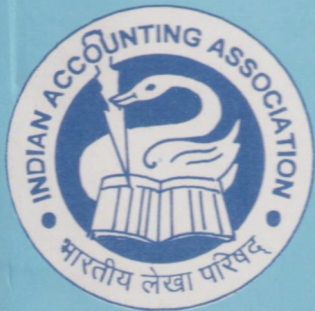


INDIAN JOURNAL OF ACCOUNTING

VOL. XXX, JUNE 1999



JOURNAL OF
THE INDIAN ACCOUNTING ASSOCIATION

EDITORIAL BOARD

Chief Editor

K.R. Sharma

M.L. Sukhadia University

Associate Editors

Bhairav Desai

Gujrat University

R.K. Tripathi

Lucknow University

G. Soral

M.L. Sukhadia university

Members

K.V. Sivayya

Emeritus Professor, Clarkson University

S.K.R. Bhandari

Formerly Banaras Hindu University

P.K. Ghosh

Formerly University of Delhi

Bhagwati Prasad

Formerly Karnataka University

B.M.L. Nigam

University of Delhi

Jagdish Prakash

Allahabad University

H.N. Agarwal

Saurashtra University

K.L. Jain

Raj. Chamber of Com. & Industry

N.M. Khandelwal

MDS University

B. Banerjee

Calcutta University

Sujit Sikidar

Gauhati University

G.C. Maheshwari

MS University of Baroda

Pranesh Das

University of Burdwan

V. Krishna Kumar

IIM, Calicut

S. Rathore

University of Delhi

Note : The views expressed in the Indian Journal of Accounting are of the respective authors. The Editorial Board and the Indian Accounting Association are not responsible for the same.

Contents

Editorial	(i)
Past Presidents	(ii)
Presidential Address - <i>Dr. Nageshwar Rao</i>	1
Need for Revisiting the Conceptual Framework for Financial Accounting and Reporting - <i>Dr. L.S. Porwal and Dr. H.K. Porwal</i>	5
Issues in Environmental Accounting and Reporting - <i>Dr. Ashok Banerjee</i>	10
Eco-Accounting : An Instrument for Strategic Managerial Decisions - <i>Dr. H.V. Shankaranayana</i>	28
Corporate Environmental Responsibility and Role of Accountant - <i>Dr. Bhairav H. Desai and H.C. Sardar</i>	32
Human Capital Information System - <i>Dr. Ajay Kumar Singh</i>	40
Foreign Collaborations and Income Tax Act 1961 - <i>Dr. Somnath Ghosh</i>	51
Resurrection of Industries through Reforms: An Analysis of Private Sector - <i>Dr. R.K. Raul</i>	58
An Overview of State of Doctoral Research in Accounting in India - <i>Dr. P.K. Halder</i>	67
Book Reviews	76
Branch News	77

Young Researcher Award

Indian Accounting Association invites research proposals on research work done during the last five years in the area of Accounting by scholars/faculty members of not more than 35 years of age as on 31st December, 1998 for the consideration of the Young Researcher Award Committee of the IAA. The proposals may be submitted to the General Secretary IAA on or before 30th November 1999 on the address given below :

May 31, 1999
Visakhapatnam

General Secretary IAA
Faculty of Com. & Mgt. Studies.
Andhra University
Visakhapatnam - 530 017

Change of Postal Address

Indian Journal of Accounting is despatched to all subscribers/members at their postal addresses. It may please be verified that the address given is correct and complete in all respects. Any mistake or change in addresses may please be brought to the knowledge of the **Chief Editor** immediately to avoid loss of Journal in transit.

Chief Editor, IJA

Editorial

Globalisation of economies and environment are two important issues in the attention of intellectuals and statesmen. These are also in the focus of current issue of the Journal.

In the Presidential address at XXII National Convention of Indian Accounting Association, Dr. Nageshwar Rao emphasizing these issues implored the members to provide professional and practical orientation to accounting education, adopt appropriate pedagogy and establish linkage with other disciplines as well as the world of work. Dr. L.S. Porwal and Dr. H.K. Porwal in their article on "Need for revisiting the conceptual framework for financial accounting and reporting" highlighting various issues in the conceptual framework suggested present value technique to make financial statements more helpful in fulfilling their objectives.

Environment signifies natural physical surroundings, that is air, water, soil, land, flora, fauna and non-renewable resources, such as fossil fuels and minerals. Environmental accounting at macro level denotes a set of aggregate national data linking environment to economy and having long-term impact on environment and economy both, whereas at micro level it denotes disclosure and reporting by entities on the impact of their activities on environment. Dr. Ashok Banerjee's paper entitled "Issues in environmental accounting and reporting" deals with these macro and micro perspectives. Dr. Bhairav H. Desai and Shri H.C. Sardar's paper entitled, "Corporate environmental responsibilities and role of accountant" emphasizes that an enterprise while seeking to use natural resources must keep in mind not only its own interest but also that of the society including future generations. The accountants should endeavour to create favourable relationship amongst business, society and eco-system.

Dr. H.V. Shankaranayana in his paper entitled "Eco-Accounting: An instrument for strategic managerial decisions", tracing the evolution of accounting as an information base for decision making from a historical perspective described how accounting can be used as an instrument for managerial decisions and external reporting.

Dr. Somnath Ghosh's paper on "Foreign Collaborations and the Income Tax Act, 1961" examined the effect of payments by way of dividend and interest in case of investments by foreign enterprises under income-tax law. Dr. Ajay Kumar Singh in his paper entitled "Human capital information system" has presented a new perspective in human capital information system. In "Resurrection of Industries through reforms : An analysis of private sector" Dr. R.K. Raul has examined the aspects of export led growth, investment and regional growth and performance of corporate sector and their implications in resurrection of industries. Dr. P.K. Halder has projected an overview of the state of doctoral researches in accounting in India in the faculty of commerce and faculty of management in Indian Universities during 1992-1996.

The volume contains news from five branches of Indian Accounting Association which includes several upcoming branches. This indicates added vibration in the Association. The Journal continues to play its dual role of a research journal and a house journal of the Association.

Udaipur
30th June, 1999

Editors

Indian Accounting Association - Past Presidents

1. **Shri Raghu Nath Rai**
Chartered Accountant, Varanasi
2. **Dr. S.N. Sen (Late)**
Former Vice-Chancellor, Calcutta University, Calcutta.
3. **Dr. S.K.R. Bhandari**
Former Professor, Banaras Hindu University, Varanasi
4. **Dr. G.D. Roy (Late)**
Former Professor, Calcutta University, Calcutta
5. **Shri M.C. Bhandari (Late)**
Chartered Accountant, Calcutta
6. **Dr. K.S. Mathur**
Former Professor, University of Rajasthan, Jaipur
7. **Dr. R. Rajagopalan**
Formerly Additional Secretary, Government of India, New Delhi
8. **Dr. L.S. Porwal**
Former Professor, Delhi University, Delhi
9. **Dr. H.C. Mehrotra**
Former Dean, Agra University, Agra
10. **Shri S.M. Dugar**
Former Member, Company Law Board, Government of India, New Delhi
11. **Dr. S.P. Gupta**
Former Dean, Rohilkhand University, Barailly
12. **Shri Sukumar Bhattacharya**
Chartered Accountant, Calcutta
13. **Dr. Dool Singh**
Former Professor, Kurukshetra University, Kurukshetra
14. **Dr. M.C. Khandelwal**
Former Professor, University of Rajasthan, Jaipur
15. **Dr. B. Banerjee**
Professor of Commerce, Calcutta University, Calcutta
16. **Dr. Chhote Lal**
Professor of Management, Banaras Hindu University, Varanasi
17. **Dr. N.M. Khandelwal**
Professor & Director Management, M.D.S. University, Ajmer
18. **Dr. U.L. Gupta**
Former Professor, J.N.V. University, Jodhpur
19. **Dr. K.R. Sharma**
Professor, Chairman Faculty & Dean, P.G. Studies
Mohanlal Sukhadia University, Udaipur
20. **Dr. Bhagwati Prasad**
Former Professor & Director, Kausali Institute of Management,
Karnataka University, Dharwar.
21. **Dr. Nagashwar Rao.**
Professor and Director, Pt.J.L.N. Institute of Management, Vikram University, Ujjain.

Presidential Address

Dr. Nageshwar Rao*

Honourable chief guest, dignitaries on the dais, office bearers and members of the Indian Accounting Association, distinguished guests and delegates, ladies and gentlemen,

I deem it a rare privilege and honour to act as President of the Indian Accounting Association and deliver the Presidential Address at the inaugural session of the 22nd All India Accounting Conference. I most humbly extend my sincere thanks and gratitude to all the members of the Indian Accounting Association for reposing confidence in me.

At the very outset, I extend a warm welcome to all the delegates who have come from different parts of the country and also to all the distinguished personalities present on the dais. I express my thanks to the Department of Accountancy and Business Statistics, University of Rajasthan for hosting this conference in the great Pink City of Rajasthan. My sincere thanks are also due to the Rajasthan Chamber of Commerce & Industry, Jaipur for extending their cooperation in organising this conference.

Accounting, in fact, is an integral part of our day-to-day life. Every economic activity is closely interwoven with accounting. This discipline develops the required skills, attitudes and knowledge in the people and the practitioners to successfully handle the activities of trade and industry. In the prevailing globalised and liberalised scenario all over the world, we have to prepare our accountants for the next millennium. We should look forward to visualizing the needs of the new world order. I take this opportunity to share with you my stray thoughts on some of the burning issues confronting accounting trainers, researchers and learners.

Globalised Accounting :

No doubt, globalisation has changed the accounting world. Our accounting profession has to become truly global in character. There is a pressing need for the reorientation of the prevailing nation-based accounting systems in the following manner :

1. From the manual system towards the electronic system;

* *Professor and Director. Pt JLN Institute of Management, Vikram University. Ujjain - 456010*

2. From the local reporting system towards the global reporting system;
3. From record keeping system towards the information processing system;
4. From the legalistic reporting system towards the reporting of corporate governance;
5. From national accounting standards towards global accounting standards; and
6. From tax accounting towards deferred tax accounting and tax planning.

As globalisation has brought free pricing, volume trading, listing in international stock exchanges and mutual funds, our accountants have to build up requisite skills to cope up with this complex environment.

Creativity in Accountning :

With the wide publicity accorded to the book entitled 'Accounting for Growth' by Terry Smith, the term 'creative accounting' has become somewhat popular. It is usually put into practice to facilitate people connected with business to look at 'things' differently.

For this, creative abilities like associative thinking, sidetracking, brainstorming, ignoring constraints, questioning check lists etc should be strengthened among the new generation of accountants. So far as management accountants are concerned, creative accounting will strengthen their decision-making skills. It can also effectively contribute in the accounting of intangibles. However, creativity in accounting should be encouraged in only such areas where utility requires greater consideration than objectivity.

Professional Orientation :

In spite of the tremendous popularity of accounting as an academic and professional discipline, unemployment and underemployment among accounting personnel is quite substantial. This phenomenon is also visible to a limited extent in the case of professional degree holders like chartered accountants and cost accountants. The basic problem is that we are providing the same inputs for a large number of learners. In the prevailing situation, it is essential to assess the needs of business. If the same inputs continue to be taught to the students for obtaining degrees without looking at the future job market requirements, the scenario will further deteriorate. Quality should be the prime consideration in place of quantity. At present accounting education is imparted at the following places after higher secondary level.

- Professional institutes like the Institute of Chartered Accountants of India and the Institute of Cost and Works Accountants of India are doing relatively well. However, they are also expected to further upgrade their standards of professional excellence.
- Departments of accounting at universities and colleges in India are making sincere efforts to promote postgraduate accounting education and research.
- Premier technological and management institutes through introducing

accounting as one of the core courses strengthen the inputs for technocrats and management students.

There is a need to enhance the value of feeder undergraduate courses of commerce by giving due weightage to subjects of accounting discipline at universities and colleges.

Now the time has come to review, reorient and strengthen the whole structure of accounting education. All institutions involved in accounting education should sit together and reallocate their roles and responsibilities in the changed context.

Practical Orientation :

Accounting education should be injected with required practical orientation. Efforts have already been initiated to involve professionals like CAs and ICWAs to teach students of accounting as part-time or guest faculty members. However, the industry linkage is totally absent in this sphere. Efforts should be made to involve people from business and industry in teaching and curriculum development. The new edifice of accounting is to be built out of things ranging from heavily loaded theoretical and practical aspects to real life situations in industry and business. Inputs such as computerised accounting, global accounting, environmental accounting, human resource accounting, value added accounting, tax accounting, farm accounting etc. are to be intensively deliberated upon. Topics like royalty accounts, dissolution of firms, double accounting system etc have lost their relevance. Undue emphasis is being laid on the accounts of banks and insurance companies, which are still largely owned by public sector and for which specific statutory formats have been prescribed. But we cannot ignore the importance of cooperative accounting and accounting for small scale units.

Change in Pedagogy :

The focus of accounting education should be on developing problem-solving and decision-making skills. For that pedagogic changes have to be made. Instead of teaching the subject through lectures and practical exercises, group and participative methods should be used more. Technology and management institutes are already using the case study method to strengthen problem-solving skills. Audio-visual aids can also be used to enhance the retention capacity of learners. Training the trainers is a must for making the discipline more purposive and socially relevant.

Preparation of Textbooks and Teaching Material :

Another important prerequisite for developing accounting education is the preparation of textbooks and teaching material to meet the emerging requirement. Our accounting texts contain old and obsolete examples. They do not have the touch of real-life situations. Accounting standards pronounced by international and national accounting bodies are only incorporated by way of appendices. These standards have become a subject of academic interac-

tion, rather than an issue for application to suit the requirements of business and industry. Now the time is ripe for rewriting the principles and practice of accounting in the light of accounting standards. Practical assignments, real-life examples and case studies should be incorporated in the revised texts. While reviewing the fundamental principles of accounting, greater weightage should be given to relevance rather than to objectivity.

Research Contribution :

Research is an important component of accounting education system. It is essential to expand the dimensions of accounting. In addition to promoting accounting research to test its empirical relevance, fundamental and original contributions should be encouraged. There is a need to train researchers' creative abilities. Both convergent and divergent thinking skills should be inculcated. The six honest serving men method (Parnes, Noller, Biondi, 1987) should be used to promote original research in accounting. Probing questions like who, why, what, when, where and how will help researchers in identifying research problems appropriately. I also earnestly appeal the teachers of accounting to promote the habit of probing in the younger generation.

Linkage with Other Disciplines :

The discipline of accounting should not be seen in isolation. There is a need to establish appropriate linkages with other disciplines. Interdisciplinary studies will make the discipline more purposeful and socially relevant. In addition to the linkage of accounting with taxation, management, finance, economics, ethics, sociology and environment, efforts should be made to promote interdisciplinary studies in accounting with other subjects in social sciences and physical sciences like geology, political science, engineering, marketing and quality control. New dimensions of accounting like export accounting, project accounting etc need to be developed and strengthened.

Indian Accounting Association :

Before I close, I would like to say something about the Indian Accounting Association. There is a strong need to spread the message of the Association far and wide. The quality of our journal has improved over the years. However, it has not reached the larger segment of accounting researchers and learners. If we start enrolling more and more institutional life members, the financial position of the association will get strengthened and we will have a wide reader's base. Already a beginning has been made. I solicit the cooperation of all the members of the IAA in enrolling more and more institutional members.

I hope accounting educators will spare time to deliberate upon the issues raised and formulate an action plan for taking the discipline of accounting to newer heights of glory in the coming millennium.

I thank you very much for the patience you have shown in bearing the tyranny of the speech and once again express my sincere thanks for giving me this honour.

Need for Revisiting the Conceptual Framework for Financial Accounting and Reporting

Dr. L.S. Porwal* and Dr. H.K. Porwal**

A Conceptual Framework for Financial Accounting and Reporting was issued by the Financial Accounting Standards Board (FASB) of the USA in 1976. The International Accounting Standards Committee (IASC) issued a Framework for the Preparation and Presentation of Financial Statements in 1989 and the Accounting Standards Board (ASB) of the UK came out with the Statement of Principles on Objectives and Qualitative Characteristics (ED) in 1991. The Accounting Standards Board (ASB) of the Institute of Chartered Accountants of India (ICAI) also published an ED on the Framework for the Preparation and Presentation of Financial Statements in 1996. Other institutes and individuals¹ have come out with similar conceptual frameworks from time to time. All the institutes have recommended historical-cost based financial statements.

Soon, we are entering the twenty-first century, where accounting would be required to play a major role in decision making in the free economies of the world. There is now a need for giving a fresh look to some of the aspects of conceptual framework. Arthur Wyatt had said that "A framework should be a living document, one that is revisited from time to time to retain its relevance".² The FASB has made it clear in the Statement of Financial Accounting Concept (SFAC) No. 1 that "the objectives of financial reporting are not immutable – they are affected by the economic, legal, political and social environment in which the financial accounting and reporting takes place"³

The economic and social environments in particular are likely to be affected by the advent of liberalisation and globalisation in many developing economies. Accounting has to be in tune with the changing environment.

Current thinking about the primary objective of financial statements is to promote the efficiency of capital markets in allocating scarce resources by providing information useful for rational decisions".⁴

* *Former Professor and Head, Department of Commerce, University of Delhi, Fellow Indian Accounting Association.*

** *Senior Lecturer, College of Business Studies, University of Delhi.*

A conceptual framework sets forth fundamentals on which the financial accounting and reporting standards are based. It broadly deals with the following aspects :

1. Qualitative characteristics, 2. Elements of financial statements, 3. Attributes, 4. Recognition and measurement, and 5. Capital maintenance.

Qualitative Characteristics have been well set in all the existing conceptual frameworks, highlighting the importance of relevance, reliability, consistency and comparability in particular. Similarly, the basic elements of financial statements are assets, liabilities, equity, incomes and expenses, spelled in whatever manner by the FASB, the IASC and the ASB.

In all the five elements of financial statements (in the framework by the IASC), emphasis is on recognition of future economic benefits. However, the SFAC No. 6 (FASB) explains that "the Board has not yet decided on the use of current value in recognition and measurement".⁵

It is recognized that because of containment of price level in most developed countries, this problem remains in most developing economies only. "Concern with incorporating the effects of changing prices in the accounting system historically rises or falls in direct proportion to the rate of inflation".⁶ There is a case for review of 'historical cost' as the basis for measurement in order to make the financial statements and reports more useful for rational decision making.

Application of present value (PV) techniques in measurement is another aspect which needs serious thinking to make the financial statements economically realistic. There are some advantages of historical-cost based accounting, such as objectivity, verifiability etc. But the income statements do not indicate the true earning capacity of the enterprise and the balance sheets do not show the true financial position. Such financial statements merely show the performance of management in the past year. Accounting and reporting are done merely to meet the requirement of law, and not as an input for decision making. The financial statements are not useful in decision making under uncertainty. Different bases of measurement have to be adopted to make the accounting information useful.

Our concern in the present article is for the application of present value techniques for making financial statements more helpful in fulfilling the objectives with which such statements are prepared and presented.

Attempts have been made in the past to provide accounting guidelines in the form of opinions, statements and standards to incorporate present value techniques in measurement. A fresh attempt was made by the FASB (USA) in 1997 when it issued an ED on the Proposed Statement of Financial Accounting concepts using Cash Flow Information in Accounting Measurement?⁷

It states, "Most accounting measurements use an observable market-place-determined amount, like cash received or paid, current cost, or current

market value. However, accountants often must use estimated future cash flows as a basis for measuring an asset or a liability."⁸ It further states, "the Board found that descriptions of measurement attributes in the FASB Concepts Statement No.5, 'Recognition and Measurement in Financial Statements of Business Enterprises' were inadequate in determining when and how to use present value in accounting measurements."⁹

The main purpose of advocating application of "present value in accounting measurement is to capture, to the extent possible, the economic difference between sets of estimated future cash flows".¹⁰ For example, without PV, a Rs. 1,00,000 cash flow due in December 1999 and a Rs. 1,00,000 cash flow due in December 2009 appear the same. Since "the present value distinguishes between cash flows that might otherwise appear similar, a measurement based on present value of estimated future cash flows provides more relevant information than a measurement based on undiscounted sum of those cash flows."¹¹

Some countries have made a beginning in this direction. Capital budgeting decisions are made on the basis of present values. Pension liabilities are carried out at their present values. Some further examples of using estimated future cash flows as a basis for measuring the fair value of an asset or a liability are given below :

Notes (bills) Receivable : The proper amount to record notes is the present value of future cash flows.

Current Liabilities : In practice, the current liabilities are accounted for at their full maturity value. Theoretically, however, the current liabilities should be measured at the present value of future payment of cash required to liquidate them.

