

Improving the Management of Scientific and Industrial Research Institutes: The Role of Directors: Evidence from Ghana

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Abstract

The Management of Agricultural research organisations at all levels is in most cases in the hands of veteran agricultural research workers who have risen through the ranks. They are then made responsible for managerial activities in an extremely complex field, for which they have had little or no training. Administrative understanding is usually incidental and rarely present. This study focused on managerial challenges faced by directors of CSIR Institutes and how they can be assisted to achieve managerial improvement. The study covered 22 Directors made up of 11 Directors and 11 Deputy Directors. Eighteen out of the 22 responded to the questionnaire. The study revealed that the major challenge faced by directors in managing in institute is managing the human resource. The results also showed that directors require training in human resource management and financial management. Also the majority of Directors agreed to the urgent need for regular training in management skills for institute directors. The study therefore recommends that the management of the CSIR should organize management training courses to equip directors with human resources and financial management skills.

Keywords: Management, CSIR, Directors Role, Research Institutes, Ghana.

1.0 Introduction

There has been a tremendous development of agricultural research in developing countries over the past few decades, during which time investment in agricultural research from both national and international assistance has increased significantly. But these agricultural organisations and resources did not meet the expectations. In identifying the problem, the Food and Agricultural Organisation of the United Nations indicated that 'Management skills

obviously were not adequate, and hence a constraint' (FAO, 1997). According to Arnon (1968), the management of the Agricultural research organisation at all levels, is, in most cases in the hands of veteran agricultural research workers who have risen from the ranks. However, here we have people who by training and inclination have usually been conditioned to averseness to administration in all its manifestations. They are then made responsible for managerial activities in an extremely complex field, for which they have had little or no training whatsoever and for which their only qualifications are their individual character traits and standing with their research colleagues. Administrative understanding is usually incidental and rarely present. From FAO's review and planning missions and recommendations arising from expert consultations and seminars, concluded that poor management of existing human, financial and physical resources was the greatest bottleneck to agricultural research in developing economies (FAO, 1997). In order to address this problem of inadequate management skills among directors of institutes, the CSIR in conjunction with the Ghana Institute of Management and Public Administration (GIMPA) has been organising courses in management for its top management personnel namely, Corporate Directors and Institute Directors. This, it is hope, will give them the necessary managerial experience before they become the substantive directors. The study is therefore to investigate managerial challenges faced by CSIR Directors of Institutes and how they can be assisted to achieve managerial improvement.

1.1 The role of Institute Directors in the management of Institutes

Section 17 (3) of the Council for Scientific and Industrial Research Act, 1996 Act 521 states that the Council shall appoint a Director or a suitable person to be in charge of each Institute or organ under its control upon terms and conditions as the council may determine: Subsection (4) states among other things that the person in charge of an Institute shall be responsible for the day-to-day management of the Institute. Therefore, the Director is the manager of the Institute. As the manager of an Institute; the Director is involved in performing the general planning, organising, controlling and leading functions which all managers no matter where they find themselves must perform.

2.0 Literature Review

The development of management principles has had a fairly long history. Most of the credits for developing these principles and views have been attributed to pioneers such as Frederick Winslow Taylor, originator of scientific management style, Henri Fayol who conceived the general and industrial administrative system and Max Weber, who believed in one best organisational structure. Classical management consists primary of three streams of thought or theoretical foundations. (DuBrin, Ireland and William, 1989) The first is concerned with productivity and is most closely identified with Frederick W. Taylor's theory of scientific management. The scientific management theory emphasized the use of scientific methods to enhance worker productivity (DuBrin et al, 1989). The concern of the second stream, administrative management, is administration. Contributors to this perspective identified principles of management that they suggested should be applied universally in a wide range of

