Paper No. 100

OF ENGINEERS AND ACCOUNTS

By RIYAZ H. BOKHARI*

"Grant me, O God, the courage to change what can be changed.
Give me the Serenity to accept what cannot be changed.
And the wisdom to know one from the other."

INTRODUCTION

It is indeed a great privilege and honour for me to be able to make a humble contribution to your deliberations. When I was first asked by the Convener of this Symposium to prepare an article on the problems of Engineering Accounts I was told that the objective should be to help the members of the engineering profession in their understanding of the complicated accounts involved in their day to day work. Many accounting problems that arise during execution of various projects have to be understood by engineers from accountants' and auditors' points of view and proper solutions found. It was, therefore, thought that a clear elucidation of Engineering Accounts would help the engineering profession. This was indeed a tall order and I would not so much as presume that even after more than 20 years' association with an accounts service I could ever hope to teach or clarify in a single article of this type the intricacies of accounting work which are faced by a professional person in the day to day discharge of his responsibilities. Furthermore, I doubt very much whether a paper or an article aimed at clarifying some of the 'whys' and 'hows' of what appear to be the intricacies or problems of accounts, can be of much real benefit to this gathering of eminent and experienced Engineers. I discussed these misgivings with Mr. Irshad Ahmad and we agreed that the scope of my article had better be a discussion of possible ways and means of promoting mutual understanding of the roles played by the Engineers as well as the Accountants in the overall achievement of the common objectives of the two organisations to which they belong. Before a finger can justifiably be pointed towards the weaknesses or shortcomings of another person or organisation, it is necessary to understand the individual's objectives or the organisation's purposes. I intend to cover these areas and to prepare the ground for a discussion of some suggestions on how best to avoid or deal with conflicts and tricky situations which can arise in the course of account keeping.

**Financial Adviser and Chief Accounts Officer (Modernization), Pakistan Western Railway.*

2. Before plunging into the main subject, I may as well say a few words about my background in order to establish my *bona fides* for being here. On coming out of the Engineering College in 1948 I spent some time in getting practical training before I could qualify for receiving my degree. During this period I had opportunities of visiting and working (admittedly more of the former than of the latter) in the offices of Central P.W.D., Military Engineering Service and Buildings & Roads Department of the then and now Punjab P.W.D. In this capacity, I had some opportunities of looking at the contribution made by representatives of the Audit & Accounts department to the work (and problems) of engineers from the point of view of a fledgling engineer. If during this short period, I also observed that the officers of the Engineering department had to devote a considerable proportion of their time to non-technical functions and responsibilities, it can perhaps be ascribed to my lack of experience of Public Administration as well as to the unsettled and abnormal conditions prevailing in the first few years of Independence. Ever since joining the Pakistan Railway Accounts Service in 1950 I have cherished the hope that my association with the Engineering profession did not come to an abrupt end and that some day I might find myself in a situation where I can be of some service to the profession. During this period, which included a period of deputation with West Pakistan WAPDA (Electricity Operations Branch) also, I have had many opportunities of looking at the work and attitudes of personnel belonging to the Engineering profession from the point of view of a government accounts officer. The comments and observations made by me in this article represent my own views and do not necessarily represent the official views of the organisation or service to which I now belong.

THE NATURE OF THE PROBLEM

3. There is a feeling that the procedures and attitudes of audit, account keeping, internal check and financial advice have not kept pace with the rapidly growing demands, requirements and techniques of such an achievement oriented profession as that of the Engineers; the forms for recording initial transactions as well as for summarising and submitting them are out-moded; mechanisation has been long time coming to the Accounts department; unsatisfactory maintenance of Provident Fund accounts and delays in settlement of personal claims of all types point to the possibility of some endemic shortcomings in the procedures of the Accounts department and in the knowledge and incompetence of its personnel; accountants in government offices do not have any institutional training worth the name in their own profession; objections raised at lower levels cannot be set aside at higher levels; there are too many rules and regulations to be followed and the accountants continue to insist on their antiquated