From practical point of view, since the current assets and current liabilities are, by definition, for a period of one year or less, the application of present value technique in their measurement may be dispensed with. But in case of fixed assets, investments and long-term liabilities, estimates of future cash flows, as discussed below, are best reflected at their fair value, if discounted cash flow technique is adopted in recording and reporting.

Fixed Assets : Fixed assets are purchased usually on long-term credit contracts. To properly reflect cost, such fixed assets should be accounted for at the present value of consideration exchanged between buying and selling parties on the date of deal.

Investments in Bonds : Similarly, the market price of a bond, theoretically, is the present value of its maturity amount plus the present value of its interest payment, both discounted at market rate of interest. To illustrate, the price that should be paid for a bond of Rs. 1,00,000 at 8% interest paid half-yearly, and maturing in 6 years with a 10% effective rate of inter-

est is computed as shown below :

$$\begin{aligned}
 \text{Purchase price} &= \text{PV of amount on maturity} + \text{PV of interest payments} \\
 &= (\text{Rs. } 1,00,000 \times P_{12}^{T5\%}) + (\text{Rs. } 4,000 \times P_{12}^{T5\%}) \\
 &= (\text{Rs. } 1,00,000 \times 0.55684) + (\text{Rs. } 4000 \times 8.86325) \\
 &= (\text{Rs. } 55,684 + \text{Rs. } 35,453) \\
 &= \text{Rs. } 91,137
 \end{aligned}$$

Long-Term Liabilities : Bonds (debentures) and longterm loans are long-term liabilities. A better method of writing off the discount/premium on bonds etc is the effective rate of interest as compared to the straight line method (which is generally adopted for recognising revenue). Investors value a bond at the present value of its future cash flows, which consists of both interest and principal. Effective rate of interest is the rate of interest actually earned by the bondholders. It is also known as market rate or yield.

Lease Accounting : Similarly, throughout the term of a lease, the effective rate of interest method should be used to allocate each lease payment between principal and interest. The discount rate used by the lessee to determine the present value of minimum lease payments should be used by the lessee when applying the effective rate of interest method to capital leases.

Maintenance of Capital : On practical consideration, the concept of financial capital maintenance has all along been applied for preparing financial statements all over the world. The SFAC No. 5 of the FASB stated, that the "Board has not yet decided on supporting financial capital maintenance or physical capital maintenance." The IASC, in its framework, mentioned that "at the present time, it is not the intention of the Board of the IASC to prescribe a particular model. The intention will, however, be reviewed in the light of world development". No review has been done by the IASC during the past ten years, nor have the FASB or any other board shown any interest in reviewing this aspect of the conceptual framework. The main reason seems to be pricelevel stability in most developed countries. The Sandilands Report and some other authors have been in favour of physical concept of capital maintenance. Ideally, some operating capability should be maintained by applying the physical concept.

Besides the above mentioned aspects of the conceptual framework, some other issues which need urgent attention of academicians and professionals are :

Monetary Postulate :

"Accounting is limited to the production of information expressed in terms of monetary units, it does not record and communicate other relevant but non-monetary information."¹¹ A study showed that non-accounting information was

more relevant compared to accounting information. It is well known that human resource is an important asset which has got a great impact on the performance of an enterprise. Cases are not rare where incompetent managers have led an enterprise to loss, while competent stewardship has contributed a lot towards efficient and effective management of a concern. This aspect is not well-reflected in the financial statements. Similar is the case with pollution of air, water and noise, community development, product and service contribution, whose measures have not yet been fully developed and standardised. They are merely shown in the form of supplementary statements as appendices to the annual report. Need of the hour is to incorporate this information in the financial statements to make them more useful.

Role of Accountant :

For the past 25 years, accounting has been regarded as a system that provided information to the users. The role of accounting, as stated earlier, is fast changing due to changes in economic and social environment. Consequent upon liberalisation and globalisation, accounting standards are being internationalised to play an effective role by providing comparable information to global economies. Accounting, therefore, should become an overall system that measures and directs the performance of all components of an organisation. Accountability indices for all major functions should be derived from accounting information. Accounting, thus will become the central (focal) point for measuring and evaluating the functioning of different functionaries of an organisation. The accountant will play the role of an enabler for the decision maker. He will no longer be seen as performing staff function only.

The accountants in academics, profession, industry and all others concerned should sit together and give a thought to the above issues in coming years.

References :

1. For example, Robert Anthony, Sherman, H.D. and others
2. Arthur Wyatt, Commentary on Accounting Standards : Conceptual or Political, *Accounting Horizons* (AAA), September 1990, pp. 84-85.
3. SFAC No. 1, the FASB
4. Miller, Paul B.W., The Conceptual Framework as Reformation and Counter-Reformation, *Accounting Horizons*, (AAA), June 1990, pp. 23-32.
5. SFAC No. 6, the FASB
6. Arthur Wyatt, op. cit., pp. 84-85.
7. See the FASB No. 174-B, June 11, 1997 for details.
8. op. cit., p.13 9. op. cit., p.14
10. op. cit., p. 18
11. Belkaoui, A., *Accounting Theory*, 1981, p. 104

Issues in Environmental Accounting and Reporting

Dr. Ashok Banerjee*

Introduction :

The 'environment' is natural physical surroundings, that is air, water, soil, land, flora, fauna, and non-renewable resources, such as fossil fuels and minerals. Environmental accounting may be understood from two broad perspectives: one, National Level Environmental Accounting and the other, Corporate Environmental Reporting. The former indicates modifying the national income accounts to include environment. In that sense, environmental accounting does not represent corporate environmental accounting, nor does it include social cost benefit analysis of projects affecting environment or disaggregated regional or local data about environment. There are however, close links between environmental accounting and these activities. That is why they are frequently discussed together and occasionally confused. Corporate Environmental Reporting, on the other hand, denotes voluntary and involuntary disclosures by corporate entities on the impact of its activities on environment. Corporate entities in the west are paying closer attention to stakeholders' demand for environmental information. Business entities are being asked for information on their environmental policies, the management system that are in place to support them, and past, present, and planned environmental performance. Particularly in the USA the concept 'Ecoefficienty' i.e., the linking of environmental and financial performance to improve shareholder value, has become very popular.

The present paper attempts to deal with both the above mentioned perspectives of environmental accounting, at macro as well as micro level. The paper has been divided into two parts-Part I discusses current issues in national level environmental accounting and Part II deals with corporate environmental reporting.

Part I - National Level Environmental Accounting

Environmental Accounting (EA), in a macro sense, denotes a set of

* Associate Professor, Institute of Management Technology, Ghaziabad (U.P.).

aggregate national data linking the environment to the economy, which will have a long-term impact on both, economic and environmental policy making. EA calls for necessary amendments to the System of National Accounts (SNA) to incorporate the use or depletion of natural resources. The SNA is a set of accounts, which every national government compiles routinely to track the activities of the economy. The SNA data are used to calculate major economic indicators including the 'DGP, the GNP, savings rate and balance of trade figures. These accounts are prepared by all countries in a standardised format, using a framework developed, supported and disseminated by the United Nations Statistical Division (UNSTAT). Since all countries prepare the accounts in similar manner, it helps international comparison and thus allows to place individual countries in the context of world trends. In other words, individual countries can be ranked using these data.

Problems with Present System of National Accounts:

However, the SNA in the present format do not include full economic value of environmental resources or the role that they play in productive activities. A movement to reform the SNA has therefore, arisen because of the following reasons :

(a) Non recognition of Environmental Expenditure:

Expenditure to protect the environment from damage, or to mitigate the damage, cannot be identified from the data in the accounts. Such expenditure includes the costs incurred to prevent environmental harm such as, pollution control equipment purchased by factories or catalytic converters in cars. Costs of remedying the harm include medical expenses, drinking water filtration required because of intake water being highly sedimented or replacement of property destroyed in landslides caused by massive deforestation. From SNA these expenditures cannot be segregated to highlight the costs incurred to prevent or mitigate environmental degradation.

(b) Non-marketed Goods and Services:

The environment provides certain goods which are not sold, but which are of high value e.g., fuelwood and building materials gathered in forests, medicinal plants etc. However, some countries do include these in their annual income accounts, estimating total consumption, and then using market prices of comparable products as a proxy to calculate the value of non-marketed goods. But such information is incomplete and cannot always be disaggregated from products, which are sold. Similarly, the environment provides unsold services, such as watershed protection by forests. It is really difficult to estimate their economic value.

(c) **Consumption of Natural Capital:**

The SNA treats gradual depletion of physical capital (plant and machinery) as depreciation rather than income. However, the depletion of natural capital, forests in particular, is accounted for as income. Thus the accounts of a country, which harvests trees very frequently, will show high income for certain years, but nothing will be shown in case of destruction of the forest. Most experts of Environmental Accounting (EA) agree that depletion of natural capital should be accounted for in the same way as in case of other physical assets.

Issues in amending the SNA:

It cannot be denied that incorporation of environmental resources in the SNA is a complex task. Due to this difficulty some people advocate that goods and services provided by environment should not be included in the calculation of economic indicators like GDP, GNP etc. Their contention is that ambiguity in the valuation of environmental goods and services will render economic indicators non-comparable. Some debatable issues in including economic values of environmental resources in national accounts are given below.

(i) **Physical vs. Monetary Accounts:**

Physical accounts will only include information about natural characteristics of the environment and its use; the size of forests or mineral reserves, the quality of water or air etc. In contrast, monetary accounts attempt to put economic value on those characteristics or their use, so as to gauge the role they play in the economy. considering the difficulty of assigning monetary values to certain aspects of environment, some individuals (and countries) advocate development of only physical accounts.

(ii) **Integrated Accounts vs. Satellite Accounts:**

Integrated accounts change the calculation of economic indicators, but satellite accounts (e.g. physical accounts), although linked to SNA, do not change either the calculation of key indicators or the central framework of the accounts. However, since satellite accounts do not impact the economic indicators, they do not correct the distortions inherent in those indicators.

(iii) **Treatment of Maintenance Costs:**

Maintenance costs are expenditure that a country would have to make in order for its use of environment to be sustainable. Some experts believe that these expenses should be deducted to calculate GDP to arrive at a correct level of green economic activity. Others argue that estimation of such costs is highly subjective and subtracting them from indicators like GDP will be misleading.

The above issues are not yet resolved. The way in which these are resolved will determine how environmental accounts are used to support policy making.

Environmental Accounting System:

Environmental accounting system should include the following:

(a) Natural Resource Accounts:

These include data on stock of natural resources and changes in stock due to natural processes and human use. These are called 'non-produced economic assets'. These accounts are mainly maintained in physical units. However, attempts are being made by some countries to put a value on such stock. These data shall make it possible to answer questions about the contribution of natural resources to economic output, the impact of environmental catastrophes on the economy, the rate at which natural stock is being depleted etc.

(b) Emissions Accounting:

National Accounting Matrix including Environment Accounts (NAMEA) developed by the Dutch breaks the national accounts in matrix form and extends the matrix to identify pollutant emissions by sector. This framework contains only physical data. The NAMEA framework is currently being developed for air. The process is on to expand it to discharge of wastes into water and on to land. However, NAMEA framework can be applied in monetary terms also. Costs of emissions would include, cost of the damage caused, abatement costs required to prevent emissions (i.e. maintenance costs), restoration costs to return the environment to pre-emission state etc. Such monetary data can be used to determine the economic costs of avoiding environmental degradation, compare costs and benefits of environmental protection etc.

(c) Disaggregation of Conventional National Accounts:

Identification of environmental protection expenditure by industry, government and household is necessary to observe links between changes in environmental policy or environmental quality and costs incurred, as well as the development on new industries producing environmental protection equipment. The UNSTAT has developed a System of Integrated Environmental and Economic Accounting (SEEA), a methodology for doing this. The SEEA attempts to integrate many of the different methods proposed for environmental accounting into a single organised framework. It proposes a series of versions or 'building blocks' for the construction of accounts, beginning with physical accounts and disaggregation of data already included in the SNA, and working towards more complex information such as calculation of depletion and estimation of the maintenance costs required for sustainable use of

resources. The first version of the SEEA was published in 1993 as an annexure to the 1993 revision of the SNA. Thereafter several versions have come :

Version I reformats the conventional SNA to incorporate environmentally relevant activities..

Version II disaggregates environmental expenditure, environmental charges and subsidies.

Version III is a set of physical accounts, including those on non-produced economic and environmental assets material/energy balances, and physical data on pollutant emissions.

Version IV values environmental assets and their use. It is the monetary parallel to version III.

Version V includes a number of extensions of the production boundary of the SNA, including calculation of the environmentally adjusted GDP and NDP (Net Domestic Product). The SEEA calculates environmentally adjusted NDP as conventional NDP less depletion of non-produced economic and environmental assets less the cost of environmental degradation.

However, the SEEA is currently under further revision by the 'London Group'. Members of this 'Group' are people working on EA and related activities in the OECD countries.

Initiatives in Environmental Accounting:

Around twenty-five countries have experimented with environmental accounting in the past twenty years. Some European countries have established physical accounting systems that are routinely compiled and applied in economic and environmental policy making. Many other countries have also started experimenting with EA in a limited way. A few examples of countries' initiative in this respect are given below:

Norway compiles physical accounts focused on energy resources and air pollution. They use these data as input into a macro economic model with which they explore the environmental and economic feasibility of different growth strategies.

Indonesia was the first country for which forest depletion was calculated and integrated into a 'green GDP' by World Resources Institute. This pioneering work drew the attention of both, the environmentalists and the economists, to the need to suitably modify the SNA.

Namibia is carrying out phased testing and implementation of the SEEA approach to environmental accounting. It is focused on several key natural resource sectors, and is designed to answer such questions as how to allocate water among competing uses and how land degradation affects productivity of rangeland.

The Netherlands routinely constructs the NAMEA. These data are used to track how far the country is from its environmental protection objectives.

Chile's Central Bank undertook to develop environmental accounts focusing on forest and mineral sector. Their work revealed that the country's forest based development strategy may not be sustainable. Due to political sensitivity of the findings subsequently the effort was scaled back.

In Costa Rica a forest depletion exercise, similar to that of Indonesia, was undertaken by the Costa Rican Centro Cientifico Tropical and the Washington-based World Resources Institute.

In the Philippines the Environmental and Natural Resource Accounting Project (ENRAP) has been working on environmental accounts since 1993. Their work applies a method that treats environment as a productive sector in the economy which provides intermediate inputs into production of goods and services for final consumption, and intergrates the valuation of pollution impacts, non-marketed goods and services into the conventional accounts. Valuation of these services is based on willingness to pay. However, the ENRAP is different from the SEEA in significant respects.

Some work was done by the Bureau of Environmental Accounting (BEA) at the start of the Clinton administration in the USA on mineral sector. The work was stopped by the Congress under pressure from mining industry. The elected officials in the U.S. are also trying to ensure that efforts of the BEA are thwarted.

Thus at country level the challenge for environmental accounting essentially relates to integrating environmental impacts on national accounts. Few experts advocate that only physical data relating to environment should be provided without disturbing the conventional calculation of economic indicators. Some others advocate that national accounts should be suitably amended to incorporate environmental impact and economic indicators like GDP, NDP etc. should be calculated in such a way as to include environmental parameters. They argue that to calculate sustainable national income, necessary adjustments should be made in the calculation of national income to reflect the economic activities that would be possible to ensure environmental sustainability. However, it is a daunting task putting value to environmental resources and their uses. As a result, many countries still do not see the utility of environmental accounting and are not engaged in it. But it cannot be denied that notwithstanding its limitations, EA is an important tool for understanding the role played by natural environment in the economy. Environmental accounts provide data which highlight both the contribution of natural resources to economic well-being and the costs imposed by pollution or resource degradation. To encourage national governments in implementing EA, what is needed is an easy-to-use standardised methodology. The London Group is working in this line to modify SEEA and recommend an acceptable methodology of EA.

Part II : Corporate Environmental Reporting

Public concern about environment affects most business entities. Many believe that consumer pressure has been a potent force for imposing a wider social responsibility on business enterprises. Cairncross (1991) has argued that business responses to environmentalism have arisen not from corporate initiative but from the development of green (eco) consumerism. This is more likely when pressure groups are willing to use laws and regulations to limit environmental damages by firms. The common feature of both the strategies (i.e., consumer pressure and fear of regulations) is that they can result in bad publicity which may prompt consumers to change their spending patterns. For instance, currently a number of product boycotts are in place in the USA, including those of LA gear sports shoes which light up, of American Home Products' menopause drug Premarin etc. Thus fear of consumer boycott and the resulting financial loss is the prime motivator for business concerns for environment. Some people have suggested that business entities can gain financially by reviewing their environmental impact and developing a good environmental image. Recent developments in both, the development of Environmental Management Systems (EMS) within the business and environmental auditing, show growing interest of business entities in the subject. However some firms are skeptical that disclosure of environment related information may be misunderstood by the users of such information. For example, a cable company in the U.K. has refused to disclose information to local residents on the extent of toxic PCB waste leaking from one of its sites on the ground that such information might be misinterpreted. Though a business entity cannot deny its social responsibility and obligation to disclose impact on environment of its activities, the problem lies in quantification of environmental impact and recognition of environmental expenses and losses.

Corporate Accounting Framework :

Corporate accounting framework on environmental issues would be discussed with respect to initiatives and significant work done in this regard by three accounting bodies namely, The Canadian Institute of Chartered Accountants (CICA), the Financial Accounting Standards Board (FASB) of the USA and the International Accounting Standards Committee (IASC).

Research by the Canadian Institute of Chartered Accountants:

There is a strong feeling that current accounting standards discourage entities from undertaking measures to respond to environmental protection, and that socially responsible entities are penalised in the sense that such expenditure has to be expended immediately. In order to address environmental issues faced by a corporate entity in proper perspective the Canadian Institute of Chartered Accountants (CICA) had carried out a research study in

1993 entitled 'Environmental Costs and Liabilities: Accounting and Financial Reporting Issues'. The objective of the study was to identify what constitutes environmental issues and environmental protection measures and the extent to which current accounting requirements are an impediment to entities undertaking expenditure relating to improvements to, and protection of the environment. The research went on to suggest ways of recognising and recording environment-related expenditures.

The CICA study used the following definitions :

Environmental Measures : These are steps taken by an entity or, on its behalf by others, to prevent, abate or remediate damage to environment or to deal with conservation of renewable and non-renewable resources.

Environmental Losses : These are costs that have been incurred by an entity with respect to environment for which there is no return or benefit (e.g., fines or penalties for noncompliance with environmental laws).

Environmental Costs : These include (a) the costs of environmental measures (e.g. fitting a catalytic converter in the car) and (b) environmental losses.

The highlights of the findings of the study are as follows :

(i) Treatment of Costs of Environmental Measures :

Costs of environmental losses should always be immediately expensed. The accounting treatment of the costs of identifiable assets acquired to prevent or mitigate future environmental damage or to conserve natural resources from the operation of related fixed assets depend on the timing of acquisition. If it is incurred during construction or development of the related fixed asset, it should be capitalised. Costs incurred to clean up environmental damage occurring during construction or development of a factory should be capitalised.

But if it is incurred after such acquisition, construction or development, the same considerations would be involved as for other subsequent environmental expenditure related to fixed assets. However, there was no unanimity within the study group regarding the approach that should be used in deciding whether environmental costs incurred subsequent to acquisition, construction or development of a fixed asset should be capitalised. The study group identified two approaches to this issue.

(1) Increase-Future-Benefits Approach : If environmental costs result in an increase in expected future economic benefits from the asset, such costs can be capitalised. Under this approach, the cost of a catalytic converter fitted to a car due to legal requirement cannot be capitalised.

(2) Additional-Cost-of-Future-Benefits Approach : Environmental costs can be capitalised under this approach if they are considered additional

costs of expected future benefits from the asset, irrespective of whether there are any increased economic benefits. Thus under this approach the cost of catalytic converter should be capitalised with the bookvalue of car. This is because the very running of car in future depends on fitting of this equipment.

Let us take another example. Suppose the Supreme Court of India directs some factories to fit pollution control devices in their plants or else face closure of operations. The costs incurred to acquire and set up the pollution control devices to the plants should be expensed immediately as per first approach but be capitalised under the latter approach. The supporters of the 'Additional-Cost-of-Future-Benefits Approach' agree that costs incurred to prevent damage to environment from future operations are related to the future benefits - the cost should be capitalised provided it is recoverable from future benefits. They disagree on whether the clean up costs of past damage are related to past benefits or past and future benefits or future benefits from the asset, and therefore, on how much of the costs can be capitalised. In some industries, such as oil and gas, mining and forestry, it became a fairly common practice, in the USA and to a lesser extent in Canada, for business entities to clean up sites that they had used either due to public pressure or specific laws. It was often known from the outset of an operating activity that clean up costs would be incurred. As a result, companies in these industries, particularly in the US amortised expected clean up costs over the useful life of the asset, usually through increased depreciation and depletion charges.