organisations including military, religious, and governmental agencies as well as business firms. This emphasis is most often identified with Frenchman Henri Fayol, although he was only one of many contributors to the administrative management stream. He felt strongly that, to be successful, managers had only to understand the basic managerial functions – planning, organizing, leading and controlling and to apply certain management principles to them. He also developed fourteen management principles and suggested that managers receive formal training in their application. (DuBrin et al, 1989). The third major stream bureaucratic theory, which proposes that bureaucracy is the optimum form of organisation, is concerned with the structure of formal organisations and is identified primarily with Max Weber, a German scholar and author. Weber believed in one best organisation structure a highly formal and goal-oriented structure in which human emotions, personal bias, and charismatic leadership are subordinated to rational thinking and impersonal decision making. Weber proposed that this form was the most efficient and should be used in complex organizations. (DuBrin et al, 1989). The contributions of classical management writers have the following three elements in common: First, concern for productivity: Classical writers were concerned with efficient production and distribution of goods and services. With a few notable exceptions, the emphasis on production led to minimizing the value of individuals. Secondly, a rational view of human nature: Classical thinkers were strongly influenced by Adam Smith, who is best known for his formulation of capitalistic economic theory and for the assumption that people choose the course of action, from among their choices, that maximizes their own self-interests. This view strongly influenced classical thought regarding how managers should motivate workers. Thirdly, a Search for Universals: Classical thinkers were constantly searching for the one best way: for the most efficient work method, the best principles of management, and the ideal organisation structure. That point of view is best understood by contrasting it with modern attempts to discover the work methods, management practices, and forms of organisation that are most effective in particular situations. Management today reflects the evolution of concepts and viewpoints and experience gained over many decades. These viewpoints are based on different assumptions about the behaviour of people in organisations, the key goals of organisations, the types of problems faced, and the methods that should be used to solve those problems.

2.1 The Concept of Management

According to Mullins (2005), management is a generic term and subject to many interpretations. The variety of approaches to the theoretical background of management has produced a number of definitions of what is meant by the term management depending on what one wishes to emphasize. Rue and Byars (2005) explain management as a process of deciding how best to use a business's resources to produce goods or provide services. Drucker (1999) suggested that management is a function as well as the people who discharge it, a social position and authority and also a discipline and a field of study. It is not easy to find agreement on the definition of management or of a manager. According to Mullins (2005), one approach is to analyse the nature of management and to identify common activities and principles. According to Mullins (2005) if we look at how people at work actually spend their time we should be able to distinguish between those whose main occupation it to carry out discrete

tasks and the actual doing of work and those who spend proportionally more of their time in determining the nature of work to be undertaken by other people, the planning and organising of their work, issuing them with instruction and giving advice, and checking on their performance. By distinguishing managing from doing, the nature of managerial work can be summarized as planning, organising, lead and controlling. A common theme which is therefore deduced from the above is, first, management as a function involves the acquisition and utilization of limited resources to achieve stated objectives. The ultimate aim of performing this function is to achieve a given level of output with the minimum utilization of available resources. Secondly, management as the group that carries out the function refers to the collective administrative heads who are responsible for conducting the affairs of the organisation. It is hierarchically structured and descends through many levels with various degrees of authority and responsibility for guiding the organisation to achieve its objectives. A person who does not perform these functions is not a manager in the true sense of the word, regardless of title (Haimann, 1991).

2.2 Managerial Functions

Managers in all organisations, from small business to large companies engage in some basic activities to achieve their objectives. These activities are planning, organising, leading and controlling.

2.2.1 Planning:

It is futile for a manager to attempt to perform the other management functions without having a plan (Rue and Byars, 2005). Planning is the process of deciding what objectives to pursue during a future time period and what to do to achieve objectives. (Rue and Byars, 2005). Planning provides a means for actively involving personnel from all areas of the organisation in the management of the organisation. Involvement of personnel produces a multitude of benefits (Rue & Byars, 2005): Planning can also have positive effects on managerial performance. Studies have shown that employees who stress planning earn high performance rating from supervisors. They have also demonstrated that planning has a positive impact on the quality of work produced. While some have proven inconclusive; several studies have reported a positive relationship between planning and certain measures of organisational success such as profits and goals (Schraeder, 2002).

2.2.2 Organising

When goals have been established, a manager must create a way to accomplish them. In other words through organising, the manager develops a system in which people can perform tasks that lead to the desired results (Kinard, 1988). Most work today is accomplished through organisation. An organisation is a group of people working together in some type of concerted or coordinated effort to attain objectives (Rue, Byars. 2005). As such, an organisation provides a vehicle for implementing strategies and accomplishing objectives that could not be achieved

by individuals working separately. Organisation's success depends largely on management's ability to utilize resources efficiently and effectively.