letter and spirit; there is too much paper work which ultimately does not yield much visible and useful results; the information provided by accountants is both late and lacking in accuracy to be of much assistance in management and planning; there is no means of holding an accountant responsible for wastage and loss resulting from his "negative approach". On the other hand, there is a feeling that with a greater emphasis being given to expansion and development, some of the essential controls within the Engineers' organisations have probably broken down; adequate thought is not given to the need for thorough planning of project execution with the result that services and goods have to be procured in a haphazard and costly manner; the estimates for the cost of projects have to be revised over and over again; there is scant regard for the spirit as well as the letter of the rule; wastage and lack of consideration for public funds have grown beyond acceptable limits and that defaulting engineers in Government service can always manage to escape being held accountable before representatives of the public.

4. Some of these are, of course, exaggerations, others are based on a gross misunderstanding. I feel that I would not be very wrong in saying that the attitudes and stands taken and assessments made of each other by the members of the two professions show a spectrum of variations which are linked with the levels at which contacts take place between the two. The top men, who understandably devote much of their time to the administrative and control aspects of their organisations, have a much better understanding of one another's problems and requirements than the officers at lower levels. A probe into this facet of the situation can provide a key to the problems of misunderstanding and accusatory relationships between the two organisations. The fact remains that despite what is said and agreed at high level meetings between top men, a number of problem areas remain for the entanglement of people at lower levels. It would perhaps be worthwhile reviewing the exact role which the accounting profession is required to play, especially in the context of execution of development projects with which the Engineering profession is intimately concerned and which bring the two professions together.

FINANCIAL ADMINISTRATION AND FISCAL CONTROL

5. Financial Administration must be viewed as an integral aspect of Public Administration; it covers such important steps as budgeting and fiscal control including accounts and audit. It is unfortunate, however, that many responsible persons are not fully conscious of the concept of these steps being important management and administrative tools. While the actual experience in many developing countries has been that inadequacies in the field of Financial Administration constitute prominent obstacles to efficient implementation of

development plans, there remains a lingering feeling in many a mind as to whether all the fuss about it is really necessary and worthwhile, if one looks only at achievements.

6. Why should this be so? I am referring both to the delay in recognition of Financial Administration as a tool of Management as well as to the adverse effect that the shortcomings in Financial Administration can have on the execution of development plans. It is difficult to find a quick answer to this question because of the fact that there is really no consensus of opinion as to what must be regarded as the best characteristics of the administrative situation in a country which is bent upon developing its economy. It will perhaps never be possible to find and define the relationship (other than in the most general terms) which must exist between essential administrative changes and the corresponding process and stages of economic and social development. Despite the ever increasing importance of the accountants and financiers in the multifarious fields of business, the impact which proper financial administration can have in Public Administration, had not been fully recognised till some time ago. It may not appear strange to you but it certainly must have come as a shock to financial administrators when they found recently that a certain United Nations Development programme on Public Administration did not include Financial Administration! The omission was pointed out by the experts who were reviewing this programme. They had, therefore, to stress the necessity of giving high priority to the inclusion of suitable programmes pertaining to this field. I mention this only to forestall those enlightened Engineers who realize the importance of Financial Administration and regard it so obvious that they would not like others to spend any time discussing it. It has to be accepted that the importance and necessity of strong Financial Administration is not so obvious to many, especially when the rites performed and formulae used by its pundits appear to be of a negative character, if not entirely purposeless in certain situations.

7. Considered as a facet of Public Administration, it is not difficult to appreciate why Financial Administration, in which accounting plays an important and vital role, should affect the pace of economic development in our country. Many requisites for economic development such as a communications and transport net work, educational facilities and health services are provided by Government. Waste in the provision of these services can certainly stunt the growth of industry and agriculture. The resources which can be utilized for increasing production or balancing the development of various sectors are frittered away and lost. It is a function of Financial Administration to focus attention on possible sources of waste in investment and in day to day expenditure.