(ii) Recognition of Environmental Liabilities :

The second major issue addressed in the research report is when should a future environmental expenditure be recognised as a liability? Whether an obligation to make a future expenditure for an environmental measure is in the nature of a contract where both sides of the contract have to be performed in the future, or whether it is in the nature of a contract in which one side has already been performed. In the former case a liability would not be recognised. In the latter case it would. Thus an obligation to make a future expenditure to clean up environmental damage that has already occurred should be recognised as a liability in the financial statements, provided it can be estimated. Also the amount to be recognised as a liability can be net of expected recoveries through a counter claim or related claim against a third party, provided the recovery is at least probable.

In the U.S.A. publicly held companies have special disclosure requirements when filing registration statements or annual reports with the Securities and Exchange Commission (SEC). The regulators' underlying purpose is to ensure that the securities purchasers and sellers have access to vital information about a company's environmental liabilities. Since the first SEC environmental rules were adopted in 1971, environmental disclosure requirements have been augmented and refined by the SEC rulings, regulatory amend-

ments and litigation. The SEC regulations require companies to disclose material effects the compliance with federal, state and local environmental laws may have on 'capital expenditure, earnings and competitive position'. The SEC has taken action to enforce compliance with its environmental liability disclosure rules. In 1977, for example, an enforcement action was brought against Allied Chemical for failure to inform shareholders about possible material expenses resulting from releasing toxic chemicals into the James River. In January 1991, a federal judge in New York rejected Exxon's request to dismiss a shareholder's suit for failure to disclose in a proxy statement pending litigation arising from the Exxon Valdez oil spill in Alaska.

(iii) Asset Impairment :

The net carrying value of fixed assets that have been impaired because of environmental considerations should be written down in the year of impairment. An entity may have an investment in a company that has had to permanently cease operations because of environmental contamination produced by those operations. Such an investment should be written down to recognise the loss. But if such loss is temporary, the value of the asset should not be written down. Asset impairment is a common feature in oil and natural gas industry. The accounting policy of an Indian oil company mentions about the treatment of impairment of asset as 'Impairment loss is determined on a global basis and adjusted for in the carrying cost of producing properties' (Annual Report, the ONGC 1997-98).

(iii) Disclosures :

The study group suggested that an entity's accounting policy with respect to definition of environmental costs, the basis on which these costs are capitalised or expensed and the basis of recognition of environmental liabilities should be clearly disclosed. Total environmental expenses, excluding the amortisation of fixed assets related to environmental concerns should be disclosed in the financial statements. Known trends with respect to environmental matters that have had a favourable or unfavourable impact on net sales, revenue or income from continuing operations should be disclosed in the notes to accounts. For environmental liabilities that cannot be recognised in the financial statements, because no estimate can be made of them, the following should be disclosed.

- (a) The nature of expected future expenditure or loss, including an indication of the likelihood of expenditure being made or loss being suffered.
- (b) A statement that an estimate of the expected future expenditure or loss cannot be made.

Environmental Accounting Guidelines in The USA :

In the USA the only specific guidance available with respect of environmental costs and its accounting is contained in the conclusions of the FASB's Emerging Issues Task Force (EITF): Issue 89-13, 'Accounting for the Cost of Asbestos Removal', 'Issue 90-8, 'Capitalisation of Costs to Treat Environmental Contamination. Issue 89-13 covers the narrow topic of Accounting for the Cost of Asbestos Removal and Issue 90-8 provides broader guidance. According to Issue 90-8, when a company incurs costs to 'remove, contain, neutralise, or prevent existing or future environmental contamination,' the costs should be expensed immediately. These costs can be capitalised only if recoverable because they ,

- * Extend the life, capacity, safety or efficiency of company-owned property ;
- * Mitigate or prevent environmental contamination likely to result from future operations;
- * Prepare for sale of property currently held for sale.

Also the FASB's Statement No.5, 'Accounting for Contingencies' provides a broad framework for assessing the financial impact of an entity's environmental exposure. Under Statement No.5's broad guidelines, environmental exposure is generally reflected in financial statements as follows :

- * If before issuance of the financial statements it appears probable that an environmental exposure has resulted in a liability or an impaired asset as on the balance sheet date and the amount of loss can be reliably estimated, the loss is to be charged to income with appropriate disclosure.
- * If a loss is not accrued because either it is not assessed as probable or there is no reasonable estimate, an environmental loss still must be disclosed in the notes to accounts, if there is at least a reasonable possibility that a financial loss has been incurred.

It may be of interest to note here that Accounting Standard (AS) 4 'Contingencies and Events Occurring after the Balance Sheet Date,' issued by the Institute of Chartered Accountants of India (ICAI) also has similar requirements, so far as contingent losses are concerned. Of course AS-4 does not specifically mention the treatment of environmental exposure. It is applicable to any kind of contingent loss. Para 10 of AS-4 states that "the amount of a contingent loss should be provided for by a charge in the statement of profit or loss if:

- (a) It is probable that future events will confirm that, after taking into account any related probable recovery, an asset has been impaired, or a liability has been incurred as at the balance sheet date, and

- (b) A reasonable estimate of the amount of the resulting loss can be made."

Para 11 of AS-4 states that the existence of contingent loss should be disclosed in the financial statements by way of note, if any of the above conditions is not met.

Initiatives of International Accounting Standards Committee:

This year a global environmental accounting standard is under consideration by the International Accounting Standards Committee (IASC), pitting the strict US SEC's standards against IASC's. The emergence of the World Bank, United Nations and International Federation of Accountants (IFAC) environmental guidance document has added pressure on the IASC to come out with an environmental standard. The Federation of European Accountants (FEE) have also requested the IASC to add stricter environmental accounting guidance procedures. The Secretary General of the IASC has said that although many of the IASC's general standards have applicability to environmental issues (IAS 10, for example), still a standard addressing specific environmental issues is necessary. The US multinationals already applying the SEC's disclosure norms claim that they are disclosing more financial information than their competitors traded on securities market without environmental accounting standards. The European Commission (EC) has chosen to wait till the end of 1999 to release their recommendations on environmental accounting leaving the IASC to make the first move. The IASC is now working hard to formulate a global environmental accounting standard to close the gap between nations with regard to environmental accounting practices.

Environmental Performance Reporting:

Considering the ambiguity in the accounting treatment of environmental costs and liabilities, companies have started disclosing qualitative and some financial information showing the role played by them in the improvement and maintenance of environment. In the USA a regular system for environmental reporting has been evolved. American publically traded firms operating with an Environmental Management System (EMS) and filing Environmental Performance Report (EPR) to shareholders are setting a new level of corporate transparency of performance. Firms such as 3M, Polaroid, Monsanto, Xerox, Baxter and Ford provide investors and EPR reporting release inventory under US Superfund Act, Clean Water Act and Clean Air Act. These toxic inventory release reports are significant indicators of depreciation and volatility values, particularly in the light of 1995 S&P report cited property/casualty insurance payments for long tail environmental toxic tort claim to exceed \$40 billion. Companies in the USA operating with an EMS/EPR have initiated a market strategy to incorporate a comprehensive green annual report to include environmental performance and compliance financial figures. They expect product demand to be strengthened with EPRs, and consumer confidence and market share to grow with a green label.

An example of the EMS from the USA is given below.

"People around the world continue to demand the products we supply, and at the same time they demand a cleaner, healthier and safer environment. During the 1990's, we have dedicated considerable efforts and resources to the world wide implementation of our Operations Integrity Management System (OIMS) and other programs focused on improving our environment, health and safety performance."

The results show we are meeting that objective:

- ❖ Our safety record ranks among the best, with lost-time incidents 60% lower in 1995 than they were in 1989.
- ❖ Our publicly reportable emissions of chemicals designated by the Superfund Amendments and Reauthorization Act (SARA) have declined over 50% since 1987.
- ❖ We voluntarily reduced by 50% our emissions of 17 high-priority chemicals designated by EPA's 33/5- Program two years ahead of schedule.
- ❖ Significant incidents - those having cost impact of \$25,000 or more - have declined by more than 55% between 1990 and 1995.
- ❖ The number of oil spills worldwide from Exxon-owned or operated vessels has reduced 80% from the 1990 level, and associate spill volumes have dropped by over 95%.
- ❖ Our chemical operations have cut emissions of volatile organic compounds over 50% worldwide since 1990.
- ❖ Since 1990, our major US operations have reduced day-to-day hazardous waste disposal over 80%, and our world wide chemical operations have achieved a 57% reduction.
- ❖ Our refineries and chemical plants worldwide are over 35% more energy efficient than in 1973, saving the equivalent of a billion barrels of oil – more than the annual oil consumption of most individual countries in the world. (Exxon Corporation, the USA)

Corporate Environmental Reporting in India :

The record of companies in India is very dismal in this respect. Very few companies pay attention and space to environmental issues in their annual reports. The listed companies in India are not legally required to make environmental disclosures. Companies in India flout environmental norms merrily and no penalty is imposed on them. The annual reports of very few companies have some mention about environment and that too in general terms without specifying any impending environmental liabilities or losses. Some examples of environmental reporting in India are given below :

- ❖ Safety, occupational health and environmental protection have always been of prime concern to the company and are integrated with the management of the entire supply chain. The company's constant endeavour to improve the standards of safety and environment is reflected in the practice of setting annual targets for all-around improvement at all its manufacturing locations. Performance is monitored through regular safety and environmental audits, using internationally accepted methodologies. Safety training is imparted to employees at all levels.

Strict adherence to the company's policies and upgradation of hardware have resulted in a steady decline in accidents, and consequent improvement in employee productivity. The number of lost time accidents have reduced by a significant 33% in 1997. Six sites of the company were awarded Unilever Safety Awards for excellence in safety performance.

In pursuit of sustainable development, the company's endeavour has been to maximise the efficient use of energy and materials, the safe and responsible disposal of residual wastes and the sustainable use of renewable resources, while minimising adverse environmental impact and waste generation. Electrostatic Precipitators (ESP) have been installed to control the particulate matter emissions from boilers and also acid mist from the sulphonation plants. The aggregate discharge of liquid effluent has been reduced by over 15% in the company's manufacturing operations.

As part of the Integrated Rural Development Programme at Etah in Uttar Pradesh, the company continued its community development activities in the villages. These included provision of hand pumps for drinking water, construction of roads, free medical camps, especially for children, animal health camps, dairy farming, chicory cultivation, etc. (Hindustan Lever Ltd, Directors' Report, 1997)

- ❖ In the area of environment and pollution control where BHEL is making important contribution, three oil fired boilers of 150 tonnes/hour capacity at the IOC Mathura were successfully converted to gas-fired boilers, thus minimising further environmental damage to Taj Mahal. In addition, Electro-static Precipitators for Kiln and coal mill applications in cement industry have also been developed and first unit supplied to M/S Diamond Cements, Madhya Pradesh. (BHEL Directors' Report, 1996-97)
- ❖ During the year 1997-98, two more Pollution Control Action Plan schemes were completed, bringing the total number of schemes completed to 109. Consequent upon the various pollution control measures implemented, ambient air quality and effluent discharge quality at various SAIL plants and townships are steadily meeting the norms. The

stack emission compliance level has increased to 96 percent during the year.

Several training programmes, aimed to sensitize SAIL collectively towards environmental awareness, have been conducted throughout the year, at various locations. Sustained efforts have been made to green the SAIL plants, mines and townships with plantation of over 5.5 lakh saplings during the year 1997-98.

Peripheral development continued to be an important aspect for improving the quality of life around the steel townships. A sum of Rs. 3.60 crore was spent for providing drinking water facilities, health care programmes, educational and recreational facilities, among other things, for the people living in areas near the steel plants/mines. (SAIL, Directors' Report, 1997-98).

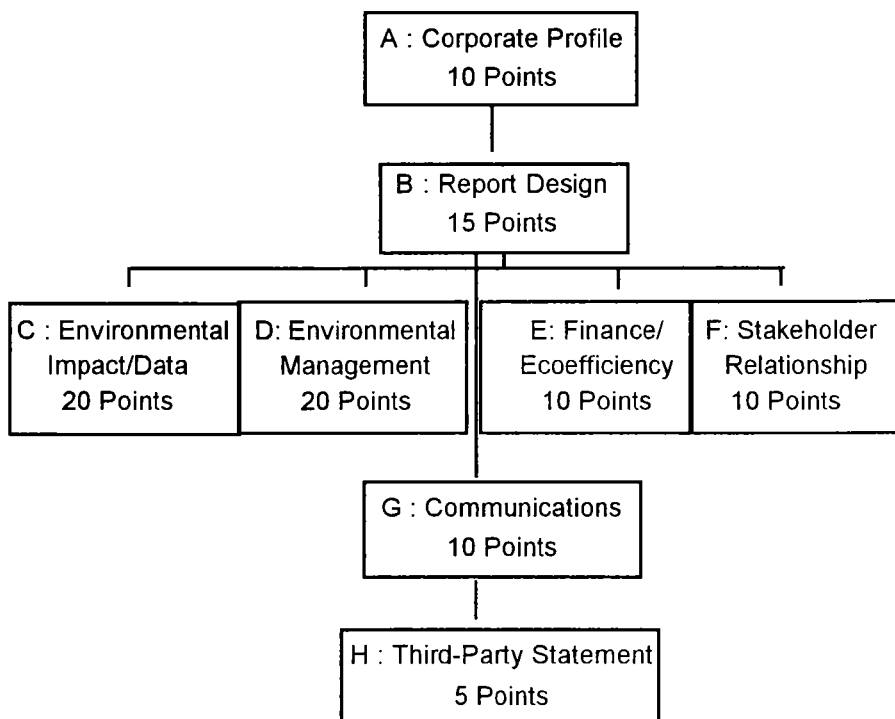
From above the quality and depth of environmental disclosure practices in India can be seen.

Corporate Environmental Report – The Score Card Method:

While most companies in the USA are using environmental reports to respond to stakeholder's need, demonstrate environmental stewardship, or achieve a more distinctive profile, others, particularly those in Denmark and Netherlands, are preparing site-specific environmental reports to comply with local laws and regulations. In Europe, for example, companies are preparing site-specific reports to comply with the European Union's Voluntary Environmental Management and Audit Scheme (EMAS). Whatever the motivation, companies there are committing more time, money, and resources for the development and production of corporate environmental reports.

To augment corporate environmental reporting efforts, Deloitte Touche Tohmatsu, a leading global accounting and auditing, management consulting and tax services firm, has devised a score card. The score card has been developed to help environmental directors and other corporate environmental report providers evaluate the quality of their organisation's environmental reporting practice. Thus the score card helps to measure the qualitative superiority of corporate environmental reports and accordingly rank companies on the basis of score obtained. A higher score would indicate better reporting practice.

The Score Card contains 40 questions that are categorised into 8 groups on criteria as shown below :



Corporate Profile: The four questions here are designed to evaluate how well a company has defined and explained its operations. These questions relate to management's commitment and the company's reporting policy. Companies giving flow chart of production processes and their environmental aspects would get higher points.

Report Design: Three of the five questions here are designed to evaluate how well a company has explained and defined the content and parameters of the report, including an explanation of the chosen environmental performance indicators (EPIs). Companies should give examples of how chosen EPIs are used for operational management. One important question under this category is, does the report contain information about the company's reporting policy and accounting principles? Establishing links among environmental, regulatory, and financial reporting is important.

Environmental Impact/Data: This section, containing nine questions, seeks to illustrate how a company describes its operational environmental performance in terms of its reports on consumption of significant inputs, emissions, waste/residual products, packaging, transportation, and other issues. The efforts by a company to minimise the impact of consumption on environment are also covered in this section. Reporting on the efficiency and the life cycle analysis measures taken to minimise the consumption impact on environment fetches higher score.

Environmental Management: This section asks, through eight questions, for the description of the key components of a company's environmental management system (EMS). One important question is how well a company describes the integration of EMS into overall business processes. Another important question here is, does the report contain information about the company's compliance with environmental legislation, regulations, and emission permits, as well as company-specific requirements? How environmental aspects have been integrated into a company's research and development program is another vital question.

Finance/Efficiency: Six questions are used to assess the financial implications of environmental factors. Two important questions are - Is information about the company's environmental costs/investments provided in the report? Is a definition of environmental costs and investments included in the report? Definition of environmental liability and the treatment thereof are also considered in this section. Environmental taxes, fines and charges paid by the company are also to be specifically mentioned in the report. Failure to do so would attract poor score.

Stakeholder Relations: The five questions here are designed to assess the extent to which a company describes its relationship with internal and external stakeholders. For example, whether the report mentions how employees are involved in environmental activities of the company. Measures to raise awareness of environment instill a sense of responsibility among employees. Initiatives with contractors and suppliers to achieve environmental improvements are marked high in this section.

Communications: This section contains two questions that deal with readability of the report. One is concerned with the pictorial presentation of the issues and the second question deals with user feedback.

Third-Party Statement: The last section, which has only one question, seeks to assess whether the corporate environmental report contains any corroboratory statement from a third-party (e.g., external auditor, consultant etc.)

Each of the 40 questions is worth anywhere between 0 (poor) to 4 (excellent) points. Each group of questions has an assigned weight, with the maximum score set at 100 points. The assigned weight signifies the relative importance of each section. These weights may be changed from time to time. To check how a company scores here, consider any particular section. Say Environmental Impact/Data section which contains nine questions and has maximum points 20. The maximum score that can be obtained by a company under this section is 36 (9x4). If a particular company actually scores only 18 out of 36 possible points, the weighted net score of the company from this section would be 10 ($20 \times 18/36$).

Thus, the score card provides a holistic view about a company's environmental management system. It also helps the user to rank a company in terms of its performance. However, this score card should be viewed as an evolving document. It can be fine-tuned to suit specific requirement of a particular industry.

It can be finally concluded that corporate environmental reporting practice is still in nascent stage. Many companies are reluctant to disclose and share environment-related information with outsiders. Also companies in the developed countries do not want stringent environmental disclosure norms in place in developing countries. This is because a stringent norm may affect their business of dumping environmentally hazardous goods in developing countries. But efforts are on at institutional levels to find a globally acceptable environmental accounting and reporting practice. The tricky issues of recognising environmental costs and liabilities would soon be resolved. Companies for their own survival would install an effective environmental management system and publish informative environmental reports.

References :

1. Proceedings of a Seminar on Environmental Accounting: *Where are We Now, Where are We Heading*, held at Washington under the banner of IUCN-The World Conservation Union on October 7, 1998.
2. Cairncross, F. "Costing the Earth: What Governments Must Do, What Consumers Need to Know, How Business can Profit", *Economist Books Ltd., London, 1991*.
3. Zuber George R. and Berry Charles G, "Assessing Environmental Risk", *Journal of Accountancy*, March 1992.
4. The Canadian Institute of Chartered Accountants, "Environmental Costs and Liabilities," *Accounting and Financial Reporting Issues*, 1993.
5. Deloitte Touche Tohmatsu, *Corporate Environmental Report Score Card*.

Eco - Accounting: An Instrument for Strategic Managerial Decisions

Dr. H.V. Shankaranayana*

Introduction :

Advent of technology has ushered in a new era where competitiveness and passion for excellence have become the basis of organisational survival. This change has initiated a new mode of thinking and mind set. Corporate sector is not an exception to this. Now, new concepts are being tested and the conventional practices are being questioned. In this parlance, the corporate houses are redefining their functional roles. Along with business interest, societal concern (social responsibility) is shaping the over all business commitment. This change is suggesting for new tools or instruments for strategic managerial decisions. Managerial decisions are not made in vacuum. Unless the influencing factors are taken into account, the quality of decisions will be affected. Decisions to be relevant require a sound basis. Unless enough reliable, timely and adequate information is available, the positions tend to be indecisive and affect the over all business. This strategic importance of decisions based on information system calls for a search of specific information base, capable of providing timely, reliable and authentic information. The present information gap pertaining to Eco-Management can be bridged through Eco-Accounting, which can facilitate managerial decisions. This paper traces the evolution of accounting as an information base to decision - making, from historical perspective. The history of accounting reveals that whenever there is a gap and a need, accounting has transformed itself to fulfill the need, i.e. Financial Accounting, Management Accounting, Social Responsibility Accounting and now Eco-Accounting.