2.3 Authority in the Research Organisation

Functional authority refers to the technical competence to make decisions. It is based on expertise and knowledge. Research institutions are a prime example of the role and importance of functional authority. The "specialist's" statements and directives are accepted because he is the 'authority in this field' and carries the weight and power of functional authority. Whereas positional authority is impersonal, functional authority in this sense is highly personal. It adheres to the individual whose knowledge and expertise makes him the "authority". Whereas positional authority can and must be delegated, functional authority has some aspects of positional authority because some organisations demand that certain positions can only be filled by individuals with special skill and expertise. To be an effective manager, it is not enough to depend on the weight of positional authority based on legitimacy, although occasionally this may be the last resort. It is much more desirable if the manager relies on a combination of all three types, positional, personal and functional to manage effectively (Haimann, 1999). This is even more important in the research institution because of the occupational and professional character of the people involved; new field of scientific advances and new technologies make greater expertise a necessity, leading to more and more functional authority. For instance the Chief Research Scientist should not rely on only positional authority as the "Chief" of the department; he should also use personal expertise in this field and leadership ability and charisma. Reliance on all three types of authority will create a highly desirable and motivating organisational climate.

2.3.1 Leadership

Leadership involves influence, it occurs among people, who intentionally desire significant changes, and the changes reflect purposes shared by the leader and his followers. Leadership is related to motivation, the process of communication, the activities of groups and the process of delegation and empowerment (Mullins, 2005).

Effective leadership is at the core of effective management (Kinard, 1988). Leading and developing employees are in many ways the core connection among planning and strategizing, organising, controlling and creating incentives. (Hill, McShane, 2008). Without skilled leaders, strategy may fail. The organisation may become bureaucratic, control may be lost, employees will lack incentives and motivation, and organisation may suffer insufficient human capital (Hill, Mcshane, 2008).

2.4 Patterns of leadership in research organisation

Neither the master apprentice relationship based on scientific superiority nor the boss subordinate relationship based on hierarchy is a suitable model for the agricultural research organisation. On the other hand, the view that high research achievement is possible only when research workers are left entirely to their own devices is also untenable. Too much

independence may deprive the young researcher of the stimulation that a competent chief can provide, whilst too close dependence may stifle individual initiative. Freedom for the researcher to carry out his work as he sees fit is generally regarded as a primary requirement that should not be curtailed. (Petz, 1956) distinguishes among three patterns of leader subordinate relationships; a 'directive,' autocratic type, a 'participatory', democratic type; and a laissez-faire pattern. In the 'directive' or 'authoritarian' leadership style, the leader dictates policy, techniques and work association, gives detailed instructions and maintains close supervision. All the members of his group are assistants who are doing work for the boss. It is usually leaders with a feeling of insecurity who tend to be authoritarian and to restrict the autonomy of their subordinates as far as possible. This approach is possible only with submissive, ineffectual individuals lacking in initiative and drive. More able research workers react to this type of leadership with hostility and frustration and will usually leave the organisation. Autocratic leadership therefore has no justification in a research organisation that aspires to maintain a high scientific level (Arnon, 1968). In the participating, democratic type, initiative is encouraged, whilst help and advice are given freely. Glaser, (1965) sees in the participatory type, an integrated work relationship between research supervisor and his group, the typical 'colleague authority' based on joint consultation and decision, especially regarding work assignments and problems. This relationship does not threaten the subordinate. Out of the three patterns of leadership in research organisations, 'directive' or autocratic leadership has always been found to be the least effective. (Arnon .1968). A 'soft' leader also has a bad effect on the morale of his group and of its productivity. Most leaders cannot be unequivocally classified within one of the three patterns described, but are usually a composite, in different degrees, of all three patterns, with one or another dominating. It is even desirable for the individual leader to use the different leadership patterns according to circumstances and to adjust them to the individual researchers who work with and under him. (Arnon,1968). Whilst the participatory type of leadership is, as we have seen, the most appropriate for a research organisation, there remain certain functions which are the leader's own responsibility.