8. The social climate of development is affected, *inter alia*, by the regulatory policies followed by Government. Lack of continuity and consistency in its policy can lead to insecurity, fear and absence of confidence in the future. All these can result in unfinished and abandoned projects, roads and buildings. Even favourable policies may fail if they are not well carried out. To be meaningful and successful, Government's regulatory policies must be based on accurate accounting and statistical reports. It has, therefore, to be ensured through competent financial administrators, that these reports are not inadequate for this purpose.

9. Government in our country, as indeed in many of the developing countries, is (sometimes it has to be) engaged as an entrepreneur to produce and distribute/supply many goods and services. The success of these undertakings depends on the effectiveness and efficiency of their administration and management. The results of their financial administration can greatly affect the pace of development through the need to raise or lower the level of general taxation, if for nothing else. Practically every government decision has financial implications, and these in turn have an influence in all sectors of the economy. Both the financial policies and their administration have, therefore, a decisive impact on the country's plans for economic and social development. It would, therefore, not be an exaggeration to hold that Financial Administration can be and is one of the decisive elements in the control and direction of national development, in the allocation of resources, watch over waste, help in regulation, improvement in efficiency and productivity etc.

10. Leaving aside for the time being the broader areas of overall Financial Administration, let us consider the elements of Fiscal Control, with which most of the Engineers in Government service are immediately concerned in their day to day work. There are three separate but closely related operations involved in this control. These are:—

(*i*) Examining and approving proposed expenditure to ensure that they are prudent, that they can be legally incurred, that they correspond to budget allotments and that funds are available for the purpose. This is often called the "control" or the "pre-audit" function;

(*ii*) Conducting and recording the actual treasury business, including the receipt, disbursement, allocation and accounting of funds. These are known as "transactions" and their "accounting";

(*iii*) Examining and verifying the completed transactions and their related accounts. This operation is termed as the "post-audit" or simply the Audit.

It has been the experience, at least in our part of the world, that pre-audit or control functions which are no doubt essential to Fiscal Control and Accounting, inevitably lead to complex procedures, increase in paper work and waste. Once introduced there is no end to the controls and to checking and double checking of transactions and accounts. There is a multiplication of procedures all aimed at 'reconciling' and 'safeguarding'. Signatures pyramid on signatures and copies of forms increase in geometrical progression. New agencies are created to check and verify the expenditures of old agencies. Headquarters scrutinize the accounts of field offices and must approve all purchases prior to acquisition in many cases. As the elaboration of procedural red tape takes place, internal check and post-audit become more and more formalistic. The needs for extra staff increase, costs rise and opportunities for delay, frustration and even corruption abound. A premium is placed on the use of documents, reports and financial statements which make such assertions as will meet the approval of formalistic audit even if they conceal real events. Thwarted in their efforts to get full value for the taxpayers' money or to eliminate misappropriation and fraud, public representatives and legislators try to impose elaborate restrictions on the way in which public funds are spent. Delegation is frowned upon. Rigid and often ineffective accounting and auditing controls are imposed to prevent misuse of funds. All these difficulties and some of the problems mentioned by me earlier can thus be seen to arise out of a misunderstanding about the overall picture and a disproportionate preoccupation with the internal control and audit aspects of the accounting function. The real victim of this attitude is initiative and effective programme administration. Are we to accept this channelizing of effort and resources into unproductive (or even misleading) activities as a necessary evil to accompany Fiscal Control and Financial Administration? Is the real reason not to be found rather in administrative weaknesses? Are we sure that our administrative policies are not creating a conflict between personal expectations of the employees and the overall organizational objectives? Do our efforts to check their performance at every turn not spring from our failure to depend on their loyalty, honesty and competence? I am sure the answers to these questions can lead us to a better appreciation of some of the problems underlying the maintenance of Engineers' accounts.