Evolution :

The present form and content of accounting originated from stewardship accounting. The changes in the industrial society, gradually evolved a system of financial accounting. Later on management accounting and then social responsibility accounting were added. These evolutionary changes sug-

* *Professor, Department of Post Graduate Studies & Research in Business Administration, Mangalore University, Mangalagangothri, Karnataka.*

gest that accounting has grown as a discipline, a profession, and as a tool for managerial decisions. The other dimension of this evolutionary growth is that accounting has been positively responding to the needs of business and industry. In this context Accounting for Environment can be viewed as a continuation of Social Responsibility Accounting. We may call it 'Eco-Accounting', a system which can be used as an instrument for managerial decisions and also can be used for external reporting.

Methodology for Recording and Reporting :

Eco-Accounting can be developed using the existing accounting system as base. For instance, through historical cost method, values can be ascertained for Bio-Capital and Bio-Stock. Bio-Capital is the sum of available bio-resources and investment made by the company for biogeneration.

Bio - Capital = Sum of [Bio-Resources+Bio - Generation].

B.C. = \sum I B.R. + B.Gl.....(1)

Bio - resources can be ascertained on the basis of Bio-mapping technique, a technique to ascertain the timber value and the pharmaceutical value (species classification and its market value) of the available resources. For authenticity purpose, market values as notified by the Department of Forests and Environment can be taken.

Bio-generation is the investment and the effort made by the company to rejuvenate and restore environment. Efforts and investment made regarding afforestation, gardens, parks and other related activities are to be accounted.

Bio-Stock = [Bio- Resources - Bio-Depletion]

B.S. = [B.R. - B.D.].....(2)

Bio- stock is ascertained on the basis of, deducting from the Bio-resources, utilised or used portion of the resources. This is referred as Bio-depletion. Bio-depletion is the quantified value of utilised resources.

(Bio - Capital - Bio - Depletion) = [Bio - Stock + Bio - Generation]

[B.C. - B.D.] = [B.S. + B.G.].....(3)

If the figures are equal, it indicates that the company's efforts for conserving and promoting environmental concerns are yielding results and the depletion is equated with bio-generation efforts.

Based on above three calculations a Green Balance Sheet can be prepared.

Green Balance Sheet as on.....

Bio- Liabilities		Bio - Assets
Bio - Capital xxx		Bio - Stock xxx
Less : Bio-depletion <u>xxx</u>	X X X X	Add :
		Bio - Generation <u>xxx</u> X X X X
Bio - Reserves	X X X X	Bio - Losses X X X X
Bio-Provisions		Bio-Scheme for further
<i>as per contra</i>	X X X X	Investment to equate
		Bio-gap <i>as per contra</i> X X X X
	X X X X	X X X X

Managerial Decisions Based on Eco-Accounting :

The summated values of Bio-Capital, Bio-Stock, Bio-Generation and Bio-Depletion can be mathematically construed for decision-making.

$$[\text{Bio-Capital} - \text{Bio Depletion}] > [\text{Bio Stock} + \text{Bio - Generation}]$$

$$[\text{B.C.} - \text{B.D.}] > [\text{B.S.} + \text{B.G.}] \dots\dots\dots(4)$$

$$[\text{Bio-Capital} - \text{Bio-Depletion}] < [\text{Bio Stock} + \text{Bio - Generation}].$$

$$[\text{B.C.} - \text{B.D.}] < [\text{B.S.} + \text{B.G.}] \dots\dots\dots(5)$$

If the summated value of bio-generation plus bio-stock is greater than bio-capital less bio-depletion this indicates that the company's eco-conservation policies are genuine and they have gone beyond the statutory requirements. Efforts are effective and yielding favourable results (Favourable).

If the summated value of bio-stock and bio-generation is less than bio-capital minus bio-depletion, it indicates bio-gap. It requires additional provision and enhanced investment to fill the bio-gap. More rigorous schemes to conserve environment may be needed. Bio-generation activities may have to be intensified [Position unfavourable].

Decisions for Enhancement of the Schemes and Intensification :

For further analysis, Bio-Depletion Rate (BDR) and Bio-Generation Rate (BGR) can be calculated through the use of ratio analysis.

$$\text{Bio - Depletion Rate} = \% \frac{\text{Bio- Depletion}}{\text{Bio-Capital}}$$

$$\text{B.D.R.} = \% \frac{\text{Bio-Depletion}}{\text{Bio-Capital}}$$

The depletion rate will be the parameter for managerial decisions regarding investment enhancements and intensification of the bio generation activities.

$$\text{Bio - Generation Rate} = \% \frac{\text{Bio- Generation}}{\text{Bio-Capital}}$$

$$\text{B.G.R.} = \% \frac{\text{B.G.}}{\text{B.C.}}$$

Bio-generation rate will be the criteria for assessing the effectiveness of investment made to conserve bio-systems. It would reveal the investment made in real terms which is yielding favourable returns in terms of eco-conservation.

Indian Scenarios :

Enactments : The relevant acts to control pollution and conserve environment in India are :

1. The Environmental (Protection) Act, 1986, Rule 14, requires an industry to submit an environmental statement to the relevant state pollution control board.
2. Water (Prevention and Control of Pollution) Act, 1974.
3. Air (Prevention and Control of Pollution) Act, 1981.
4. Hazardous Waste (Management & Handling) Rules, 1989.

Due to these enactments and their implementation, all companies coming under the relevant acts do submit environmental statements to the relevant State Pollution Control Board (S.P.C.B.).

However, as there is no statutory obligation to disclose the eco-position to the shareholders, seldom in annual reports eco-activities appear. Even non-disclosure is not illegal.

Conclusions :

The efforts of industry to conserve environment should be beyond legal compulsions. Eco-concern should be part of business concern. There is a need for paradigm shift. Natural resources are not inherited properties, but are leased properties belonging to next generation. It is our collective responsibility to hand them over in the original form and not in deformed form.

Bibliography

1. Anshuman Khare, "Greening the Earth is Corporate Responsibility," *Indian Management*, Vol. 37, No.5, May 1998.
2. M.V.E. Glautier and B. Underdown, *Accounting Theory and Practice*, Pitman Books Ltd, London 1982.
3. D.H. Hanis, *Mathematics for Business, Management and Economics*, Ellis Howard Ltd, England, 1985
4. Sarojith Bose and Dr. Alkha Parkh, 'The Environmental Audit, Holy Grail or Essential Management Tool'. *The Management Accountant*, June, 1984.

Corporate Environmental Responsibilities and Role of Accountant

Dr. Bhairav H. Desai *and Shri H.C. Sardar**

Introduction :

It was hightime when the business enterprises' objective of profit maximisation was withdrawn in favour of wealth maximisation for the owners' of the entity i.e. shareholders of a corporate enterprise. Now shareholders wealth maximisation has to be replaced by the concept of maximisation of the wealth of stakeholders of the corporate enterprise. The focus of business activity has to be shifted to not only the shareholders, but also to other groups of persons included in the concept of stakeholders.

Since a corporate organisation is essentially a part of the society as a whole, and it cannot work in isolation, the concept of sustainable development gains significance. Accordingly, an enterprise while seeking to use natural resources must keep in mind not only its own interest, but also the interest of future generations and should strive to return to the society, in terms of gains to various sections of the society as well as minimising the adverse impact of the use of scarce resources, atleast as much as it tries to gain.

It is imperative, therefore, for corporate managements to accept that their economic performance cannot be judged without considering the environmental performance. It is here that the role of an accountant working in the enterprise needs to be appreciated. His role has to change in favour of creating favourable relationship amongst business, society and eco-system.

The accountant's role in supporting quality and environmental responsibilities however, depends upon the attitude of the enterprise.

- A. When light-green attitude is adopted by the enterprise, the accountant can help by using his expertise to modify and change planning and control systems to support quality and environmental efforts. There is a need to change the accounting practices in the areas of capital investment analysis, standard costing, performance measures and disclosures.

* *Professor and Director, P.G. Department of Commerce, Gujrat University, Ahmedabad.*

** *Faculty Member, P.G. Department of Commerce, Gujrat University. Ahmedabad.*

- (1) In capital investment area, he can help managers by including quality and environmental benefits in analysis. If a proposed project is more energy efficient or is expected to produce less pollution than the alternative project, it should be preferred. The financial data should include costs resulting from energy usage. The financial impact of pollution control should be recognised. Pollution effect not quantifiable or valued may be taken up as a qualitative factor.
 - (2) The accountant can help the company to become more environmentally responsive by revising standard costs to indicate wastes that are inherent in the production process. When standard costs include an allowance for wastes or inefficiency, the costing system does not encourage improvement in performance. If the wastes are present in the process, standard costs should exclude any waste allowance. This practice would encourage reporting of waste as a variance.
 - (3) In addition to determining variance for waste, other performance measures can be developed for quality and environmental items. The environmental measures can include such items as energy usage, waste reduction and water-pollution.
 - (4) In reporting function, the accountant can encourage a company to disclose environmental matters in annual report. Full disclosure of environmental and quality data would provide customers, creditors and shareholders with a more comprehensive basis for the evaluation of company's performance.
- B. When dark green attitude is adopted by the enterprise, the role of accountant may change :
- (1) In such a situation discounted cash flow technique may be needed for evaluating investment proposals. Although theoretically, this technique is correct, often there are problems in calculating cashflows and determining appropriate discount rate. This also ignores costs to the society which are not costs to the company. In dark-green environment, financial data may be superseded by qualitative environmental data in investment analysis.
 - (2) New performance measures may also be developed to determine the progress towards sustainable development. They can reflect aspects of performance other than financial performance.
 - (3) Changes may be needed in reporting formats for disclosing environmental activity. Some research work may be essential to develop new formats of balance sheet and profit and loss account to reflect environmental performance in non-financial terms.
- C. The accountants can help to analyse the impact of quality and environmental responsibility in terms of profitability. The success however, will

depend upon the philosophy adopted by the company. Generally quality and profitability are compatible objectives and many improvements in quality are consistent with environmental responsibility. However, many environment friendly activities may not be compatible with profitability goals.

Generally current performance measures do not support sustainable development objective. If the society adopts dark-green attitude, then more comprehensive measures may be needed to evaluate performance. The accountant can provide service to the society by developing and refining these comprehensive performance measures.

D. There are three ways to account for waste :

- (1) By ascertaining the actual and potential costs of managing waste for the company as a whole or for a particular activity or a location.
- (2) By recording physical aspects of waste and communicating the same to appropriate levels.
- (3) By evolving accounting procedure to deal with waste.

Accounting for Sustainable Development :

Traditionally, under financial accounting as well as management accounting, enterprises were supposed to report the use of resources consumed by the organisation i.e. the factors of production. However, reporting on the use of natural resources has still not become generally acceptable and feasible. Usually, the accountants tend to take the view that capital and production capacity are the only major limiting factors. The shortage or the wastage of natural resources is never considered. It is possible to manage an organisation's materials into the process of production, but if such materials cause damage when under use, it may be outside the pervue of the management. Had the management thought of applying environmental accounting approach, the aspect neglected so far, like disposal of toxic wastes, would have been given due importance. The management accounting by incorporating environmental accounting becomes concerned with long-term sustainability. The accounting for environment does not require the development of entirely new method of accounting. As a matter of fact, existing accounting techniques can be used to deal with environmental issues.

1. From the viewpoint of stakeholders, the accounting for sustainable development can be divided into two parts, viz. the eco-system, and the social system. The eco-system and its impact on corporate performance can be taken care of by the creation and maintenance of the Eco Balance Account. This Account may be taken up as the basis for management accounting response to eco-system. It may also be recognised as a key tool for Environmental Management Accounting (EMA), since it

can take care of both the traditional cost accounting and the environmental management.

The aim of maintaining this control account is to improve efficiency in resource use, the material and energy conservation efficiency. It will specifically mention the percentage of process waste recycled. Usually, the accountants are professionally familiar with the economic aspect but are ignorant about the ecology. A business system should be understood as taking place within the eco-system or atleast in terms of partnership with the eco-system.

2. The environmental review can be subdivided into three main activities in a company.

- (a.) An overview of the company to describe the organisation, the product, the production and all process activities step by step, to be prepared on a sheet called Environmental Review Sheet. It will indicate the environmental problems and their possible solutions.

- (b.) The possible solutions are implemented to get quick and effective results.

- (c.) The important inputs and outputs are quantified in terms of priority given to different activities and as per the requirement of other interested parties in the company.

3. From the above information, a statement of input-output flows can be prepared in quantitative form because of the following reasons.

- (a.) Quantitative data would be necessary to identify the problems and to evaluate the size and effect of their environmental impact.

- (b.) These data are needed to evaluate the environmental performance of the company.

- (c.) These are helpful in checking whether the legal provisions, regulations with regard to maximum limit of emissions and discharge of hazardous substances are complied with by the company.

These data may be collected in book-keeping cost calculation system by the purchase department. It is possible to cross-check the data by summing up the consumption figures at process level and comparing the same with the aggregate company level data.

4. In order to collect quantitative data at process level, it is helpful to revise the Environmental Review Sheet filled in during qualitative review. To cover the quantitative data into the Eco-Balance Account, a simple rule to be followed should be: what comes in or is generated, must go out or be stored. $\text{Input} + \text{production} = \text{output} + \text{storage}$. The information on materials used and the resulting amount of products and omissions would then be possible to be recorded.

5. The input-output balance can be also applied for the following :
- (a) comparison of input and output data.
 - (b) Overview of resource consumption and waste generation.
 - (c) Monitoring and control of resource consumption.
 - (d) Estimation of waste based on input minus production.
 - (e) Evaluation of environmental problems and their solution.
 - (f) Better production control
 - (g) Identification of leakages and excessive use of energy, and
 - (h) Setting quantitative prevention and reduction targets.

The inputs consist of quantities and values of raw and auxiliary materials, operating supplies, energy and water. The outputs consist of the main products, by products, solid waste, waste water, waste heat, discharges to atmosphere and noise. Ideally the material balance can be summed up to show how much of the purchased material actually is processed into the sold product and how much is discharged as waste or waste-water. To gain the advantage in monitoring and control, a system of continuously collecting and compiling data should be built up. It could be computerised data compiling system that might extract data from the accounting and production planning systems. Theoretically, full eco balance should be based on four areas, in order to evaluate environmental performance comprehensively. These are :

- (a) Input-output balance at company level.
- (b) Input-output balance at process level.
- (c) Life cycle assessment of product.
- (d) Environmental impact assessment.

The company level material flow analysis is used to derive indicators and set quantitative targets. The material balance can be calculated together with production planning and cost calculation system and it can provide a forceful tool of control. At this level, the flow of materials can largely be derived from the existing accounting and cost calculation system to minimise expenditure. Most of these data are recorded in the profit and loss account and can be collected in the fields of purchasing and materials management as well as production planning.

To sum up "the eco-controlling has become, in advanced countries of the world, the most important environmental management concept, particularly in Europe. It has also become a basis of getting more output from less resource, a fundamental need of sustainable development. The resource productivity can grow fast. The amount of wealth extracted from one unit of resource can quadruple. Thus, we can live twice as well - use half as much."¹

Role of Zero Base Budgeting in Environmental Accounting:

The basic objective of zero base budgeting (ZBB) is to produce a better and more readily accepted reallocation of resources. An attempt can be made to translate ZBB into ZB Environmental Expenditure Planning Programme (ZBEEPP). Its essential characteristics are :

- (1) It forces established activities to be compared with alternative applications of resources, that would use resources during the budget period.
- (2) It takes away the implied right of existing activities to receive a continued allocation of resources.
- (3) It makes clear the consequences of funding decisions for both - particular and competing, activities.

The application of ZBEEPP is based on the following assumptions :

- (1) The current environmental projects are essential to the objectives of the company and must be continued during the budget period.
- (2) Such projects are being undertaken in an optimal cost-efficient manner.
- (3) These projects are cost effective in environmental terms in the budget period requiring budget cost increases only for uncontrollables, such as material cost increases, or unforeseen legal restrictions.

An improved environmental performance can only be measured against the long-term environmental performance objectives of the organisation. ZBEEPP therefore, should provide basis, and increment by increment progression through the planning framework and be able to identify any conflict between long range goals and shorter - term obstacles.

The application of ZBEEPP can be made in two steps - (a) preparation of decision - oriented summary plan for each environmental project (life cycle product analysis, waste minimisation proposal, pollution reduction proposal) expected to include an assessment of the expected result or purpose of the activity, its associated costs, personnel needs, measures of performance, alternative approaches to achieve the same and objective evaluation of benefits.

Ranking of each decision package against other packages, both current and proposed, new environmental projects and activities thus allowing a specification of priorities for old and new programmes. The end result is the list of priced-out 'environmental improvement' plans built from the ground up, zero based in other words. This list can be used by management to evaluate and compare relative needs and priorities in making crucial funding decisions. It will then determine the point at which the costs to the company outweigh

1 Schaltegger S., K. Muller and H. Handrichsen : *Corporate Environmental Accounting*, 1996, Chichester, John Wiley, P 264.

the benefits to society i.e., the point at which the company's spending limit has reached or when negative incremental returns to corporate image building public relations objectives begin to accrue.

What is different in accounting for sustainable development is an understanding that an organisation does not exist in isolation. To maximise wealth creation, commercial enterprises need the support of social and ecological systems. The accountants can play a key role in the analysis and provision of information to make visible the relationship between business, society and eco-system.

Energy costs could be allocated to cost centres on the basis of direct usage. Cost centre management then can be accountable for energy consumed. It helps in measuring accurately energy efficiency, and leads to successful control over energy costs for numerous companies like the IBM.

Project appraisal techniques used so far have failed to take adequate account of environmental impact, risk, liability and associated costs. Payback method and the Discounted cashflow method have failed in taking account of full range of costs and benefits associated with a project e.g. environmental side effects of projects are often not considered. Similarly, the project cost should include waste disposal fines, insurance, etc., The market benefits of environmental responsibility should be also recorded. The technique of sensitivity analysis can be applied to measure costs and benefits of a project. The non-ecologically sensitive income streams may lead to the abandonment of projects or additional costs to take care of environmental needs may have to be incurred.

Energy, material usage and environmental releases should be quantified and the impact of environment must be noted. The management should take up all opportunities for improvement in environment. This in short may be known as life cycle assessment which deals with the evaluation of the environmental burden associated with a product, process or activity. It includes the extraction and processing of raw materials, manufacturing, transportation and distribution, use and maintenance of the product, recycling and final disposal.

In regard to Pricing of Products :

A premium may be charged on the use of non-renewable materials or those which will be replenished for a considerable period of time. The price should reflect the environmental cost attached to the product.

Budgeting and Standard Costing :

The entire process of budgeting, the establishment of a budget, monitoring of performance, reporting of variances and taking corrective action, can be applied to environmental targets as to production.

Quality improvement reports may be introduced and provided within and outside the organisation. This may include key-indicators (non-financial) and the departments may be suitably rewarded for efficient performance in the area. The employee bonds system may be linked with productivity. The cost of such scheme can be recovered in long term improvement in sustainable organisational profitability.

Thus, there are many ways in which a management accountant can apply his existing skills and knowledge to assist in accounting for the use of environmental resources and providing imaginative input into the development of appropriate and universal performance indicators.

Select Readings :

1. Richard Smith and Till Cambell : "Accounting for Environment" *'Management Accounting'*, June 1997, pp. 24-25.
2. Harward, Roth : "Quality, Profits and the Environment : Diverse Goals or Common Objectives?" *Management Accounting'*, July 1997, pp. 51-53.
3. Venu, S. : "Accounting for Environment Corporate Objectives," *The Management Accountant*, September 1997, pp. 650-665.
4. Parikh, Kiriti (Ed.) : India Development Report - 1997, *Indira Gandhi Institute of Development Research*, Oxford Press, Delhi, 1997.

Human Capital Information System

Dr. Ajay Kumar Singh*

There can be various ways of classifying the systems framework of MIS. The present paper focuses on human factor, the most important sub-system of MIS framework. There are a number of software packages available in the field, popularly known as Human Resource Information System (HRIS) packages. The present paper tries to provide a new perspective. Before proceeding further, the findings and conclusions of a research study conducted by the author (Singh 1996), on the basis of which this paper has been conceptualised, are presented.

The study was primarily based on the use of primary data generated through a structured questionnaire and personal interviews.