2.4.1 Controlling

Once the planning, organising and leading activities are underway, then they must be monitored and measured, that is, controlled. Although the relationship between planning and controlling is particularly close, controlling is interwoven with all managerial functions. The better the manager plans, organises, staffs, and influences, the better the supervisor can perform the controlling function, and vice versa. Without controlling supervisors are not doing a complete job of managing (Haimann, 1991). Organisation failure can occur when managers are not serious about control or lack control information (Daft, Marcic, 1998). The failure to support goals and strategies and plans with adequate controls often accounts for ineffective managerial performance. (Albanese, 1981).

2.4.2 Transition from research work to research administration

The journey into management typically begins when people are successful at a specialist task for which they were initially hired. After promotion they may find themselves in charge of other people. At this point their management skills are just as important as their technical skills to fulfilling their responsibilities (Hill, McShane, 2008). People who cannot get things done through other people will not advance further (Hill, McShane, 2008). In the research organisation 'leadership' consists of a combination of scientific and administrative work that may be, and usually is, a source of conflicts that increase as the administrative responsibility increases in relation to the scientific work (Arnon, 1968). At the lower levels – as head of a research project, a laboratory or even a research division – the administrative responsibility is not a serious burden on the researcher. It is mainly a tool by which he can further his scientific work. The furtherance of his career is almost entirely dependent on his scientific contributions; any irritations and apparent time-loss involved in his administrative activities are more than offset by the authority and prestige that are concomitant with his administrative standing. With the next step upward in the administrative ladder, as head of a department, of a large interdisciplinary team or of a regional experiment station, the role conflict may assume serious proportions. The time and energy the researcher must devote to administrative functions increase, much of his effort is devoted to furthering the scientific work of his colleagues, whilst his own becomes more and more curtailed. He becomes more concerned with coordinating and furthering the scientific activities of other specialists, with which he may be familiar but of which he is not the scientific leader—a dichotomy results between his role as scientist and his role as administrator. It is the third level which really constitutes the point of no return, when an able scientist is called upon to head a large research institute or the agricultural research organisation as a whole. He usually has little understanding of the new role awaiting him, and even has negative feeling about it. Milberg (1957) calls attention to a certain inability on the part of scientists to define the research management task. He states that the 'vagueness of terminology and conceptualization with which scientists describe the job of scientists that move to a managerial function, is highly uncharacteristic of the attitude of scientists to other matters'. On accepting a managerial appointment, the scientist is not immediately aware of a loss of professional activity, and may even delude himself into believing that he will be able to continue, albeit on a limited scale, his professional work. He soon realizes that adequate attention to research, to writing and to keeping up with professional literature can be maintained only at the expense of his administrative responsibility (Arnon, 1968). By the time he realises that he has actually made a choice between scientific endeavour and administration; he will find that the bridges behind him have already been burnt. It depends on how he faces this conflict on whether a good scientist has been sacrificed to obtain a bad, mediocre or an unhappy administrator (Gross, 1964) or whether he is able to overcome the emotional shock and to find his new occupation a challenge and a source of satisfaction. In a study by Harvard Business School Professor, Linda Hill, of functional specialist who have been appointed into management positions, Hill (1992) concluded that the managers must see themselves not as technical experts or functional specialists, but as leaders and network builders, not as bosses

who get things done through command and control, but as people who get things done through their ability to influence and persuade others.

2.4.2 Training for administrative responsibilities

Cole (1997) defines training as any learning activity which is directed towards the acquisition of specific knowledge and skills for the purposes of an occupation or task.

Training is the planned and systematic modification of behavior through learning events programmes and instructions which enable individuals to achieve the levels of knowledge, skills and competence needed to carry out their work effectively. (Armstrong, 2003). Most scientists undertaking the duties of director of a research organisation do not even realise how abysmally ignorant they are of the basic principles of management, and that learning administration science can help them to solve the innumerable administrative problems with which they will be faced in their 'new career', such as supervision of people, decisions on scientific programmes, and the budgeting of time, money and effort (Lorge, 1957). There are directors who deny the need for their fulfilling a managerial role and who insist that their main responsibility is to guide and direct the scientific work of the institution and to provide inspiration for its researchers (Lorge, 1957). Such a role is possible at the lower levels of research administration; at the level of director, this attitude is possible only if someone else assumes responsibility for the administrative role. If this 'someone else' is a scientist, we are simply begging the question; if he is a non-scientist, nothing remains of the axiom that the man who effectively directs the organisation should himself be a scientist. People trained exclusively in general management, without a research background, do not understand the potentialities of research, the idiosyncrasies of the researcher or how research has to be carried out. In order to facilitate the transition from his vocation as a researcher to the administrative duties he assumes, educational programmes have been designed which help scientists acquire the knowledge needed to carry out their new administrative responsibilities effectively (Arnon, 1968). From the discussions above it is clear the Director of an Institute who is a scientist is involved in all the activities discussed so far in the management of an organisation. To succeed, the Director will require other skills other than competence in technical skills. Scientists who have always considered competence as an essential for a successful career should realise that they must also acquire competence in management if they are to be successful in their new and vital role.