11. The main purposes, within the Government, of its accounting activities can be grouped together under two main heads *viz.*, Accountability (compliance with legal provisions, adequacy of custodianship, availability to independent audit) and Management (full disclosure of financial results and information for planning, direction and control). Traditionally, the former function has been regarded as the primary if not the sole objective. With the advent

of Development Administration the possibility of the accounts serving as a tool of management has come to the forefront. Even Government Accounts Officers are now talking about it! It often appears that the Accountability and Management functions involve contradictory demands on the system, but it is only superficially so. It should be possible to merge both the functions in a single workable system. An advantage of the exercise in expanding the functional utility of the Government Accounting system is that with the devaluation of emphasis on Accountability, it is possible to isolate for elimination such procedures and practices as have found their way into the system for the sake of "double checks" or "extra precautions" only. I feel that inefficiency in Government accounting arises mainly from an arrangement under which repetitive accounting reconciliations, transfers, adjustments and documentation are mistakenly regarded as substitutes for an adequate system to ensure Accountability.

REASONS FOR DISSATISFACTION AND FRICTION

(i) Combined and centralized Audit and Accounting arrangements

12. Having surveyed the probable areas of inefficiencies in and reasons for misunderstanding about the functions of the Accountants, the next step is to try to find reasons for friction between them and the Engineers. A number of factors have contributed towards creating a corrugated relationship between them. Essentially, it is a problem of relationship between two independent organisations the meeting point of responsibilities of which happens to be at nearly the top levels of government hierarchy. According to normal principles of management an organisation should have its built-in means of control. One of the tools available to any organisation is through the maintenance of its accounts showing the input and outgo of funds so that the management is in a position to assess the efficiency of utilisation of funds in the pursuit of its policies. In the private as well as the public sectors, it is also necessary for accounts to provide a base for conduct of external audit of the organisation's affairs so that its overall performance in financial matters can be examined independently and reported to the owners or the legislature. These requirements *i.e.*, maintaining the accounts within the organisation's sphere of responsibility and conducting a review by independent and external auditors has been vitiated in this part of the world by an arrangement under which the responsibilities of maintaining accounts and their audit have been combined and entrusted to the Comptroller & Auditor-General. On top of this, the work is by and large centralized. The result is that, starting from the lowest level, the officials of the Accounts department have not one or two roles to play but at least three

functions to perform and a number of "masters" to please. For their initial day to day work they are more often than not responsible to their executive department officers but they are under the administrative control of the Accountant-General, or Director, Audit & Accounts, Works, who are not administratively responsible even for accounting work to the head of department whose accounts are being maintained. Even in those departments and autonomous bodies where the accounts are kept departmentally, the accounts function is administered through as independent an internal organisation as can be arranged.

13. You are no doubt familiar with the present accounting system serving your departments. The bills are passed either by treasuries or by representatives of the Accountant General/Director, Works Audit. The initial accounts are compiled and forwarded to the Accountant General/Director, Audit & Accounts, Works, concerned who carries out his 'audit' and consolidates the accounts. In case of inter-government and inter-departmental transactions, debits are raised against the departments concerned. A copy of the consolidated statement of accounts for a month is required to be submitted by the head of department to the administrative ministry concerned. The compilation made every month by the department itself is required to be compared with the monthly accounts compiled by the Accountant-General direct from the vouchers so that all discrepancies can be removed. There are thus two sets of accounts running in parallel. There are many difficulties in this system arising from slack control over the treasuries, delays in carrying out reconciliation and in effecting inter-departmental adjustments. To overcome these difficulties Administrative Reorganisation Committees have recommended departmentalisation of accounts and this matter has been given serious thought. It appears, however, that a straight adoption of this recommendation is fraught with difficulties and dangers. The problem is to find a simple and cheap solution by which, without introducing such changes as may result in disregard of rules, the monthly figures are made available at much earlier dates than at present and suspense and exchange accounts can be reduced to nominal proportions, enabling the departments to get such control over their accounts as is necessary to discharge their responsibilities in the matter of accountability for funds placed at their disposal. The first step in this direction would be a separation of 'audit' from 'accounts'.