Following conclusions were drawn :

1. The organisations intend to retain human beings and they also respond to the efforts of the organisation in this regard. Hence it can be concluded that human beings stay in the organisation for a relatively longer period provided he/she is satisfied with the compensation and the work climate available to him/her.
2. Training and development programmes result in increase in productivity, which is relatively stable and lasts for a period more than a year. Hence the cost incurred on these programmes should be capitalised and allocated over the period of benefits received.
3. The Profit and Loss Account and the Balance Sheet based on historical cost and matching of costs and revenue principle cannot show a true and fair view unless the cost aspect of human beings is duly incorporated. The benefits from human assets accrue for a long period of time. Hence the cost incurred on human assets' acquisition, development and retention should be properly capitalised and only duly allocated portion should be incorporated in the Profit and Loss account. The capitalised portion of human assets' cost should be shown in the Balance Sheet on the basis of expected future benefits, as is the case under hire purchase scheme.

* *Professor, Head, and Dean, Integrated Academy of Management and Technology, (Approved by AICTE, and Affiliated to Dr. B.R.A. University, Agra, Ghaziabad, (U.P.).*

4. The value of human asset is purely related to the contribution made by the human asset for the organisation, which is more relevant for management accounting, instead of financial accounting based on historical cost and matching of cost and revenue. Hence it is of no practical relevance to use cost as a surrogate measure of value of human resource for showing it as additional information, which some of the organisations are doing.
5. The replacement cost and opportunity cost of human asset is relevant for human asset turnover and retention decisions respectively.

The increasing awareness among human beings is compelling organisations to put greater and greater emphasis on human aspect of a management decision. This has led to a shift in focus from Personnel Management to Human Resource Management (HRM) in the later half of the 20th Century. The last two decades of the 20th Century have witnessed a shift from HRM to Human Resource Development (HRD), a buzzword of the 20th Century. The buzzword of the 21st Century is going to be Human Development (HD). (Singh 1998) HRD treats human beings primarily as an input in the production process - a means (resource) rather than an end. HD treats 'humans' as end rather than means to an end i.e., a resource. Welfare approaches look at human beings as beneficiaries and not as agents of change in the development process. It puts people at the center of its concern. The term Human Development (HD) is more relevant in this context which focusses on all issues in society-whether economic growth, trade, employment, political freedom or cultural values, from the perspective of people. It focuses on enlarging human choices which in principle are infinite and can change over time leading to enhancement of human capital. A similar focus (welfare economics) has been given by Professor Amartya Sen, the Nobel Prize winner in Economics for 1998.

It is clear from the above that the word human resource needs to be redesignated and therefore, the term Human Capital is preferred to Human Resource. The present paper highlights the important dimensions of Human Capital Information System (HCIS), which is broader than HRIS.

Human Capital Information System (HCIS) :

Brien (1995) has made a distinction between the traditional systems and HRIS in simple terms which is explained below.

Traditionally, the organisations used computer based information systems to :

- Produce pay roll,
- Maintain personnel records,
- Analyse the use of personnel in business operations.

- Training and development,
- Health, safety, and security.

Many organisations have gone beyond these traditional functions and have developed HRIS which also supports,

- Recruitment and hiring,
- Job placement,
- Performance appraisal,
- Employee benefit analysis,
- Training and development,
- Health, safety, and security.

The present paper tries to provide a new paradigm under a new nomenclature i.e., HCIS. HCIS is a subsystem of MIS of an organisation and must be integrated with the main system to get better results. HCIS can further be subdivided into different sub-sub-systems as shown in figure 1

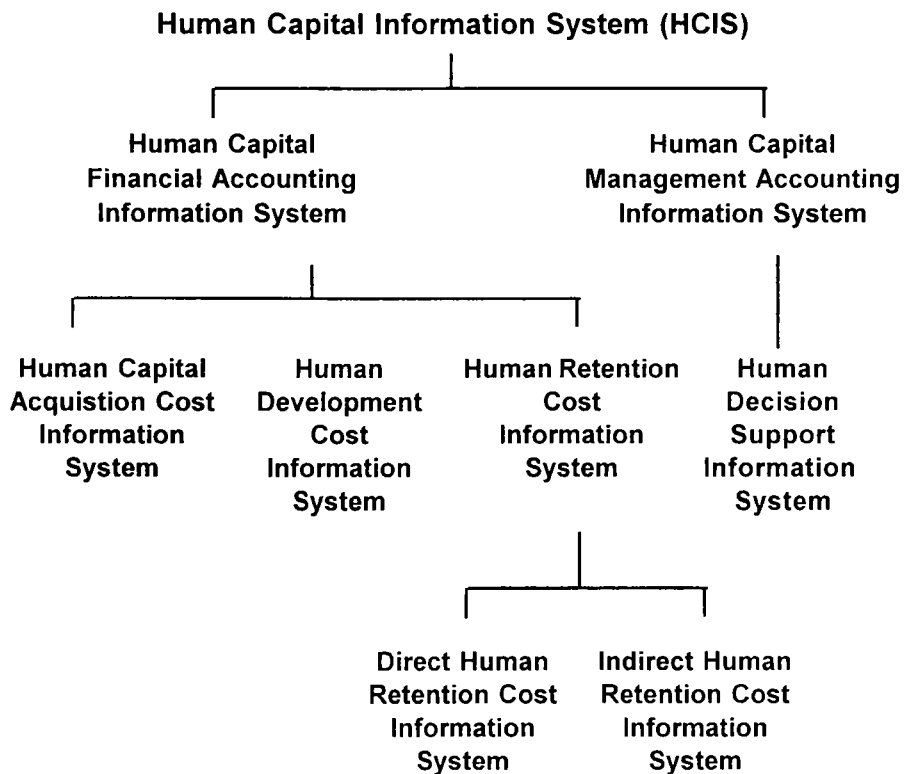


Figure 1

These are elaborated below :

A Human Capital Financial Accounting Information System (HCFAIS):

HCFAIS is an information system which provides information pertaining to various dimensions of human capital/asset within the broad framework of financial accounting to the users of accounting information. The sub-systems of HCFAIS are :

1. Human Capital Acquisition Cost Information System (HCAOIS)

Acquisition Cost (or Historical Cost or Outlay Cost or Original Cost) refers to the expenditure incurred by the organisation in recruiting, hiring, training, familiarisation and developing human assets. It is just like the concept of original cost for other assets. The acquisition cost is capitalised and written off over the period for which the employee remains with the organisation. If the human asset leaves the organisation pre-mature, the whole of the amount not written off is fully charged to the income of the current year. If the useful life exceeds the original estimate, revision is made in the amortisation schedule. The current practice to write off the whole amount in the year of expenditure from the income statement is just contrary to the matching of cost and revenue concept of financial accounting.

2. Human Development Cost Information System (HDCIS):

The research findings have proved that the benefits from developing human beings accrue for a longer period and are generally for a period more than a year. Hence it needs to be capitalised and allocated as per a suitable method. If the person leaves the organisation prior to that period, whole of the amount not written off may be fully charged from the income of that year. The current accounting practice, as shown in the findings of the study, is to write off the whole amount in the year of expenditure from the income statement, which is contrary to the matching of cost and revenue concept of financial accounting. This may affect the decision to develop a person or not, Hence there is a need to provide the decision makers complete information about the cost involved and the benefits, including the period of those benefits. Non-availability of such information may hamper the development of human assets in the organisation, which otherwise may give competitive edge to the organisation.

3. Human Retention Cost Information System (HRCIS):

The compensation package of an employee is made in such a manner that the person is motivated to remain in the organisation for a longer period

of time. The current accounting practice is to write off the whole amount of direct compensation from the income statement. Many items of indirect cost involved are recorded under different heads, which do not reflect the true and fair view leading to incorrect decision making. HRCIS can be further subdivided into :

- a. Direct Human Retention Cost Information System (DHRCIS)
- b. Indirect Human Retention Cost Information System (IHCIS)

a. Direct Human Retention Cost Information System (DHRCIS):

The total amount which is paid to the employee of an organisation as a part of the compensation package forms part of the direct cost and should be debited to the income statement as is rightly done, but the account head needs to be Direct Human Retention Cost (DHRC).

b. Indirect Human Retention Cost Information System (IHCIS):

There are various other costs which an organisation incurs, but are not recorded in actual practice. For instance, house provided to the employee is shown under Land and Building account but its cost is neither charged to factory nor to office building. The basic idea of constructing a house or a township is to attract and retain talent in the organisation, but the cost of that is never taken into consideration for decisions pertaining to human assets. The depreciation of such assets should form part of IHCIS. The right decisions pertaining to human asset/capital can be taken only if complete information is provided incorporating all aspects including indirect costs.

B Human Capital Management Accounting Information System (HCMAIS):

Financial Accounting is basically concerned with historical cost, whereas management accounting takes into account both the historical cost and the future/projected cost as well as the value of human beings. A decision cannot be taken properly regarding anything unless we are able to do cost benefit analysis, and for that both the cost and value of human beings become important.

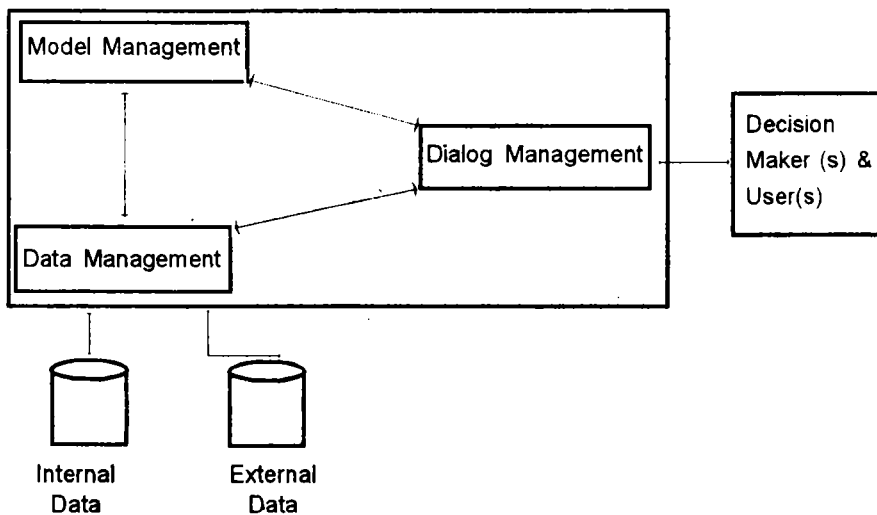
HCMAIS is an information system which provides information pertaining to various dimensions of human capital/asset to the decision maker. HCMAIS can make use of Decision Support System (DSS) and develop the same for supporting decisions pertaining to human beings which may be termed as Human Decision Support System (HDSS) as follows :

P.G.W. Keen and G.R. Wagner have put DSS as "an aid in decision making and implementation; succinctly put, the DSS serves as an EXECUTIVE MIND-SUPPORT SYSTEM"

In the words of M.J. Ginzberg and E.A. Stohic "DSS is a computer-based information system used to support decision-making activities in situations where it is not possible or not desirable to have an automated system perform the entire decision process."

HDSS is a subsystem of Decision Support System (DSS) which focuses on decisions related to human aspects like acquisition, development, retention, et. al. Hence it becomes necessary to understand its generic and conceptual components and elements of DSS which holds true for HDSS. This is shown in figure 2

Generic Components of DSS



Conceptual Components of DSS

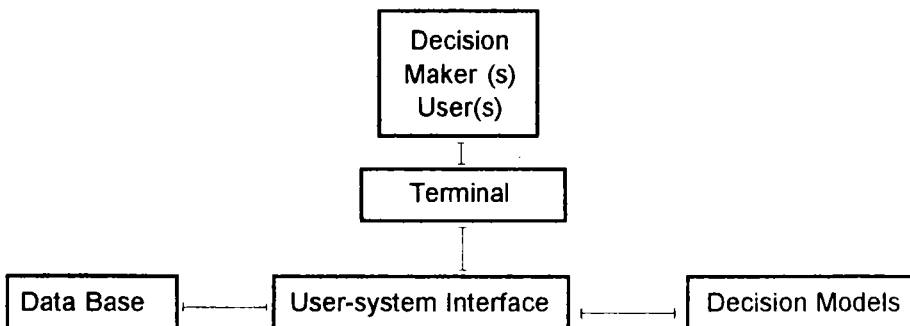


Figure 2

(a) Dialog Management Sub-System

It provides and manages the framework in which outputs are presented to the users and in which inputs are specified by the users. Dialog is two way: output representations (menus, reports, charts) define the context for and prompts subsequent user inputs.

Elements :

1. User Interface :

It is concerned with syntactic aspects of interaction, the interfacing with specific input and output devices, and issues relating to style of interaction (is dialog menu driven?)

2. Request Constructor :

It provides two-way transformation between users' requests and specific modeling and data access repertory. It translates users' requests for data to valid data base queries, and users' model references to corresponding model-invoking commands. It also translates requests issued by the model base subsystem for the incorporation of user-supplied parameters in a specific model.

3. Control :

Guarantees smooth operation of the Dialog Management subsystem; determines the mode of system's use, which can vary between 'System Prompted' mode and completely 'User-driven' mode. This reflects the structure level of the supported decision situation (system-prompted mode for highly structured situation; user driven mode where not provided by the system).

b. Data Management Sub-System

Data management sub-system provides the ability to store, retrieve, and manipulate data (internal and external).

1. Data Base Management System (DBMS):

DBMS provides such services as data sharing and integration, data definitions, data manipulation (handling queries), and data integrity (e.g. protection, recovery, etc.). It also shields the other subsystems of DSS from physical aspects of access to the data base.

2. Query Facility:

It serves as the front end element of data management subsystem and as the subsystem's interface to the model management and dialog management sub-systems.

3. Data Directory:

Data directory contains meta-data (i.e., data on data in data base).

4. Staging:

It provides access to sources of data that are external to DSS. It is an interface between the DBMS elements and its DSS-specific data base and other organisational data bases (e.g., those maintained by TPS) or remote data bases. Its structure reflects the nature of external data sources from which data is extracted. If remote data bases are to be accessed, some data communication facility is included in the staging element.

C. Model Management Subsystem

There are various models in every field which help in generating alternatives that must be analysed and understood for better decision making. There are various cost and value based models which help in finding different facets of human beings in the organisation. Output from these models can (a) make the decision, (b) propose the decision, and (c) estimate the consequences of proposed decisions. Any support beyond direct access to raw data invokes application of a model. The ability to invoke, run, change, combine and inspect models is a core service of DSS.

Elements :

1. Model Base Management System (MBMS):

MBMS provides storage and retrieval facility for programmed models. It supports the generation of models, perusal of models, updating of model parameters, and restructuring of models.

- Model Directory:

Model directory provides information about models in response to users' inquiries, or in support of the model executor's efforts to integrate several models into a supermodel.

- Staging:

It extracts models from remote on line computerised model bases.

2. Modeling Command Processor:

It provides interface between model and dialog management subsystem. It accepts and interprets modeling instructions from the query facility element of dialog subsystem. Interpreted instructions are then routed to the corresponding elements: inquiries about models are forwarded to MBMS' model building instructions to the model executor.

3. Model Executor:

It controls the actual running of models by linking together attachable models retrieved from the model base. It also interacts with the request constructor element of dialog subsystem to obtain from the user, the parameters and data that are needed by the models being run.

4. Data Base Interface

It connects the model and data management subsystem. It allows running models to retrieve data from data base and to store output on data base. It translates model requests for data into valid data query format, and query output to internal data structure of model.

Thus HDSS is a user friendly information system to provide decision support to managers pertaining to all aspects of human capital/asset. Various authors (Hermanson 1964; Hekinian et. al. 1967; Likert 1967; Brummet, Flamholtz and Pyle 1968; Likert 1968; Flamholtz 1971; Giles and Robinson 1972; Lev & Schwartz 1972; Flamholtz 1973; Morse 1973; Friedman 1974; Jaggi, Bikki and Lau 1974; Chakraborty 1976; Ogan 1976; Watson 1978; Dave 1987) have contributed towards the development of model base which can be used by HDSS and more models can be developed to suit the requirement of specific organisations.

Conclusions:

The paper provides a new framework of management information system under the nomenclature of Human Capital Information System. The subsystems of HCIS have also been discussed to highlight the spectrum of HCIS. An attempt has been made to overcome the limitations of financial accounting, particularly in the field of human asset, by providing compatible information pertaining to human asset/capital which can be integrated with the existing financial accounting information system. Further, there are many models that have been developed over the last decade which the decision makers are unable to use due to lack of support from the MIS department on the issues related to human asset retention, et. al. Each model provides some kind of information which can support decision making of an executive. The paper provides a detailed insight into the components of HDSS so that the same may be used in decision making.

References :

- 1 Bhagwan, M.R. (1990), *Technological Advances in the Third World : Strategies and Prospects*, Bombay : Popular.
- 2 Bhatti, G.B. (1995), "Work Places in the Future", *CSI Communications*, ISSN 0970-647X, Nov., 6-7.
- 3 Brien, James A., (1995) *Management Information System : A Managerial End User Perspective*, Galgotia Publications Pvt. Ltd., New Delhi.
- 4 Drummet, R.L., Eric Flamholtz and William C. Pyle, (1968) "Human Resource Measurement : A Challenge for Accountants", the Accounting Review, April pp. 217-224.
- 5 Chakraborty, S.K., (1976) "Human Asset Accounting : The Indian Context", *Topics in Accounting and Finance*, Oxford University Press.
- 6 Byrne, John A., (1993) "Announcing the Horizontal Alternative", *The Economic Times*, December 31.
- 7 Dave, Shiv Kumar, (1987) Towards a Comprehensive Model for Human Resources Accounting, *The Chartered Accountant*, I.C.A. of India, June.
- 8 Davis, Gordon B. and Margrethe H. Olson, (1984) *Management Information System: Conceptual Foundations, Structure and Development*, McGraw-Hill Book Co, New York.
- 9 Flamholtz, Eric, G., (1973) "Human Resource Accounting : Measuring Positional Replacement Costs", *Human Resource Management*, Spring.
- 10 Friedman, A. and B. Lev (1974) "Surrogate Measure for the Firms Investments in Human Resources", *Journal of Accounting Research*, Vol. 12 No. 2 Autumn, pp. 235-250.
- 11 Giles, W.J. and D.F. Robinson, (1972) *Human Asset Accounting*, Institute of Personnel Management and Institute of Cost and Management Accountants, London.
- 12 Hekinian, James S., and Curtis H. K. Jones, (1967) "Put People on Your Balance Sheet", *Harvard Business Review*, January-February, pp. 105-113.
- 13 Hemanson, Roger H., (1964) *Accounting for Human Assets*, Occasional Paper No. 14, Graduate School of Business Administration, Michigan State University.

- 14 Jaggi, Bikki and Hon Shiang Lau, (1974): "Towards a Model for Human Resource Valuation", *Accounting Review*, April, pp. 321-329.
- 15 Lev, Baruch and A.B.A. Schwartz, (1972) "On the Use of the Economic Concept of Human Capital in Financial Statements : A Reply", *The Accounting Review*, January, pp. 103-112.
- 16 Likert, Rensis, (1967) *The Human Organisation : Its Management and Value*, McGraw Hill Book Co., New York, pp. 146-147.
- 17 Likert, Rensis, and David G. Bowers, (1968) "Organizational Theory and Human Resource Accounting", *American Psychologist*, September.
- 18 Morse, W.J., (1973) "A Note on the Relationship Between Human Assets and Human Capital", *The Accounting Review*, July.
- 19 Mudur, S.P., (1995): "A Whole New World", *Express Computer*, Vol. 6, No. 39, Dec. 11, pp. 104-107.
- 20 Ogan, P., (1976): "Human Resource Value Model for Professional Service Organizations", *The Accounting Review*, April.
- 21 Singh, Ajay Kumar, (1996): *Accounting for Human Resources : Acquisition, Development, and Retention*, unpublished Ph. D. thesis Awarded by the University of Delhi, Delhi.
- 22 —————(1997) HRD : "Vision and Directions in the 21st Century", in Ajay Kumar Singh, Delhi : *Society for Professional Development and Research*. pp. 1-18.
- 23 —————(1998) Management : "Global Perspectives and Strategies for the Coming Millenium", *Pranjana*. Vol.1, pp. 3-24.
- 24 Watson, David (1978): "Art of Putting People on Balance Sheet", *Accountancy*, March, pp. 42&46.

Foreign Collaborations and Income Tax Act, 1961

Dr. Somnath Ghosh*

India has vowed to globalise its economy. This march towards globalisation will entail more and more foreign collaborations. The collaboration between the foreign and the Indian enterprises generally takes place either - (1) through investment by the foreign enterprise, or (2) through technology provided by the foreign collaborator, or (3) through a mix of the above two.

Provisions of the Income tax Act, 1961, as applicable to the foreign collaborations and their implications have been discussed in this paper.

Investment by Foreign Collaborator :

In case of foreign collaboration of the first type the investment by foreign company may be either in the form of participation in share capital or loan. The participation in share capital or loan provided by the foreign enterprise necessitates two types of payments to the foreign collaborator, viz., dividend, and interest.