3.0 Methodology

3.1 Research Design

According to Burns and Bush (1998) a research design is a set of advance decisions that make up the master plan specifying the methods and procedures for collecting and analyzing the needed information. For the purpose of this study, the quantitative approach was used. The focus and the kind of data the study intends to obtain, will allow for the use questionnaire as

the method of collecting data. The study attempted to describe, analyse, and interpret the issues related to the role of CSIR directors in the management of institutes.

3.2 Data Collection Methods

The instrument for data collection was the questionnaire. Polgar and Thomas (1998) define a questionnaire as a document designed with the purpose of seeking specific information from the respondents. Questionnaires are commonly used with the survey design. (Polgar, Thomas 1998). The questionnaire was used because of the kind of data the study intended to obtain. Questionnaires are effective way of reaching people who would not otherwise take part in a research because they are hard to reach in person (McGivern, 2006). The questionnaire was specifically designed for the directors of Institute. It was meant to seek information on management problems faced by directors of CSIR Institutes and how to achieve managerial improvement to enable them perform their role effectively as managers of CSIR Institutes. The questionnaire was divided into seven sections. Section A contained biodata that included age, sex, educational level and the number of years on the job, Section B captured the nature of managerial functions and roles performed. Section C looked at managerial importance. Section D measured managerial effectiveness; Section E was on training before appointment as director whilst Section F looked at training before appointment as director. The last section G was devoted to assessing trainings needs of directors. In all twenty nine (29) questions were used for the survey. The data collection instrument for the study was made up of questionnaire and discussion with the Head of Human Resources Development, CSIR Head Office. These were designed to enable the researcher to generate relevant data necessary for the study.

The Directors were informed of the date of the visit of the researcher. The researcher personally visited all the Institutes in Accra and Kumasi and distributed the questionnaire directly to the Director. With regard to one Institute which is located at Nyankpala in the Northern Region, the questionnaire was sent through the internal CSIR mail system. The researcher had to make a number of trips to the field to collect the questionnaire. This is not surprising as the Directors were very busy people. Out of the twenty -two questionnaires distributed, eighteen were completed and returned to the researcher, given a response rate of 81.8%. The remainder could not be retrieved despite several attempts by the researcher.

4.0 Empirical Results and Discussion

A total number of eighteen directors responded to the questionnaire. Out of this number, sixteen (88.9%) were males and two (11.1%) were females. This is an indication of the high number of male directors within the CSIR Institutes and therefore male scientists. The study also revealed that the respondents had attained high levels of education. Fifteen (83.3%) had Doctor of Philosophy Degree and three (19%) were Masters Degree holders who have served at least one year as Head of Division or Deputy Director, before becoming a director or Deputy Director. A majority of directors (83.3) were within the age range of 48 – 60.years

Table 1: Managerial Functions Performed

Function	Frequencies	Percentage
Planning	17	27.0
Organising	16	25.4
Leading	16	25.4
Controlling	14	22.2
Total	63*	100.0

* Multiple responses exist

Source: *Field work, 2009.*

Managerial roles performed

Concerning managerial roles and responsibilities, sixteen (88.9%) described their roles and responsibilities as managing people and task together, whilst two (11.1%) indicated their role and responsibilities as managing people. This clearly indicates that majority of directors were aware of their managerial roles and responsibilities and this finding is similar to Mullins (2005) report that, the manager's work is determining the nature of work to be undertaken by other people, the planning and organising of their work, issuing them with instructions and given advice and checking on performance. On difficulties managing research scientists, comments such as 'some of them have poor attitude to work which does not promote teamwork and those of similar grade who are not in management position are not cooperative were made by Directors. Comments such as 'Poor attitude and commitment to work', 'absenteeism, and some of them need to be supervised before they carry out their duties' were some of the responses obtained when the researcher wanted to find out if the Directors were facing any difficulties managing supporting staff. The details of the responses are presented in Tables 2 and 3 below:

Table 2: Difficulties in managing Scientists

Responses	Frequencies	Percent
Poor attitude to work and commitment of staff	11	61.1
Difficulty in time management	3	16.7
Difficulty in interpersonal relations	4	22.2
Total	18	100.0

Source: *Field work, 2009*

Table 3: Difficulties in managing supporting staff

Responses	Frequencies	Percent
Poor attitude to work and commitment of staff	7	53.8
Difficulty in interpersonal relations	6	46.2
Total	13*	100.0

* Thirteen Directors responses

Source: *Field work 2009*

The responses from Tables 2 and 3 clearly indicate that there were real difficulties faced by directors in managing the human resource of their Institutes. This confirms the claim by Douglas, (2003) that some people who are truly gifted from a scientific and technical point of view find their career progress checked by their fundamental difficulties with managing people. The human resource is the most important asset of any organisation and its proper management is the key to the success of any organisation (Haimann, 1991). With regard to managing financial resources five respondents did not answer this question. About 23.1% had no difficulty due to lack of financial management knowledge. The remainder of 76.9% had no difficulties. From the data gathered, it seems generally that directors were satisfied with their level of financial management in the Institutes. On the management of physical resources, seven respondents failed to answer this question. Generally the remainder of eleven was satisfied with their level of management of physical resources. The difficulty was mainly lack of funds. The details are presented in tables 4 and 5.

Table 4: Difficulties in managing financial resources

Responses	Frequencies	Percent
Inadequate research funds	10	76.9
Lack of financial knowledge	3	23.1
Total	13*	100.0

* Thirteen responded to the question

Source: *Field work 2009*

Table 5: Difficulties in managing physical resources

Responses	Frequencies	Percent
Lack of maintenance	5	45.5
Limited financial resources	2	18.2
Limited land for expansion	4	36.4
Total	11*	100.0

* Eleven responded to the question

Source: *Field work 2009*

Perceived importance of managerial roles performed

The data for the study showed that 88.9% of respondents perceived the managing people aspect of their job as very important and 11.1% perceived it as important. Therefore it can be said that all the respondents perceived their managing people aspect of their job as at least important. Whatever the nature of the work organisation, a manager achieves results through the performance of other people (Mullins, 2005). Also according to (Arnon, 1968), the first and basic innate quality required of the research administrator is leadership and the ability to deal with people. The reactions of respondents on managing task are no different. All of them (18) indicated that at least it was important. About 38.9% said it was important and 61.1% said it was very important. This confirms Hill's study that managers had two sets of responsibilities, managing people and task.

Perceived importance of managerial functions

Table 6 indicates how respondents perceived the importance of various managerial functions that they perform. About 90% ranked planning very important, 38.9% rank organising very important and 72.2% ranked leading very important. The results from Table 6 revealed that planning and leading were perceived as being the two very important functions performed. Organising and controlling were perceived as being important. The data also revealed that apart from organising which all respondents perceived at least to be important, some respondents 5.6% perceived planning not to be important. About 11.1% perceived leading not to be important and another 11.1% perceived controlling not to be important. The four interrelated management functions of planning organising, leading and controlling together results in the integration of resources into viable growing organisations (Mullins 2005). From the data, directors seem to suggest that effective planning followed by effective leadership would lead to the accomplishment of goals. This seems to support Kinard's (1988) assertion that effective leadership is at the core of effective management. But this seems not to be in line with the traditional management philosophy which states that the four interrelated functions of planning, organising, leading, and controlling together result in the integration of resources into viable growing organisation. (Mullins, 2005) .Planning, organising and leading are the preparatory steps for getting the work done. Controlling is concerned with making sure that the work is properly executed. Without controlling managers are not doing a complete job of managing (Haimann, 1991). Control remains necessary whenever supervisors assign duties to subordinate, since the supervisor cannot shift the responsibilities they have accepted from their superiors.