14. Under the law an auditor accepts full responsibility for the accuracy of the accounts certified by him and for genuineness and conformity to rules of all the transactions embodied in these accounts. Strictly speaking, this responsibility can be discharged only as a result of a hundred per cent check of all the transactions during the period of audit. In actual practice an auditor

is prepared to take a calculated risk. The first thing he does is to examine the efficiency and effectiveness of the accounting organisation. If the accounting organisation is really strong, independent and efficient, he takes the risk of certifying the accounts on the basis of a percentages check, the extent of which depends upon his confidence in the accounting organisation. If, however, the conditions in the accounts department are not satisfactory, and he has reasons to suspect that the accounting organisation is not in a position to discharge its responsibilities properly or has been coerced by the management into admitting questionable claims and overlooking irregular practices, he must prepare his audit report after exercising a hundred per cent check. This is applicable equally to commercial as well as to Government accounts. On the Railways and in the Defence Department in our country, the Comptroller and Auditor-General has always been satisfied with only a percentage check. The reason is obvious. Both these departments have strong accounts branches manned by staff and officers who, although placed under the day to day administrative control of the departments concerned, belong to an independent and well protected service and theoretically have no reason for either fear or favour in the proper performance of their duties. The traditions and procedures are well established with a built-in mechanism to ensure that the defects and shortcomings come to notice automatically and promptly. It has to be considered whether a similar organisation cannot be established for the civil accounts department. The traditional argument against this arrangement has been its high cost, but it is now increasingly felt that the additional expenditure involved in separation will be fully justified by the benefits accruing to the departments concerned. A reorganisation and modernisation of the accounting arrangements in the country is presently underway. However, it appears that this important work is not proceeding fast enough.

15. Recent years have seen that the engineers have individually and collectively taken up seriously the issues connected with the creation of a climate in which they can derive the satisfaction of doing a good job. The set-up of efficient accounts and auditing functions is of vital importance to the work of engineers. Not only does an inefficient accounting organisation disable an engineer from the preparation and compilation of evidence of the proper discharge of his responsibilities before his superiors as well as the representatives of the tax payers but also it creates positive hinderances and handicaps in the discharge of these responsibilities. The point is that while the accounting organisation under the Comptroller & Auditor-General of Pakistan is already aware of its shortcomings and has been considering ways and means of improving its performance, the engineers have, by and large, remained disinterested spectators so far. It is necessary that they take cognizance of the developments

and provide motivations, strong pressures and direction, where necessary, for quick changes of the right type to be introduced, otherwise there is a real danger of these efforts at modernisation being frittered away and being channelized towards less productive objectives. The advent of the computer should provide an occasion for the Engineers and Accountants to get together and to explore ways and means of introducing a total Management Information System serving both of them from the same data base. This approach can have unlimited scope for improving efficiency at economical cost and the initiative in this direction should come from the Engineers.

(ii) Professional inadequacies and incompetence

16. Another source of friction between the two organisations is a matter of some delicacy but one has to be blunt about it in order to bring it up for open discussion. The standard of professional competence displayed by a large number of accountants and auditors, especially in the lower ranks, leaves much to be desired. Their interpretation and application of rules and regulation has, after much bother, been shown to be incorrect or irrelevant. Their ideas of the jurisdiction of their function and responsibilities have often had to be corrected and the performance of their purely accounting and auditing functions (*e.g.*, provident fund maintenance and settlement of claims) has been constantly under adverse criticism. I think the reason lies in the deficiencies of recruitment, training and promotion policies followed in the accounts offices. It is possible for members of the staff initially recruited for clerical duties to rise to responsible accounting and auditing positions. Although some of the most successful and renowned officers of the accounts and audit department have been the products of this system, it should not surprise anybody if other officials of the department do not, on occasions, rise above the clerical perspective in the discharge of their responsibilities to another organisation. The departmental examinations which they have to clear, before expecting promotions, are heavily biased towards acquiring a knowledge of departmental rules and procedures and not so much towards the theory and practice of professional account keeping, management reporting and auditing. The result is naturally that in actual work they regard themselves "strong" in propriety audit, internal check and criticism rather than in the essentials of book keeping, accounting and assistance. The instructions regarding financial advice which they are sometimes required to render are followed rigidly, and consideration of what is called "Higher Audit" can encompass almost any executive action. It is necessary that in the interest of both the department's own efficiency as well as of the benefits it can have on its relationships with the executive departments, the training and selection of officials of accounts department for higher positions

should be made more broad based.