Provisions of the Income-tax Act for the above two types of payments are as under.

Dividend on Shares :

Dividend declared, distributed or paid by a domestic company on or after June 1, 1997 is subject to the provisions of section 115-0(1). According to this section, a domestic company will have to pay tax @ 10% on the amount of dividend declared, distributed or paid by it.

Income by way of dividends referred to in the said section will not be chargeable to tax in the hands of recipient, whether the recipient is resident or non-resident [Section 10(33)] So the foreign collaborator is not liable to the payment of tax on its dividend income, if the foreign collaborator participates in the share capital of a domestic company. Further, no credit is to be claimed by the company or any other person in respect of the amount of tax paid on the distributed profits [Section 115-0(3)]

* *Senior Lecturer in Commerce, Sree Chaitanya College of Commerce, P.O. Habra - Prafullanagar, Distt. North 24 Parganas, West Bengal.*

The provision of the Income-tax Act, 1961 relating to dividends, not covered by section 115-0, is that the dividends paid by an Indian company to a foreign collaborator outside India shall be deemed to accrue or arise in India. So, even the dividend received by a non-resident shareholder outside India is liable to be taxed in India. [Section 9(1) (iv)]

The gross dividend received by a non-resident, non-corporate, foreign collaborator or a foreign company will be taxed at a flat rate of 20% under section 115A (1) (a) (i) (A). According to section 115A(3), no deduction is allowable for any expenditure or allowance under sections 28 to 44C and section 57 in computing income from dividends of such assessee. Also, no deduction is allowable under Chapter VIA in computing the total income of a non-resident, non-corporate or a foreign company assessee, where the gross total income consists only of dividends income. And where the gross total income of a non-resident, non-corporate or a foreign company assessee includes dividends income, first the dividends income shall be deducted from the gross total income and then deduction under Chapter VIA will be allowed on the reduced gross total income, treating the reduced gross total income as the gross total income of such assessee. [Section 115A(4)]

However, the payment of dividend will not be treated as expenditure in the books of the Indian company, since dividend is recognised only as application of income. But it is advantageous to the Indian company from another point of view, since the payment of dividend is not obligatory like the payment of interest. Thus if there is no profit the question of payment of dividend will not arise. Only in case of adequate profit, the question of payment of dividend may emerge.

Interest on Loans :

According to section 9(1) (v), interest payable by the following shall be deemed to accrue or arise in India, whatever may be the residential status of the recipient or the place of receipt :

- (a) By the Government i.e. by the Central Government or any State Government.
- (b) By a person who is a resident, except in the following cases :
 - (i) If the interest is payable in respect of any debt incurred, or money borrowed and used, for the purpose of a business or profession carried on by that person outside India.
 - (ii) If the interest is payable in respect of any debt incurred or money borrowed and used, for the purpose of making or earning any income from any source outside India.
- (c) By a person who is a non-resident, if the interest is payable in respect of any debt incurred, or money borrowed and used, for the purpose of a business or profession carried on by that person in India.

Thus interest payable by a non-resident in respect of any debt incurred, or money borrowed and used, for the purpose of making or earning any income from any source, other than the business or profession, in India, will not be treated as deemed to accrue or arise in India.

The gross interest received by a foreign company or a non-resident, non-corporate assessee from Government or an Indian concern for money borrowed or debt incurred by the Government or the Indian concern in foreign currency, is taxable at a flat rate of 20% under section 115A(1) (a) (ii) (B). Here also no deduction under sections 28 to 44C and section 57 will be allowed for any expenditure incurred in earning the income from interest by a foreign collaborator who is either a non-resident, non-corporate assessee or a foreign company. [Section 115A(3)] The restriction provided under section 115A(4) regarding the allowance of deduction under Chapter VIA in computing the total income, as applicable to the income from dividend, is also applicable here. Moreover, the following types of interest incomes are exempted from tax under Section 10(15)(iv) :

- (a) Interest payable by the Government or a local authority on money borrowed or debt owed from a source outside India. [Section 10(15)(iv)(a)]
- (b) Interest payable by an industrial undertaking in India on money borrowed or debt incurred in a foreign country for the purpose of purchasing raw materials or components or capital plant and machinery from outside India, to the extent the interest does not exceed the amount of interest calculated at the rate approved by the Central Government in this respect. [Section 10(15)(iv)(c)]
- (c) Interest payable by an industrial undertaking in India on borrowings in foreign currency from a source outside India under a loan agreement approved by the Central Government and to the extent the interest does not exceed the amount of interest calculated at the rate approved by the Central Government in this behalf. [Section 10(15)(iv)(f)]

In this context, it may be mentioned that benefit accrues to Indian partners in case of payment of interest to foreign collaborators, as the same qualifies for deduction in computing the taxable income and total income of the Indian partner.

Transfer of Technology by Foreign Collaborator :

In case of foreign collaborations of the second type i.e. technology provided by the foreign collaborator, two types of payments are made to the foreign collaborator viz., royalty and fee for Technical Services.

Provisions of the Income-tax Act, 1961 regarding the above two types of payments are discussed below :

Royalty :

The term 'royalty' is defined in Explanation 2 of Section 9 (1) (vi) of the

Income tax Act. The definition is broad based. It covers both industrial royalty and copyright royalty. The definition specifically excludes consideration for the sale, distribution or exhibition of cinematographic films and income chargeable under the head Capital Gains.

Royalty income of the following types of recipients are deemed to accrue or arise in India, irrespective of the residential status of the recipient and the place of receipt, as provided under section 9 (1) (vi) :

- (a) Royalty payable by the Central Government or any State Government.
- (b) Royalty payable by a resident, except in the following cases :
 - (1) If the payment is related to a business or profession carried on by the resident outside India.
 - (2) If the payment is related to any other source of income of the resident outside India.
- (c) Royalty payable by a non-resident, if the payment is related to business or profession carried on in India or any other source of income in India.

Section 9 (1) (vi) (c) also provides that the following royalties will not be deemed to accrue or arise in India ;

- (a) Income by way of royalty as consisting of lump sum consideration payable in pursuance of an agreement made before April 1, 1976 provided the agreement is approved by the Central Government. In this case, the royalty income should be related to transfer or imparting of information outside India in respect of any data, documentation, drawing or specification relating to any patent, invention, model, design, secret formula or process or trademark or similar property.
- (b) Income by way of royalty as consisting of lump sum payment made by a resident person, for the transfer of all or any right (including the granting of a licence) in respect of computer software supplied by a non-resident manufacturer along with a computer hardware under any scheme approved under the policy on Computer Software Export, Software Development and Training, 1986 of Government of India.

The aforesaid royalty income received from Government or an Indian concern is taxable in the cases of foreign companies on gross basis. No deduction under sections 28 to 44C is allowed in computing the income from royalty received from Government or an Indian concern by a foreign company as provided under section 44D. Section 115A(3) also prohibits the deduction of expenditure under sections 28 to 44C and section 57 in computing the income from royalty received from Government or an Indian concern by a foreign company. It may be observed that section 44D and section 115A(3) are, to a great extent, identical. This is an avoidable duplication by the legislature.

The rate of tax applicable on gross income from royalty received from Government or an Indian concern by a foreign company is 30%, if such a

royalty is received in pursuance of an agreement with the Government or the Indian concern after March 31, 1976, but on or before May 31, 1997. The rate of tax is substituted to 20%, if the royalty is received in pursuance of an agreement made after May 31, 1997. [Section 115A(1)(b)(A)] However, in the cases of royalty agreements by the foreign companies with Indian concerns, the said rates of tax (30% or 20%, as the case may be) are applicable, if the agreement is either approved by the Central Government, or where it relates to a matter included in the industrial policy of the Government of India, for the time being in force, provided the agreement is in accordance with that policy. [Section 115A(1)(b)]

Exception to section 115A(1)(b) is provided in the following cases under section 115A(1A), where the royalty is in consideration for the transfer of all or any right including the granting of a licence :

- (a) In respect of copyright in permitted book to an Indian concern, and
- (b) In respect of permitted computer software to a person resident in India.

However, if the tax on royalty income of the foreign company from the Government or an Indian concern is paid by the Government or the Indian concern under the terms of an agreement, the tax so paid will not be grossed up in computing the total income of the foreign company, if the following conditions are satisfied :

- (a) The agreement has been entered into after March 31, 1976,
- (b) The agreement is either approved by the Central Government or where the agreement relates to a matter included in the industrial policy for the time being in force, of the Government of India, provided the agreement is in accordance with that policy. [Section 10(6A)]

The aforesaid provisions of disallowance of expenses under sections 44D and 115A (3) are not applicable in the case of royalty income received by a non-corporate foreign collaborator. The rate of tax applicable in this case will be the one as applicable to any other non-corporate, non-resident taxpayer, and it will be net of expenditure incurred.

Tax Liability on Capital Gains :

From the angle of tax planning, one point is noteworthy here. The definition of royalty provided in Explanation 2 of Section 9 (1) (vi) specifically excludes income chargeable under the head Capital Gains. Hence the mischief of deeming provision under Section 9(1) (vi) of income accruing or arising in India will not be applicable. Consequently, the income from Capital Gains will be outside the purview of taxation in India.

However, the income from Capital Gains will be outside the purview of taxation only if the following conditions are satisfied :

- (a) It should be an outright sale and transfer by the foreign collaborator of right in any capital asset which may be in the nature of machinery, plant, patent, invention, model, design, secret formula or similar property.

- (b) The consideration for transfer should be received outside India. This is because of the fact that the income received in India will invariably attract tax in India, irrespective of the residential status of the recipient.

It is noteworthy here that problem shall arise when the foreign collaborator is paid by way of allotment of shares in the Indian company for transfer of a capital asset abroad. This proposition will be a *faux pas*. Because the acquisition of shares in the Indian company will be treated as consideration received in India by the foreign collaborator. This will be so because the shares of the Indian company will be considered as located in India. As the consideration received by the foreign collaborator will be treated as received in India, the Capital Gains earned there from will attract tax in India.

Fees for Technical Services :

Another type of payment generally received by the foreign collaborators is fees for technical services. According to section 9 (1) (vii) the following types of fees for technical services payable by the following persons are deemed to accrue or arise in India, even if the recipient is non-resident or the payment is received outside India:

- (a) Government i.e. Central or any State Government.
- (b) Resident, except where the payment is for services which were utilised in a business or profession carried on by that resident outside India or any other source of income of that person outside India.
- (c) Non-resident, where the payment is connected with services utilised in a business or profession carried on by that person in India or for any other source of income of that person in India.

However, by a provision, this section is made inapplicable to fees for technical services payable in pursuance of an agreement made before April 1, 1976 and approved by the Central Government.

Explanation 2 of section 9(1)(vii) defines the term fees for technical services. It includes any consideration that may be in the nature of a lump sum consideration for rendering any managerial, technical or consultancy services and the provision of services of technical or other personnel but specifically excludes consideration for any construction, assembly, mining or like project and income of the recipient chargeable under the head Salaries.

Like royalty, the fees for technical services received by a foreign company from Government, or an Indian concern, in pursuance of an agreement with the Government, or the Indian concern, after March 31, 1976 are taxable on a gross basis @ 30% and @ 20% respectively [Section 115A(1) (b) (B)]. Sections 44D and 115A(3) for disallowing the expenditure incurred for earning this income are also applicable here.

- The conditions stated under section 115A(1)(b) are also to be satisfied for availing this reduced rate of tax of 30% or 20% as the case may be.

Moreover, the benefit mentioned under Section 10(6A) can be availed if the conditions stated therein are satisfied.

The aforesaid provisions of disallowance of expenses under Sections 44D and 115A(3) are also not applicable in the cases of non-corporate foreign collaborators. The rate of tax applicable in their case will be the one as applicable to any other non-corporate non-resident taxpayer and the tax will be charged on fees for technical services earned after deducting the expenditure incurred for earning this income.

Double Taxation Avoidance Agreement (DTAA) :

The abovestated provisions will take a back seat where the Government of India has entered into double taxation avoidance agreement or an agreement for granting relief of tax with the Government of a foreign country. In that case, it is provided under Section 90 (2) that with respect to an assessee, to whom such an agreement is applicable, the provisions of the Income-tax Act, 1961 shall be applied to the extent they are more beneficial to the assessee.

Circular No. 333, dated April 2, 1982 of the Central Board of Direct Taxes (CBDT) also explains it as follows :

- (a) Where specific provisions are made in the Double Taxation Avoidance Agreement (DTAA), those provisions will prevail over the provisions contained in the Income-tax Act, 1961.
- (b) Where a DTAA provides for a particular mode of computation of income, that mode should be followed, irrespective of the provisions in the Income-tax Act, 1961.
- (c) Where there is no specific provision in the DTAA, the provisions of the Income-tax Act, 1961 will govern the taxation of income.

For example, the Double Taxation Avoidance Agreements between India and many foreign countries provide for the taxation of gross royalty and fee for technical services at reduced rates, which are 10% or 15% respectively. These rates, though lower than the rates prescribed under the Income-tax Act, which may be either 30% or 20%, will be applicable in such cases.

Thus, the provisions of the respective DTAA's shall play a decisive role in determining the taxable income and the tax payable by the foreign collaborators.

From the above discussion it can be concluded that with globalisation there has been a significant change in the outlook and consequently the provisions of Income tax Act. The entrepreneurs entering into foreign collaboration agreements will therefore, be well advised of look into the related provisions of the Income-tax Act to end up with fruitful exercise on the part of the foreign collaborators and their Indian partners, so far as the taxation is concerned.

Resurrection of Industries through Reforms : An Analysis of Private Sector

Dr. R.K. Raul*

India pursued the policy of economic liberalisation since 1991 with the objective of ushering in competitiveness, deregulation and decontrol. In the intervening period different measures were undertaken for sustaining economic growth as well as to ensure competitiveness of domestic industry through exposure to external competition. The Global Competitiveness Report (GCR), 1998 of the World Economic Forum however, ranked India at 50th position out of 53 countries. The report highlighted that India's competitiveness was abysmally low despite the advantage of vast labour force, strong science and engineering capabilities, large number of stock markets etc. The reasons we attributed to deficiency, both in hard infrastructure, roads, ports and power and soft infrastructure, labour market practices, financial market depth and public administration.

With this backdrop an attempt has been made to address to some of the missing aspects in current policy. In this respect, a three-pronged analysis is considered viz. export led growth, investment and regional growth and performance of corporate sector.

Export Led Growth :

India needs wide range of import of capital goods, technology and intermediate goods to achieve technological efficiency and dynamism whereby the domestic enterprises will attain efficient scale of production and will be competitive in the foreign market. Accordingly, the government of India in its EXIM policies 1992 to 1997 emphasised on import in general and import related to export in particular. However, the share of import has declined from 14.5 pc in 1995-96 to 4.2 pc in 1996-97. The import of capital goods has fallen sharply by 23.8 pc in 1996-97, as compared to a rise of 11.8 pc in the previous year. The share of capital goods nearly halved from 6.1 pc to 3.6 pc followed by decrease in the import of machine tools during these periods. Unlike import, export has also been decelerated, in US dollar terms, to 5.3 pc in 1996-97 and to 2.6 pc in 1997-98, after three successive years of increase

* *Reader, Department of Business Administration, Assam University, Silchar, Cachar, Assam.*

ranging from 18pc to 21 pc. As a result foreign trade deficit has been widened. The reasons are many. Procedural hurdles and delays particularly have discouraged the exporters. Moreover, government's sense of complacency and lack of urgency with regard to boosting exports coupled with high overall tariff rates, specially tariffs on intermediate products that are used by exporters, high indirect tax on export, faulty duty entitlement pass book (DEPB) scheme, where custom authority causes considerable harassment while evaluating export challenge, the FOB value of export, 5 pc composite penalty for each licence period from the date of expiry of the licence, levy of 4 pc special additional duty (SAD) on import under old DEPB, have thwarted the export competitiveness. Besides, macro-environmental factors have aggravated the situation further.

After disintegration of the USSR, the crisis loomed large over in country's export front. India in this respect lost rupees one thousand crore in 1990-91 in respect of pharmaceutical products. In the current year the Industry has registered a paltry export growth to Russia of 1.5 pc, while domestic income has grown by 32 pc. The export of pharmaceutical industry has risen to Rs. 20.82 crore in the last quarter of 1998-99 from Rs. 7.19 crore in earlier quarter. However, sustaining high export growth largely depends on the R & D capabilities of domestic pharma industry to meet the challenge of product patent regime to be implemented in 2005.

India pursued its export policy with low export portfolio, gems-jewellery, ores and minerals, agri and allied products etc. While potential products like garments, toys, shoes, leather products are reserved exclusively for small scale sector. Such restrictions assured other countries' dominance, particularly of China in these sectors compared to India. Besides for sustaining export growth newer markets have to be explored. During 1990-91 to 1995-96 export to Asian region, other than Japan and OPEC countries, has increased by 5 fold from Rs. 4,665 crore to Rs. 22,613 crore. SAARC and EC countries, Euro eleven in particular, are emerging out as fast growing countries in the world. Necessary attempt should be made to capture these markets.

The small and medium sectors for decades now have been accounting for 60 pc of country's export, pegged at \$37 billion in 1997-98. But the Government's export initiatives have lacked focus. A two percentage point cut in export credit and marginal rise in Special Import Licence (SIL) premium may give an opportunity to small and medium sector' price change strategy but will be very marginal for large companies. Thus there must be two sets of policies, for large as well as small and medium sectors. Further restriction on the growth of small firms to large, and free entry of large firms into the export potential area reserved for small sector-stated earlier, may be waived, as is the case in China. Export processing zones (EPZs) have been designed to boost up exports giving impetus to foreign investors as well as domestic entrepreneurs. The country's main EPZs, Kandla, SantaCruz, Noida, Madras, Cochin and Falta have not performed well, due to lack of hard infrastructure,

insufficient link with sea and airports, government's ambivalence regarding inward FDI, unclear incentive package for investment and so on. As a result the EPZs, of late, are some how entering into the domestic market and competing with domestic enterprises. These EPZs are to be converted to free trade zones (FTZs) from July 1999, in the line of global production and trade to facilitate the export growth. However, the success lies on implementation of other policies like investment, taxation, land, labour, management etc.

The exporters' lobby are always in favour of devaluation of rupee to boost export. But over the twenty years Indian currency has declined and yet we continue to have trade deficit. If fall in currency's value alone were to push up exports then India should have been one of the top exporter today (Puneet Jain, 1998). The devaluation can only magnify an exporter's earning, but the country as a whole losses. The export will go up only when the country is in a position to produce standard goods to meet international demand. It is observed that software services have attained higher export growth owing to the availability of infrastructure in the country, while garment sector did not peak up its height despite devaluation. Thus the country must focus on capital investment and capital inflows for building more factories which can produce exportable goods. Moreover, to attract foreign currencies, the value of rupee must be defended, otherwise investment will be worthless on account of currency fluctuation.

Investment and Regional Growth :

Prior to reforms it was blamed that licensing policy along with bureaucratic red tapism impeded industrial growth. Recent industrial policy has curtailed the domain of licence raj. Currently less than 10 pc of manufacturing activities require a prior licence. The industries which donot require any licence are to submit an Industrial Entrepreneurs Memorandum (IEM) to the secretariate for industrial assistance. However, industrial investment has hardly matched with the expectation during the post reform period as large number of applications were not disposed off (Annexure-1).

On the other hand only 10 pc of aggregate IEMs filed since 1991 have been implemented so far. Moreover due to poor implementation rate coupled with strong regional bias regarding investment proposals, the backward states despite their resource endowment (Bihar, Orissa) have remained deprived from the benefits of reforms. The coastal regions because of their locational advantage have attracted major portion of industrial proposals. Maharashtra has accounted for about 17.45 pc, followed by Gujarat, 1/5th of proposals, during the period under consideration. The investors have shown a preference to these states with well developed infrastructure (Annexure-2). The performance of these regions would inevitably lead to internal migration and in turn would create backward and forward linkage in the economy. There was a little bit of truth in this proposition. A wide range of variation in respect of Socio-Economic parameters is observed between coastal regions and other parts of the country, particularly in the Gangetic Valley (Annexure -3).

Though economists argue that disparities are necessary to spur growth, however forces inherent to reforms process that tend to sharpen the divide between the rich and the poor States should be checked. The fiscal resilience of government has a major role in this respect. The evidence suggests that reform agenda are less sensitive to the dynamics of inter state disparities.

