the costs associated with idle depots.

In general the classification of the expenditure disclosed in the income statements serve no purpose for management to control the expense. The production of these statements are historical in nature and the analysis is only a 'post-mortem' exercise. These statements are neither useful for taking any managerial decisions on improving the operational efficiency nor for control purpose. The classification of expenses into fixed and variable is not complete. Further, the classification is confusing as it shows fixed costs, variable costs and indirect costs. It does not classify the indirect costs into fixed and variable.

SUGGESTIONS

In BVI the classification of various items of expenditure should be based on controllability than functions. Further, the company has to set the standards for incurring the expenditure for different levels of production, which will enable management to decide upon the appropriate cost control and cost reduction measures. It has to ascertain expenses by product and also to identify the areas of wasteful expenditure and minimize the wastage if not eliminated. It has to improve the capacity utilisation and increase its sales volume by giving volume based discounts and price cuts. It has to adopt appropriate product mix decisions and their marketing decisions.

BHC has to treat each housing property as a separate profit centre, and each responsible officer should be allocated the management of an appropriate number of profit centres, viz., housing properties. All the costs and revenues should be ascertained for each profit centre, which will reveal loss making centres so that reasons can be explored and corrective actions initiated.

ABC has to identify the key areas of control and develop a suitable accounting system, which can provide the appropriate information required to improve the managerial effectiveness. The

system should help to record and classify expenditure and revenues with reference to each return trip of the aircraft instead of recording the same for each period.

BAMB has to estimate its revenue early in advance and the standards should be established for each expenditure item. Revenues and expenses should be ascertained for each product-line and for each depot so that break-even sales for each product line and for each depot can be ascertained. An appropriate sales-mix will have to be calculated to maximise the contribution of BAMB. The concerned profit centre manager has to constantly monitor the procurement of the products and sales. Variances are to be reported to the Board well in advance to apply remedial measures.

In the management of public sector undertakings in Botswana, no one can adopt a blanket accounting system to meet the needs of new public sector management. The new public sector management requires accounting tools, which should be tailor-made to suit the peculiar requirements of the enterprise under study. Then the accounting system adopted will help management to achieve maximum value for the money invested/spent.

It is suggested that public sector undertakings in general should not go for a multiple accounting systems, such as, financial accounting system, cost accounting system, management accounting and reporting system, etc. As far as possible, the enterprise should adopt a single integrated accounting system (IAS), capable of incorporating all the information needs of the new public sector management. Further, the accounting system should be flexible enough to incorporate future modifications or changes with minimum effort.

REFERENCES

- Air Botswana Corporation.
1996-2001. *Annual Reports*.
- Bonu, N.S. (1993)
"Survival Accounting Techniques During Recession-Case Study of Air Transport." *The Management Accountant* 28 (12): 893-897.
- Bonu, N.S. (2000)
"Government-Owned Companies: Experiences From Botswana." In *Critical Issues in Cross-National Public Administration: Privatization, Democratization, Decentralization*, edited by S.S. Nagel. Quorum Books, Westport, Connecticut.
- Government of Botswana (1974).
Botswana Agricultural Marketing Board Annual Reports 2000, 2001.
- Botswana Housing Corporation.
Annual Reports 2000, 2001
- Coombs, H.M., and D.E. Jenkins (1994)
Public Sector Financial Management. International Thomson Business Press.
- David, F., H. Sylvia (1996)
"Public Managers and Private Managers: Towards a Professional Synthesis?" In *New Public Managers in Europe- Public Servants in Transition*, edited by F. David, H. Sylvia, B. John and H. Annie, Macmillan Business.
- David, S. (1987)
"Competition in the Air." Research Monograph. The Institute of Economic Affairs.
- Farry, D. (1989)
"Management Accounting in Police Service." In *Management Accounting in the Public Sector*. Edited by Pendlebury, M.W. Published in Association with The Chartered Institute of Management Accountants, Heinemann Professional Publishing, Great Britain.
- Hornigren, C., G. Foster and S.M. Datar (2000)
Cost Accounting: A Managerial Emphasis. 10th edition. Prentice Hall International, Inc.
- Jerry, M.R. (1983)
Dictionary of Business and Management. 2nd edition. John Wiley & Sons, Singapore.
- Jones, J., M. Pendlebury (1989)
"Management Accounting in Local Government: The Education Service." In *Management Accounting in the Public Sector*. Edited by Pendlebury, M. W. Published in Association with The Chartered Institute of Management Accountants, Heinemann Professional Publishing, Great Britain.
- Kenneth A.M. (1997)
Modern Management Control Systems: Text and Cases. Prentice Hall.
- Pendlebury, M. W (1989)
Management Accounting in the Public Sector. Published in association with the Chartered Institute of Management Accountants.
- Meigs, R.F., W.B. Meigs. (1990)
Accounting: The Basis for Business Decisions. 8th edition. McGraw-Hill Publishing Company.
- Norman, F. (1997)
Public Sector Management, Prentice Hall, London.
- Robert W. Ingram (1980)
Accounting in the Public Sector: The Changing Environment, Brighton Publishing Co., Utah.
- Smith, R.J. (1994)
Strategic Management and Planning in the Public Sector, Longman, UK