Table 6: Perceived importance of performing managerial functions

Response	Planning		Organizing		Leading		Controlling	
	Freq.	%	Freq.	%	Freq.	%	Freq.	%
Not Important	1	5.6	0	0	2	11.1	2	11.1
Important	1	5.6	11	61.1	3	16.7	14	77.8
Very Important	16	88.9	7	38.9	13	72.2	2	11.1
Total	18	100.0	18	100.0	18	100.0	18	100.0

Source: *Field work, 2009*

Perceived effectiveness in performing managerial functions

Effective managers are essential to the performance of all organisations whether they have the ability to plan, organise, lead and control business operations effectively can determine a firm's ultimate success or failure. (Kinard, 1999). Respondents were asked to indicate how they perceived their own effectiveness in carrying out their managerial functions. The results are indicated in Table (7). Functions that were perceived to be performed less effectively than others can be natural choice for management training programmes. About 66% of respondents perceived the performance of the planning function as very effective while 38.9% described the performance of the organising function as very effective. Forty four percent perceived their performance of the leading function as very effective and another 11.1% describe performance of their control functions as very effective. Table 6 indicates that directors consider organising and control as important and not very important combined with their not being very effective in performing these functions suggest that they need to spend some time on increasing their effectiveness in performing the organising and controlling functions. The failure to support goals, strategies, and plans with adequate controls often accounts for ineffective managerial performance (Albanese, 1981). Organisation failure can occur when managers are not serious about control or lack control information (Daft and Marcic 1998).

Training prior to appointment as director of institute

Training is very important for anyone assuming a new position for which he has little or no knowledge Training is the planned and systematic modification of behaviours through learning events, programmes and instructions which enable individuals to achieve the levels of knowledge, skills and competencies needed to carryout their work effectively. (Armstrong, 2003). The majority (61.1%) of Directors had some training before their appointment, whilst 38.9% did not have any training before their appointment. This suggests that there is no training plan in management for scientist before they become Directors. In a discussion with

the Head of Human Resource Development, CSIR Head Office, on management training for institute directors, he indicated that there was a plan but because of lack of funds training was offered when funds were available. According to Lorge, (1957) most scientists undertaking the duties of director of a research organisation do not even realise how abysmally ignorant they are of the basic principles of management and that learning administrative science can help them to solve the innumerable administrative problems in which they would be faced in their new career such as supervision of people, decisions on scientific programmes and the budgeting of time, money and effort. Result from the study contradicts Lorge's (1957) report, since (61.1%) of directors have had training in management before they assumed their position. On reasons for training majority (52.4%) indicated that they were given training to acquire managerial knowledge and skills. Another 38.1% received training to prepare them to assume greater responsibility and 9.5% were given training to correct operational problems. The findings confirm Arnon's (1968) report that in order to facilitate his transition from his vocation as a researcher to the administrative duties he assumes, educational programmes have been designed to help scientists acquire the knowledge to carry out their administrative duties effectively. On the usefulness of the training to their current jobs, majority (54.5%) indicated it was useful to a large extent. Again 90% of those who had training before appointment as director indicated that the performance of their role as director improved after the training. This supports Arnons (1968) findings that in order to facilitate the transition from his vocation as a researcher to the administrative duties he assumes, educational programmes have been designed to help scientist acquire the knowledge needed to carry out their administrative duties effectively. The Head of a research organisation must be both a scientist and an administrator. The larger the organization, the greater will be the demands on managerial skills and organisational ability (Arnon, 1968).

Training after appointment as director of institute.

When an able scientist is called upon to head a large research Institute, or the agricultural research organisation, he usually has little understanding of the new role awaiting him and even has negative feelings about it (Lorge, 1957). It is therefore imperative for him to be given the relevant managerial training. Concerning training after appointment, 50% of respondents had training in management after appointment as director and another 50% have had no training after appointment. This contradicts Arnon's (1968) recommendation that in order to facilitate the transition from his vocation as a researcher to the administrative duties he assumes, educational programmes should be provided to help scientist acquire the knowledge to carry out their new administrative responsibilities effectively. Out of those who were given training, 55.6% confirmed that they had encountered difficulties in performing their jobs before the training while 33.5% had no difficulty and 11.1% did not respond. The majority (88.9%) of directors who had training after appointment, indicated that the training improved the performance of their job. This confirm Arnon's, (1968) report of the benefits of given managerial training to scientist to enable them carry out their new administrative responsibilities effectively. On whether the training was adequate for the effective performance of managing institutes, majority (55.6%) said it was adequate and 44.4% said it

was not adequate. Though the majority said it was adequate, considering the number of directors who said it was not adequate it would be necessary to look at the content and duration of the training programme. Concerning suggestions that respondents would want to make to the CSIR to improve managerial skills, and ability of Institutes Directors, respondents were unanimous in their response that there should be regular training programmes in management to refresh and update skills. Results from the study also showed that directors were concerned about the duration and contents of the course. They requested for training in personnel or human resource management and financial management and also requested the courses to be regular.