Foreign Capital: Both administrative and legislative measures were adopted in the reform regime for free flow of foreign capital, FDI in particular, into the country. According to the size, potentiality and need of the country FDI is a trickle to India and torrent to China. During August - March, 1991-98, FDI approvals accounted to Rs. 158.76 crore (\$47.4 bn), of which inflow amounted to Rs. 35.332 crore (\$ 10.5 bn). From a sectorwise breakup of the inflow it is found that, Power and Fuel accounted for 29.22 pc, followed by Telecommunication - 19.36 pc Chemicals & Fertilizers 6.67 pc, Services-6.66 pc and Transport - 6.25 pc. However, wage goods sector that would create cumulative causation of economic growth have accounted less volume of FDI. On the other hand Tansnational Companies (TNCs) are interested in consolidating stakes in their existing joint ventures in India rather than investing in fresh projects. According to the World Investment Report of the UN, a large number of mergers and acquisitions (M&A) in developed economies have been triggered by the need to amortise the higher cost of R & D across a wider geographical space and the opening of new markets to competition. India accounted for 35-40 pc of FDI inflows in 1997-98 via M & As. Such inflows will be more with further liberalisation environment of M & A. The foreign shareholders are discouraged in taking majority in the sectors like consumer goods and services, as BAT in ITC. They are allowed only when domestic partner is unable to contribute additional funds, like Daewoo Motors in DCM, Timken in Tata Timken, Ford Motors Corporation in Mahindra Ford India Ltd, and so on. Thus the Government promoted FDI on the one hand and maintained regulation against full ownership or insisted on long drawn process. This regulatory attitude to foreign investors, who could be the fuel for India's export drive, continues to be ambivalent. The Government therefore, should effectively attract foreign investors with product design, specialised machine tools, key intermediate products and world marketing knowledge in export oriented sectors with simplified rules and without much administrative hassels.

Performance of Corporate Sector :

In the early years of reforms, the private corporates had witnessed high investment growth (1993-95) in nostalgia. From a level of Rs. 12,000 crore per year during 1986-90, 3pc of GDP, the investment had skyrocketed to Rs. 73,000 crore per year or 7 pc of GDP in 1995-97. These massive investments were not properly matched with industrial growth rate as the same has continuously been decelerated. Industrial growth rate in manufacturing sector reached 13.3 pc in 1995-96, then sharply declined to 8.2 pc in 1996-97, and further dipped to 4.7 pc in the next year. The growth rate of industrial output measured by the IIP touched 3.8 pc in 1998-99 from 6.6 pc in the previous year. This indicated that the investments have been misfired with profitable

projections. In this respect we have considered five corporate giants in the private sector (ACC, Larsen and Toubro, Reliance, Tata Engg, and Tata Steel) and analysed their growth of capital works in progress (CWIP) and net fixed assets (NFA) over five years upto 1997-98. (Annexure-4)

It is observed that the growth rate (pc change over previous year) of NFA is less than that of CWIP [Coefficient of Variation (c.v.) of NFA is less than that of CWIP]. This indicated that over the years capital investment have not been significantly increased in the sample companies. The reasons may be attributed to either failure of the companies to acquire more funds from the market or they have already been struggling to cope with idle funds. Positive correlation indicated mismatch between CWIP and NFA, except in L&T ($r=0.976$) and Tata Engg ($r = 0.986$) (Annexure -4). Further ANOVA (years in rows and CWIP & NFA in columns) discerns, F ratio between the years is less than 'F' tabulated value indicating thereby growth of CWIP and NFA is not significant. The corporate sector thus, have failed to derive benefit from reforms. On the other hand, 'F' ratio between the variables (CWIP & NFA) is greater than 'F' tabulated value. This confirmed such a mismatch further. Alternatively the corporate sector could have undertaken their modernisation programme with more investable funds. The reasons may be attributed to demand recession, high rate of interest, South East Asian crisis, depreciation in currency and so on.

This leads us to enquire further, whether the corporate sector is shouldering responsibility of maintaining higher growth trend in domestic product and in turn boosting higher industrial growth? We have taken in this respect, 22 private sector companies (in Annexure-4) chosen at random from the CMIE data during 1994-95 to 1997-98. The sample units were having turnover of Rs. 250 crore or more per annum and were involved in foreign trade (export & import). The correlation coefficients calculated between the variables were as under.

Correlation Coefficients (r) 1997-98

(a)	VOP and Capital Employed	0.0137 (0.0612)
(b)	Pc change of VOP and Ratio increase of VOP to GFA	0.5125 (2.672)
(c)	VOP and Export	0.4561 (2.292)
(d)	VOP and Import	0.3479 (1.6595)
(e)	Capital Employed and Export	0.0988 (0.444)
(f)	Capital Employed and Import	0.0577 (0.2585)
(g)	Export and Import	0.6945 (4.3168)
(h)	Capital Output Ratio and pc Change of Foreign Exchange Earning	0.3053 (1.4338)

Notes : Capital Output Ratio = Volume of Output/Capital Employed.

VOP = Value of Production.

Pc change	= Pc change in 1997-98 over the previous year.
GFA	= Gross Fixed Assets.
t. _{.05} (20 df)	= 2.09
(Figures in bracket indicate respective 't' value)	

From the sample it is observed that VOP in aggregate terms decreased from Rs. 39,787,39 crore in 1995-96 to Rs. 28,397,227 crore in 1996-97 and then rose to 33,578,804 crore in the next year. This has resulted in a decline in capital efficiency measures in terms of capital output ratio from 0.79 to 0.73 and also affected foreign exchange earning capacity of the corporates. This is supported by negative correlation, between VOP and capital employed (-0.0137) and capital output ratio and pc change in foreign exchange earning (-0.3053), indicating thereby, managerial failure on the part of the companies in respect of capital investment programmes. Again 'r' between pc change of VOP and ratio of increase of VOP to GFA became positively significant ($r=0.5125$). This indicated that about 27 pc of GFA were used for the variation in VOP ($r^2=0.2652$). In other words VOP may be enhanced with further growth of CEA with more investible funds. During the period under consideration however, the sample companies have shown in general a significant growth of VOP and Fixed Assets formation. From the ANOVA it is observed that such growth rate over the years is not significant. 'F' ratio between years (rows) and variables i.e. VOP and GFA (column) is less than 'F' at 5% level of significance. Thus accretion of assets were not utilised to their potential and the sample units have failed to attain competitive edge. It can thus be argued that during the reforms period the private sector firms have undertaken expansion/modernisation programme to the unrelated areas and efficiency of newly added assets have declined due to demand slowdown.

The major thrust area of reforms is export growth. For the sample companies 'r' between export and import is positively significant ($r=0.6945$). On the other hand VOP is also positively related with both export and import. Thus greater emphasis should be laid on import related to export. On the otherhand, it is generally argued that the export would lead the companies to increase their volume of capital employed through the earning of foreign exchange. This general proposition has been belied, as the capital employed and the foreign exchange earnings of the companies are negatively related. Moreover, import is also negatively related with capital employed. This indicated that the sample companies had imported other than capital goods and relevant technology etc for their growth, as they have spent more foreign exchange than what they have earned. Thus the second generation reforms are urgently needed for economic resurrection as well as for sustaining export growth.

The corporate sector of late has been thus engulfed in a crisis ridden situation where macro environmental factors are not conducive to growth. Moreover, internally they are not performing well by projecting their investment in profitable manner, diversifying their line of production and exploring newer

type of markets. As a result, reduction of cost of inputs has become a new mantra of corporate sector. It is realised that once the cost structure of a company becomes globally competitive, selling profitably is logical outcome. In this respect, a study (1998) of cost centres by the CMIE, based on 681 private sector manufacturing companies may be referred. It is observed from the study that barring raw materials, input costs as a percentage of value of production have shown all round increase in 1997-98 over the previous year, wage and salary (5.3 pc to 5.5pc), power and fuel (5.5 pc to 5.9 pc), operating expenses (4.1 pc to 4.3 pc) depreciation (3.4 pc to 3.9 pc), selling cost (5.9 pc to 6.4 pc), administrative overheads (7.1 pc to 7.6 pc) and interest charges (5.8 pc to 5.9 pc) showed sharp upswing during 1997-98. As a result the gross margin on value of production has substantially declined. The corporate sector therefore, reeled under the pressure of spiralling input costs. The aggregate net profit has declined by over 12 pc in the sample companies in 1997-98. The front runner corporates, like Reliance Industries, ITC, Bajaj Auto have performed poorly. Even the Software companies, considered new messiah of corporate India, have failed to maintain the profit trend set earlier.

Conclusions:

An upturn of the Indian economy has necessarily to be concomitant with an upturn in the future of domestic companies. The industries should therefore, resort to managerial solutions comprising leveraging on core strength, diversifying the line of production, particularly globally, aligned products, more investment in fast moving consumer goods (FMCG); entertainment industry, pharmaceutical, information technology, software and so on, and expanding trade relations with wider range of foreign investment. Thus, second generation reforms are urgently needed to address to and correct the fundamental and structural reforms for sustaining economic growth. Greater freedom to States to foster competition among themselves, transparent policies regarding FDI, deregulation of private sector, land reform along with availability of land to the exporter in urban areas, more autonomy to States to attract FDI in hard infrastructure, simplification of tax structure-excise, octroi, import duties in particular, labour law reforms to get unorganised work force into mainstream, are most critical areas of second generation reforms.

References :

1. *Global Competitiveness Report, 1998* - World Economic Forum, Geneva.
2. *Economic Survey, 1997-98*.
3. Bajpai, Nirupam and Sachs, J.D. : "Strengthening India's Strategy", *The Economic Times*, Calcutta, February 8, 1999.
4. Kaldor, N. : *Causes of Slow Rate of Economic Growth*, Cambridge University Press, 1966.
5. Puneet Jain : Wrong Remedy, *The Economic Times*, - 24 August 1998.
6. *The World Economic Outlook*, IMF May, 1998.

Annexture 1

**Status of Applications for Industrial Licence
(as on 31 Dec.)**

Status :	1996	1997
Applications awaiting disposal (January 1)	788	543
Applications received during the year	531	406
Total pending cases	1319	949
Total applications disposed off	779 (59)	664 (70)
Balance pending	543 (41)	285 (30)

Source : Centre for Monitoring Indian Economy, New Delhi.

Annexure 2

Industrial Proposals during August 1991 to March 1998

	Coastal Region*	Other States	Total
Total Number of Proposals (EMI+LOI)	20,952 (58)	15,093 (43)	36,045
Investment Involved (Rs. crore)	4,54,239 (63)	2,56,719 (37)	7,10,958
Implementation : Number of Proposals	1939 (9.25)	12.96 (8.59)	32.35 (8.97)
Investment (Rs. crore)	67,456 (14.85)	46,325 (18.04)	1,13,781 (16.0)

(Figures in brackets indicate pc to total)

Source - Department of Industrial Policy - Ministry of Industry, Government of India.

* Coastal Region - Maharastra, Gujrat, Kerala, Tamil Nadu, Andhra Pradesh, Karnataka, Orissa and West Bengal.

Annexure 3**Socio - Economic Parameters during 1990-91 to 1995-96**

Status :	Pc increse of per capita Domestic Product	Per Capita Power consump- tion (KW/hr)	Unsurfaced Road pc of total road length	Telecom per 1000 Populat- ion	Literacy Rate	Human Devel- opment Index	Gender health Index (HDI)	Per Capita SDP (1995)
U.P.	52.3	181	45	5	41.6	36	41	5983
Bihar	25.9	82	62	3	38.4	34	44	4097
Gujrat	78.8	549	12	18	61.3	49	58	11036
Maharastra	78.0	483	27	29	64.9	57	65	15244
TamilNadu	76.3	393	32	27	62.7	52	64	9868

Source: (Compiled) - CMIE

Annexure 4**Performance of Sample Companies during
1993-94 to 1997-98**

Name of Company	Coefficient of Variation (c.v.)		
	CWIP	NFA	Coefficient of Correlation
ACC	40.91	30.34	0.544
ITC	70.92	29.01	0.839
L & T	59.64	40.21	0.976
Reliance	51.62	42.72	0.375
Tata Engineering	60.81	41.63	0.986
Tata Steel	32.24	8.42	0.290

CV = (SD/Mean) x 100, CWIP = Capital Works in Progress; NPA = Net Fixed Assets

Source : *The Economic Times, Calcutta* , 1998.

Sample Units : Tata Steel, ITC, Larsen & Toubro, Tata Engineering; Reliance Industries, Indian Rayon, Crompton Greaves, Raymonds, Bombay Dying, Hindalco., Bajaj Auto, Hero Honda, Appolo International. Infosys Technologies, MRF, Glaxo India, LML, Hind Lever, Proctor & Gamble, Indal, Essar Steel, Grassim Industries.

An Overview of State of Doctoral Research in Accounting in India

Dr. P.K. Haldar*

Research in a branch of knowledge signifies a purposive endeavour for a systematic investigation that widens the existing body of knowledge and deepens the understanding in the field. Accounting research in this sense signifies an attempt to understand, predict or control the problem or some aspect of accounting environment as well as how real world works with respect to accounting theory and practice (Triker: 1979, p-7; Kinney: January, 1986).

This requires a framework which will direct the levels of abstraction at which research in accounting is undertaken. Carl Thomas Devine had suggested four broad areas of accounting investigation, viz, Logical structure and Deductive system, Measurement and Induction, Behavioural Relation, Welfare and Normative Responsibilities (1960 : pp. 387-399). Subsequently, Norton Bedford and Nicholas Dopuch, (1960) while examining Devine's suggested framework opined that research in accounting theory should be conducted from an alternative broader perspective of accounting function - at the center of which there should exist the concept of scarcity. This, on the one hand, transcends a number of functional areas, and demands a meaningful accountability on the other. This leads to the need for a structural framework as well as to ask for the measurement and communication techniques that could meaningfully discharge the accountability. The successive conceptual framework projects have also viewed accounting with these two functional facets, and the main problem regarding accuracy, precision and effectiveness of the facts center upon the two fundamental questions of Income and Value. Therefore, measurement and communication appeared to be the potential fields of accounting inquiry. These researches mostly focus attention upon the questions about what accountants should adopt to achieve, goals or in other words focus on normative approaches (Henderson & Peirson : 1977, p.4). Because of the dissatisfaction with explanatory or definitional researches, the normative or prescriptive research approaches started to gain acceptance. Professor R.J. Chambers virtually initiated an early move in his work, 'Blue Print for the Theory of Accounting' (January, 1955), towards normative research.

* *Reader in Commerce, Tripura University, Agartala, Tripura.*

A good number of outstanding researches were produced with this wave of searching for better alternative system or practice of accounting. The contribution and initiative of Edward and Bell (1961), Richard Mattessich (1964), R.J. Chambers (1966), Solomons (1966), R.R. Sterling (1967), W.T. Baxter (1967), Parker and Harcourt (1969) and others in this normative wave undoubtedly enhanced the level of understanding and generated many new ideas, but with criticism as to their unsubstantiated assumptions and practical usefulness. As a result, there appeared a new basis of using rational judgement in accounting research with the idea of M.C.Jensen in 1976 followed by the works of Watts and Zimmerman (1978, 1979, 1986) : which have been marked as the development of positive accounting theory to explain why accounting is what it is, why accountants do what they do (Jensen: 1976, p-13) or to explain observed phenomenon or 'how the real world works' (Jaggi : 1981, p-33). Against this backdrop an attempt has been made here to read the trend in Doctoral Researches in accounting in the Faculties of Commerce and Management in Indian Universities.

Perspective of Doctoral Research in Accounting :

Every year a large number of papers representing research in accounting are produced, either as an academic exercise or for degree, all over the world. In India, needless to mention, research in accounting is conducted, besides others, either in the Faculty of Commerce or the Faculty of Management or the Faculty of Business studies. Since the beginning of accounting education in Sydenham College at Bombay accounting education is and has been occupying an important part of the university curriculum, at both undergraduate and postgraduate levels. The postgraduate departments in commerce of the universities in India have been pursuing research programmes in accounting and promoting doctoral researches since 1950s, mainly for Ph.D. degree. It has been observed that accounting research publications and doctoral researches in some of the commerce departments in Indian universities have not only made important contribution to the core knowledge in accounting, but also have earned international reputation and recognition (Chattopadhyay : 1981, p-419). It cannot be denied, at the same time, on the whole, in case of India also that "both the funds and well-qualified personnel are scarce, and the regular accounting practitioners at both government and private levels are too occupied with daily task. In many instances accounting research and related functional developments are limited to copying from foreign accounting research and pronouncements without effectively determining domestic relevance" (Enthoven : 1981, p-54). In the above perspective, the actual kind of trend in accounting research which have been taking place over the years in Indian universities deserves attention for understanding what researches have been contributing to the extension of accounting knowledge.

Coverage and Focus :

The present paper concentrates its focus upon the researches conducted and results there of accepted either by the Faculty of Commerce or by the Faculty of Management of Indian universities over five years, from 1992 to 1996. The information so used in this paper for analysis of trend and pattern have been collected from the details given in the list of doctoral theses accepted by Indian universities and published under the caption "Theses of the Month" in the "University News", a Quarterly Journal of Higher Education, brought out by the Association of Indian Universities. Since the objective of the proposed focus has been primarily to identify the pattern and the trend of doctoral researches in accounting being undertaken in the Faculties of Commerce and Management. The doctoral theses accepted in accounting have been identified separately and then again these have been reclassified in terms of distinct areas of study, e.g., Financial Accounting, Cost Accounting, Management Accounting and Auditing. Further for the purpose of making a comparative study between accounting interest and that of other areas of research in Commerce the remaining theses have again been grouped under Finance and Financial Management, Banking Management, Accounting, Tax Laws and then the remaining theses have been put under a residual category titled others. With is the broad field of Commerce/Management the specific area to which each of these theses relates has been identified on the basis of the title of the thesis. Total population so designed for study thus consisted of 625 doctoral theses, of which 450 were accepted under the Faculty of Commerce and 175 under the Faculty or Management. For clear focus of the trend in accounting research, a measure of central tendency, as and where it was necessary, was used. However, the objectivity of the conclusions ofcourse is subjective to actual reporting of the acceptance of doctoral theses by the universities as well as availability of the report.

Table 1

**Faculty-wise Theses Accepted by the Indian Universities
and Total Number of Theses there of Related to Accounting
During 1992-1996**

Faculty/Department	Total Number of Theses Accepted	Number of Theses Accepted in Accounting	% of Account -int Theses to Total Theses
Commerce	450	37	8.2
Management	157	3	1.7

Analysis of the Trend :

It is clear from Table 1 that out of 625 theses accepted for the award of Ph.D. degree in Commerce, 40 theses (i.e. 6.4%) belonged to accounting and the remaining 585 theses (i.e. 95.6%) belonged to other areas (Diagram I in the Appendix). Out of the total theses in accounting, there were only three in Management Faculty.

Faculty of Commerce :

The subject-wise classification of the theses in Commerce Faculty given in table 2 reveals that the interest of researches has been more prominent in the areas of Management, Finance and Financial Management than in Accounting. Although the researches, both in Accounting and Banking enjoy the same level of interest, there has been no research in the areas of Financial Accounting and Reporting and Principles and Practice of Banking. Only two researches were undertaken in the areas of Accounting, Corporate Laws and Taxation, (Diagrams II in Appendix).

Table 2

Subjectwise Classification of Doctoral Theses Accepted in Commerce During 1992-1996

Year	Total Theses	A C C O U N T I N G					O T H E R S				
		FA	CA	MA	AU	Total	F&FM	MAGT	BKG	ATL	OTHERS
1992	104	2	1	2	-	5	12	12	12	-	63
1993	92	2	-	4	1	7	22	11	11	1	39
1994	94	3	1	3	2	9	9	15	1	-	60
1995	95	1	3	6	-	10	4	10	6	1	64
1996	66	1	1	3	1	6	6	3	7	-	44
Total	450	9	6	18	4	37	53	51	37	2	270

FA : Financial Accounting, CA : Cost Accounting, MA : Management Accounting, AU: Auditing, F&FM : Finance & Financial Management, MAGT : Management, BKG: Banking, ATL: Accounting & Tax Laws,

Faculty of Management :

Classification of doctoral theses in accounting under the Faculty of Management in Indian universities given in table 3 shows that no doctoral research in accounting was awarded in the Faculty of Management during the years 1992, 1993 and 1995. Only one thesis in 1994 and two in 1996 were awarded in Management,

The branch-wise classification of the theses in Accounting in Table 3 reveals that among the accounting researches of doctoral degree least interest seem to have been shown in the area of Auditing, (only 4 theses have been accepted for Ph.D.) Highest concentration (18 theses) have been in the area of Management Accounting. In Financial Accounting 9 theses have been accepted by the universities for Ph.D. degrees (Diagram III in Appendix).