17. It is no secret that specialists in general and engineers in particular have been clamouring for a greater share in the planning, direction and control phases of Development Administration in the country. While doing so, some of them have no doubt aspired to higher posts and positions of responsibility in Government. I think I am in a position to draw their attention to a horizontal direction also and to point out that there is a function and an organisation in which they can play equally important role by helping to shape it to suit their particular requirements and improving the performance and output of their own profession. In these days of surplus engineers, it can be seriously considered whether, after departmentalisation of accounts, members of this profession should not provide the personnel for the accounting function also. For those who are interested in this field it should not be difficult to arrange a period of intensive training in the basic principles of bookkeeping, accounting and financial administration.

18. Before I leave this subject, I would like to draw attention to the other side of the coin also. There have been innumerable instances in which the efficiency and competency of professional knowledge and skill displayed by Engineers has had to be doubted. In how many cases have the Engineers been able to adhere to their sanctioned estimates and agreed time tables for the completion of projects? Are there not hundreds of instances in which proper care and planning was not done before or after the beginning of a work, with the result that goods and services had to be procured in a haphazard and costly manner? Have we not a feeling that our Engineers having once entered service, do not take pains to remain up-to-date with the developments in the profession? The point is that if inefficiencies and inadequacies within the profession are allowed to go unchecked by the elders of the profession, they should be prepared for the fact that accountants and auditors, among others, will be justified in finding grounds for criticising their performance.

(iii) Delay in changing outlook

19. There are other areas which the top administrators in the Engineering profession must devote their attention to for the purpose of making the best use of accounting so that the performance of their own profession is improved upon. One of these fields is that of Programme and Performance budgeting. I do not propose to undertake an elucidation of this approach here but suffice it to say that the purpose of this type of budgeting is to shift emphasis to achievement of objectives from the means of achieving these. Government has already accepted the introduction of this concept but so far very little, if anything,

has been done in practical terms. It is in the interest of the Engineering profession itself that this modern concept be adopted as early as possible so that its performance can be judged by planners, administrators and tax payers in meaningful terms.

(iv) Human factors in relationships

20. Engineers who happen to be working at lower levels and are thus in more intimate contact with their counterparts in the accounts organisation, must try to understand the accountants' point of view in the existing circumstances. It would be fatuous on my part to suggest that the usual problems with accountants can be avoided by following the prescribed rules and instructions strictly, in view of the fact that some of the rules and regulations are evidently not in tune with the requirements of the present times and also because the same rule has been known to have different interpretations at different times by different persons. What is important is that not only should the expenditure be incurred in a regular, waste-free manner but it should also appear to have been so incurred. It should also be realised by Engineers that the task and responsibilities of accountants who happen to work with and for them, are often of a delicate nature. Many of the accountants, especially at lower levels, do not have enough depth of knowledge and experience and it is, therefore, not surprising that they nurse a subconscious feeling of insecurity. There are many other reasons for this and I do not intend to discuss them in this article. In adopting a particular line of approach for dealing with the points raised by them, the ultimate objectives of the organisation must never be lost sight of. Every person wants to feel important and he dislikes being made to feel small and unimportant. He would prefer to be liked and thought well of. The application of practical rules of getting along well with others *e.g.*, being genuinely interested in other people and their work, avoiding the creation of a feeling of inferiority, cultivating the habits of sympathy and tolerance and eliminating criticism and disapproval to the extent possible, can certainly be helpful in maintaining goodwill for the Engineer. This, I am sure, will be found useful in many ways.

CONCLUSION

21. I feel that I have not been able to do full justice to the subject assigned to me and I have also been afraid of digressing too far away from the main purpose of this article. However, if these few words and ideas can attract your attention and invite questions for elaboration and discussion, I shall feel that I have done at least a part of my job.