Table 8: Suggestions to CSIR to improve managerial skills and abilities of directors.

	Frequencies	Percent
Regular management training course to refresh and update skills.	14	100
Total	11	100.0

Source: *Field work 2009*

Four (4) did not respond to the question.

Training needs of directors

Gross (1964) draws attention to the fact that an excellent scientist may become a wretched administrator, an unhappy man and a lost expert if he does not have the natural attributes needed for his new position, and if he does not acquire the necessary basic knowledge of administrative procedure. According to Kinard (1988), management success depends both on a fundamental understanding of the principles of management and on the application of technical, human, and conceptual skills. Haimann, (1991) has indicated that the standard managerial skills can be learned. The study therefore requested respondents to rank their managerial training that they require to enable them to perform effectively, in order of importance. Leadership skills, managing and motivating staff and finance were ranked as the most preferred skills, followed by effective communication and interpersonal skills. The results from Table 7 below revealed that directors are more interested in training programmes that will address their people related skill needs than those of task related nature. This confirms Douglas' (2003) findings that personnel with adequate scientific and technical skills would have to acquire people management capability and skills, and knowledge of how to work with maximum effectiveness as part of a team if they want to be effective managers. This supports Haimann's, (1991) report that any supervisory position requires both professional technical skills and standard managerial skills. Mere technical and professional skills may not be sufficient. This is also in line with the literature review which indicates that as managers reach the top level of management such as the director of an Institute, they require more of people or human skills than technical skills (Rue, Byars, 2005). Concerning whether or not the present

management training was adequate to enable directors manage institutes effectively, the majority of the directors 66.7% could not say whether it was adequate or not.

Table 7: Managerial training needs

responses	Frequency	Rank
Leadership skills	16	1
Managing and motivating staff	16	1
Financial management	16	1
Effective communication	11	2
Interpersonal skills	8	3
Training and development of employees	7	4
Time management	6	5
Information and communication Technology (ICT)	6	5
Conflict resolution	5	6
Improving one's overall work	3	7
Appraisal of subordinates	2	8
Supervising skill	2	8
Total	68*	100.0

* Multiple responses exist

Source: *Field work, 2009*

About 11.1% disagreed that it was adequate, while and 32.2% agreed. This suggests the need to evaluate the training programme to know its impact since majority of the directors could not asses its impact. On the urgent need for management training, the majority of directors (66.7%) strongly agreed to the need for management training while 33.3% agreed to the need for training. This agrees with Armon's (1968) statement that scientist who have always considered competence as essential for a scientific careers should realise that they must also acquire competence in administration if they were to be successful in their new and vital role as managers of the research organisation. As Kinard (1988) indicates good management practices can be learned and applied.

5.0 Conclusion

The study was aimed at investigating the managerial challenges faced by CSIR directors and how they could be assisted to achieve managerial improvement. A questionnaire containing 27

items made up of questions on managerial functions, managerial importance, managerial training before a after appointment, managerial training required among others aimed at obtaining information on managerial challenges faced by directors and how they could be assisted to achieve managerial improvement was used. The questionnaire method was used to collect data from the field and the Statistical Product and Service Solution (SPSS) used for the analyses of the data. In all, 22 directors were used for the study comprising 11 Directors and 11 Deputy Directors. Out of the 22 questionnaire distributed, 18 responded to the questionnaire. The Statistical Product Service Solution (SPSS) were used to analyze the findings. The study found out that the main challenge faced by directors in managing CSIR Institutes is managing the people in the Institute. Generally the research discovered from the findings that the majority of CSIR directors are in agreement to the urgent need for managerial training in human resource and financial management to enable them achieve managerial improvement.

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