Table 3

Doctoral Theses in Accounting Accepted in Management Faculty in Indian Universities from 1992 to 1996

Year	Total No. of Theses	Theses in Accounting
1992	50	-
1993	33	-
1994	36	1
1995	26	-
1996	30	2
Total	175	3

Areas of Accounting Research :

Prominent topics of research have been listed area-wise in table 4. It may seen from the above that the most preferred topic of doctoral research in Financial Accounting has been the reporting function of accounting. As a result, Analysis of Public Accountability, Analysis of Financial Trend, Evaluation of Social Responsibility, Disclosure Practices, Corporate Social Reporting etc have been the most prominent topics of research. In Cost Accounting, Analysis of Cost Structure, Pricing Practices, Cost and Time Overrun Analysis were preferred. In Management Accounting still emphasis is much on Working Capital Management, Monitoring of Sickness and Rehabilitation of Sick Units. A good number of researches were on evaluation, analysis and appraisal of Profitability, Liquidity, Performance and Productivity of private and public sector enterprises. Even in some cases, Analysis of Operational Efficiency was chosen

In the area of Audit Social Audit of Corporate Programmes still remains the single most popular topic of research interest. In a few cases, Social Audit of Economic Development Programmes and Poverty Elivation Programmes were chosen. The inter-area research in accounting has been primarily confined to Corporate Accounting and Corporate Taxation.

A good number of researches in accounting have pointedly focused on case studies, and their scope, in some way or the other, has remained confined either to the sample unit taken from public or private sector or to a particular type of industry at state/regional level. Interestingly, there has been no research initiative to conceptualise or determine what accounting curricula would be necessary to discern accurately what country's accounting need would be nor any attempt as such, has been made directed at the evaluation of the accounting education programme or training programme currently in vogue in the country.

Table 4

Research Issues of Doctoral Theses in Accounting Under Commerce and Management Faculties

Area	Topics
Financial Accounting :	Corporate Social Reporting Practices, Analysis of Public Accounting, Disclosure Practices in India, Analysis of Financial Trends and Disclosures, Financial and Social Reporting, Accounting Analysis of Sickness, Entrepreneurial Accounting, Farm Accounting, Qualities of Corporate Accounting Reports, Evaluation of Social Responsibility Performance.
Cost Accounting :	Analysis of Cost and Time Overrun, Analysis of Cost Structure, Study of Cost Aspects, Cost and Pricing Practices.
Management Accounting :	Profitability Analysis and Evaluation, Analysis of Performance and Productivity, Investment Pattern, Operational Efficiency, Working Capital Management, Sickness and Monitoring of Sickness, Application of Management Accounting Techniques in Decision Making.

Auditing :

Cooperative Audit, Profitability Audit and Analysis, Social Audit of Rural Financing, Internal Audit (Role Conflict), Corporate Social Audit.

**Accounting
& Laws :**

Corporate Laws and Accounting, Depreciation and Income Tax Act.

Concluding Remarks :

It can be concluded from the above that there has been low level of interest in accounting research among the doctoral researches in Commerce accompanied by little or no endeavour to offer solutions to the long term conceptual and theoretical problems faced by the discipline. This low level of affinity to accounting research is attributable to a number of factors. Firstly the accounting curriculum at postgraduate level has been hindering accounting research and development. Management orientation of the postgraduate programmes in Commerce is also contributing to such a hinderance. Further, inadequate research infrastructure, non-availability of proper literature, dearth of information and data bases etc are also potential impending factors for unsteady development of interest in accounting research. Non availability of funds and lack of qualified supervisors may also be causing reduced interest in accounting research. Academic research is linked in many respects with career and promotion path. The researchers, in many instances, want to complete the work within a shorter period of time. As a result they prefer to pick up an empirical study or a case study. Accounting researches in Management Faculty have suffered a set-back because of low market potential for accounting specialisation personnel for employment.

References :

1. Basu, A.K. : The State of Academic Accounting Research After 1900: An Overview; contributed in *Contemporary Issues in Accounting Research*, Edited by B.Banerjee, IAARF, 1991.
2. Bedford, N M and Nicholas Dopuch : Research Methodology and Accounting Theory : An other Perspective, *Accounting Review*, July 1961, pp. 351-361.
3. Chambers R.J. : Blue Print For Thoery of Accounting, *Accounting Research*; January 1995.

4. Chattopadhyay P : Accountancy Education in India; in appendix of *Accounting Education in Economic Development Management*; North Holland, 1981.
5. Devine, C.T. : Research Methodology and Accounting Theory Formation, *Accounting Review*, July 1960, pp. 387-399.
6. Enthoven A.J.H. : *Accounting Education in Economic Development Management*; North Holland, 1981.
7. Henderson S and Grahma Peirson: *An Introduction to Financial Accounting*. Theory, Longman Cheshire, 1977.
8. Jaggi, Bikki: Positive Accounting Theory : An Overview and Impact on Accounting Research; contributed in *Contemporary Issues in Accounting Research*, 1991. Op. Cit.
9. Jensen, M.C.: Reflection on the State of Accounting Research and the Regulation of Accounting, *Stanford Lectures in Accounting*, Stanford Press, 1976.
10. Kenney, W.R.: Empirical Accounting Research For Ph.D. Student, *Accounting Review*, January, 1986.
11. Sterling, Robert: Accounting Research, Education and Practice; *Journal of Accounting*, September, 1973.
12. Tricker, R.I. : Research in Accounting - Purpose, Process and Potentials, *Accounting And Business Research*, Wintter, 1979.
13. Watts R.L. and J.L. Zimmerman : Towards a Positive Theory of the Determination of Accounting Standards, *Accounting*.

Appendix

Diagram I

Theses in Accounting to Total Theses accepted in Commerce & Management Faculties in Indian Universities

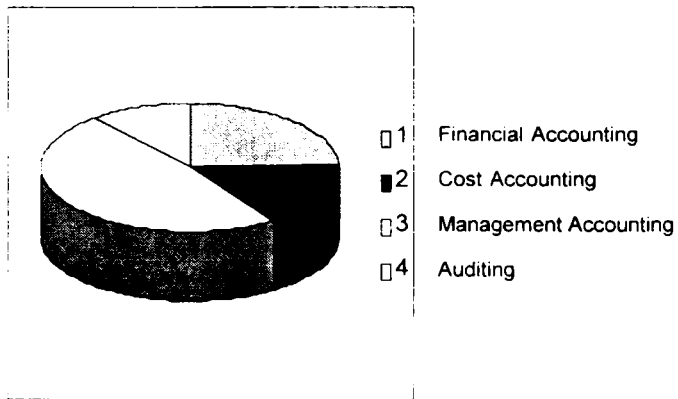


Theses in Accounting

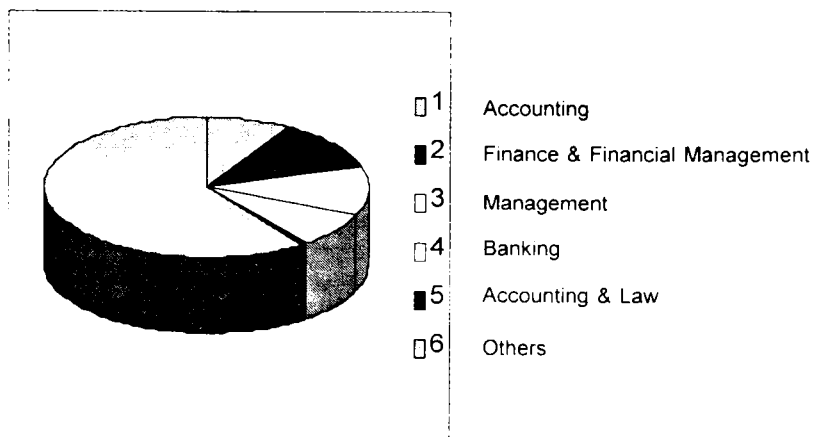
Theses in other Subjects

Diagram II

***Subject-wise Classification of Theses Accepted
in Commerce during 1992-96***

**Diagram III**

***Distribution of Theses in Different Areas of
Accounting Accepted during 1992-96***



Book Reviews

1. **"Financial Policy and Management Accounting" by B. Banerjee**, Professor of Commerce, Calcutta University, Calcutta. Sixth Edition April 1999. pp. 992+SV, (The World Press Private Ltd. Calcutta), Rs. 150.

Of a widely referred book by undergraduate and post-graduate students in commerce in various universities, and also by students of professional courses like CA, ICWA, MBA etc, the current edition is a thoroughly revised and enlarged one. A number of chapters, such as Sources of Finance, Working Capital Management, Changes in Financial Position, Ratios and Financial Analysis, Industrial Sickness, Structure and Theory of Planning, Dividend Policy, Investment Decisions, and Cost Information and Management Decisions have been thoroughly updated. Addition of chapters like Managing Risk dealing with Portfolio Management, and Financial Derivatives has made the volume more contemporary.

The book comprises a large number of solved problems. Besides, answers to unsolved problems have been appended which adds to the utility of the same for students.

The book has a unique approach and integrates management accounting with financial management effectively. In all, the book shall be more useful for students of the subject.

2. **"Business and Government" : by P.K. Ghosh**, former Professor, University of Delhi: (Sultan Chand and Sons, New Delhi). Second Edition 1998, Rs. 100.

The book vividly deals with topics related with business environment and government. In this second edition, changes in business environment since 1991 have been incorporated. These include privatisation of the economy, entry of multinational corporations, foreign institutional investors, emergence of World Trade Organisation, liberalisation of exports and imports etc. A retrospective view of the nature of causes culminating in economic reforms, liberalisation policy and globalisation has been presented. A detailed account of financial sector reforms and regulations has been included. Besides the above, the book contains highly informative subject matter on topics like development and protection of small-scale industries, problem of industrial sickness, consumer protection etc. The addition of certain cases and chapterwise test questions makes it a useful text book on the subject. The utility of the book as a brief reference manual on the subject is apparent.

IAA Branch News

Bareilly Branch :

Bareilly has been a vibrant branch of Indian Accounting Association. It had the distinction of hosting the IX. Annual Conference of IAA in 1981. On the initiative of Dr. S.P. Gupta, past president of IAA, the branch was revitalised during the session by enrolling 12 life members and 6 annual members.

At the election of office bearers of Bareilly Branch held on 16th January, 1999 in the computer conference room, the following were elected :

Dr. S.P. Gupta	-	Patron
Dr. N.L. Sharma	-	President
Dr. S.K. Bajjal	-	Secretary
Dr. A.K. Saxena	-	Treasurer

North Maharashtra Branch :

Establishment of North Maharashtra Branch of Indian Accounting Association with its head office at Ruplaxmi, 15 Purushottam Nagar, Near Gayatri Shaktipeeth, Jamner Road, Bhusawal (District Jalgaon - Maharashtra), has been an important event in the region. At the elections of the branch for 1999-2002 the following were elected :

President	-	Prof. H.R. Waykole
Vice-President	-	Dr. B.B. Deshmukh
Secretary	-	Dr. A.M. Agrawal
Joint Secretary	-	Prof. A.S. Chaudhari
Treasurer	-	Prof. D.M. Lalwani
Executive Members	-	Prof. F.N. Mahajan
	-	Shri M.V. Agrawal
	-	Prof. S.S. Kalhoke

Branch has enrolled 30 life members during the session.

Patiala Branch :

A branch of IAA has been setup at Patiala in June 1999 under the patronage of Professor B.S. Bhatia, Department of Business Management, Punjabi University, Patiala and due to the coordinating efforts of Dr. G.S. Batra, Reader in the Department. The branch has 21 life members and 17 annual members. Congratulations and good wishes.

Sri Venkateswara University Branch :

Initiative for the establishment of Sri Venkateswara University Branch

of Indian Accounting Association under the leadership of Prof. K. Sessaiah Head, Department of Commerce, S.V. University, Tirupati, has been taken with the inauguration of the Branch on 10th May 1999, in the chamber of the Head and in the presence of newly enrolled members. The following office bearers were elected unanimously

Chief Patron	Prof B. Mohan
President	Prof K. Sessaiah
Vice-Presidents	Dr. M. Munirami Reddy Prof. V. Satyanarayana Murthy
General-Secretary- cum -Treasurer	Dr M. Suresh Babu

EXECUTIVE MEMBERS :

Dr. D. Himachalam	Prof. C. Sivarami Reddy
E. Phalguna Kumar	Dr. B. Ramachandra Reddy
Dr. K. Rama Rao	B. Krishna Moorthy
D. Sudhakar	S. Sudhakar
T. Surendra Nath Reddy	

Udaipur Branch:

Major activities of the branch during six months ending 30th June 1999 have been as follows:

1. **IAA Talent Search:** An accounting knowledge competition for the students of schools and colleges as a part of annual activity of the branch was organised on Sunday, the 21st February 1999 at Government Meera Girls College, Udaipur. More than 600 students belonging to 8 different colleges and 16 Senior secondary schools participated in the competition. Chairman, Talent Search Organising Committee Dr. S. Bhanawat, Convener Dr. Rakesh Dashora and Dr. Sharad S. Johari organised the event.

2. **Two-days National Seminar:** On April 24-25, 1999, a National Seminar on 'Public Interest Accounting' was organised at the HCM Rajasthan State Institute of Public Administration campus. The three technical sessions of the seminar were devoted to the sub-themes 'Transparency in Accounting', 'Social Accounting' and 'Social Audit'. Delegates from Punjab, Uttar Pradesh, Madhya Pradesh, Gujrat, Maharashtra, Tamilnadu and different parts of Rajasthan, besides the local members participated in the seminar. More than forty papers were presented during various technical sessions.

Prof A.K. Singh, Vice-chancellor, M.L. Sukhadia University chaired the Inaugural Session. Shri Mahendra Singh ji Mewar former M.P. was the Chief Guest and Professor K.R. Sharma, Dean, Post Graduate Studies M.L.S. University was the key speaker at the session.

Valedictory address was delivered by Dr. C.P. Joshi, Minister for Panchayati Raj and Rural Development, Government of Rajasthan. Professor S.K. Raj Bhandari, Former Vice-chancellor, Avdhesh Pratap Singh University, Riwa chaired the Valedictory Session. Dr. M.L. Dashora was Director of the seminar and Dr. S.L. Menaria was Organising Secretary.

IDBI

FIXED DEPOSIT

AAA

Rating from
CARE and CRISIL

CALL

CALCUTTA - (033) 2407699
CHENNAI - (044) 2355219
DELHI - (011) 3714057
GUWAHATI - (0361) 562052
MUMBAI - (022) 2820033

Choose from four options :

- **MONTHLY INCOME**
- **QUARTERLY INCOME**
- **CUMULATIVE DEPOSIT**
- **LUMP SUM DISCOUNT**

Highlights :

- ▶ Tax benefit under Section 80L of Income Tax Act, 1961 upto Rs. 12,000/-
- ▶ Deposits are exempt from Wealth Tax
- ▶ Eligible investment for religious/charitable trusts under section 11(5) of Income Tax Act, 1961
- ▶ Interest compounded on quarterly basis
- ▶ Advance interest warrant for monthly interest option scheme
- ▶ Freedom to invest for any period from 1 year to 5 years



Industrial Development Bank of India

IDBI Tower, WTC Complex, Cuffe Parade, Mumbai - 400 005 Tel: (022) 218 876 www.idbi.com

Guidelines for the Scholars Submitting Papers for Publication :

Manuscript : A manuscript will be accepted only on the understanding that it is an original contribution which has not been published previously and is not under consideration for publication elsewhere. A paper should be upto 4,000 words in length, excluding illustrations, tables and bibliography. The entire manuscript, including reference list and figure captions, should be presented as A4 double-spaced typescript with generous margins, complete in all respects. All papers must be numbered consecutively. On separate sheets please give (a) the full title of the paper, author's name(s) and affiliation(s) in exact form required for publication, and an abstract not exceeding 150 words; (b) in not more than 100 words author biography and current interest.

Style : The style should be clear and concise. Number of references should be appropriate to the length of the paper. Describe sample surveys and other data collection methods in enough detail for an expert to assess their validity.

Abbreviations : While using abbreviations first write out the full term followed by its abbreviation in parenthesis, preferably in capitals without full stops.

Tables : The tables should be numbered consecutively and given adequate titles or headings. The tables must be referred to in text. They should supplement rather than duplicate text data.

Illustrations : The illustrations should be drawn large and clearly and on separate sheets. Captions should be supplied and all illustrations must be cited in text as Figure 1 Figure 2 etc and numbered accordingly.

Reproductions of Texts : If illustrations are borrowed from published sources written permission must be obtained from the copyright holder and a credit line acknowledging the source added to the caption. Such permission must also be obtained and acknowledged for quotations totalling more than 250 words and for tables borrowed verbatim from published sources. Permission letters should accompany the manuscript, but if you have been unable to obtain them please point this out. With shorter quotations a bibliographic credit is sufficient.

References : If an author is cited in text a date should follow in brackets, with the full details given in a reference list in alphabetical order at the end of the text. Multiple entries by one author or a set of authors in the same year should be indicated by postscripts a, b (1991a, 1991b), etc. The list of references should follow the convention.

IAA EXECUTIVE COMMITTEE 1999

President

B. Ramesh

Professor & Head
Dept. of Commerce, Goa University,
Goa- 403 206

Vice - Presidents

K. Eresi

Professor & Dean
Dept. of Commerce
Bangalore University,
Bangalore - 560 001

Sugan C. Jain

Associate Professor
Dept. of Accountancy
and Business Statistics,
University of Rajasthan, Jaipur

General Secretary

D. Prabhakar Rao

Deptt of Com. & Mgt.
Andhra University,
Vishakhapatnam - 530 001

Treasurer

Pratap Singh Chauhan

Associate Professor of Commerce
Saurashtra University,
Rajkot - 360 005

President IAA Research Foundation (Ex-Officio)

Sukumar Bhattacharya, FCA

21, Old Court House Street, Calcutta - 700 037

Members (Elected)

K. Ashwathappa

Bangalore University, Bangalore

J.N. Shukla

Lucknow University, Lucknow

Vijay Bhatsana

Shri JH Women's College, Rajkot

H.V. Shankarnayana

Mangalore

M. Sheik Mohd.

Trichnapalli

S. Shanmugasundaram

Periyar University, Salem

K.C. Vijay Kumar

Calicut University, Calicut

H.S. Ojha

Gujrat University, Ahmedabad

V.K. Vasal

University of Delhi, New Delhi

Members (Co-opted)

Sujit Sikidar

Assam University, Guwahati

J.B. Sarkar

University of Calcutta, Calcutta

G.S. Batra

Punjab University, Patiala

B.S. Gupta

University of Rajasthan, Jaipur

K.L. Jain

Raj Chamber of Commerce, Jaipur

Organising Secretary,

23rd All India Conference IAA

Indian Accounting Association

Indian Accounting Association, an organisation of academicians and professionals from business, industry and government, is basically a forum of persons actively interested in the advancement and dissemination of accounting knowledge and who believe that research on a continuing basis is imperative for bridging the gap between theory and practice of accounting. It is thus an academic body which aims at raising the exalted status of accounting, both as a discipline and as a precious tool of managerial decision making. Membership of the Association is open to academics and professionals who are willing to assist in achieving the objectives of the Association.

Members are entitled to participate in the activities of the Association and receive a free copy of Indian Journal of Accounting and selected research publications.

The membership subscription and rates of subscription of Journal are as under:

			India	Abroad
Individual	:	Annual	Rs 200	US \$ 25
		Life	Rs 1200	US \$ 100
Institutional	:	Annual	Rs 500	US \$ 100
		Permanent	Rs 3000	US \$ 250

Indian Journal of Accounting

Indian Journal of Accounting is an official publication of Indian Accounting Association. It is published twice a year, in June and December respectively.

The scope of the Journal encompasses all areas of Accounting including Auditing, Taxation, Management Accounting, Cost Accounting and Information System. It seeks to encourage publication of high quality, research oriented and original articles.

Two copies of the manuscript for publication should be submitted by the author(s) typed in double space. A separate list of references should be used and be not made part of the footnotes. Footnotes should be listed at the end of the paper. There should be a separate title page containing the title of the article, author's name, affiliation and address. The name of the author(s) should not appear on the manuscript to facilitate blind review. The author(s) should certify that the manuscript is not copyrighted and not submitted or accepted for publication by any other journal. Indian Journal of Accounting owns no responsibility for the views expressed by the author(s). For book reviews to be included in the Journal, only reference books and research publications are considered. Two copies of each such publication should be submitted.

All submissions and editorial enquiries should be addressed to the **Chief Editor, at C-1, Durga Nursery Road, Udaipur (Rajasthan) - 313001 India.**