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SOME ORGANIZATIONAL AND ADMINISTRATIVE ASPECTS OF PROVIDING INDUSTRIAL SERVICES IN DEVELOPING COUNTRIES 1/

by

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I. INTRODUCTION

1. In a developing country nearly all services to industry must be sponsored by the government. Some, such as industrial planning or legislation, cannot exist without government action. For others, the cost of facilities, such as laboratories, are beyond private resources. Primarily, however, government sponsorship is required because in the early stages of industrialization capital, equipment, and expertise are scarce and government must channel those limited resources toward planned development.

2. Industrial services are usually provided by institutions rather than individuals, since limited resources can be used most effectively when they are pooled. Many industrial problems involve a variety of technical or professional subjects; an institution can have a higher problem-solving competence than an individual, through bringing to bear a number of different specialists and exchanging ideas among them.

3. Group organization creates problems of administration. Work has to be divided, procedures to move it are needed, information must flow, support facilities are required. The physical and psychological unity which an individual contains within himself must be created for the institution through administrative machinery.

4. Industry can benefit from service institutions only if they are well organised and administered. Administrative needs vary from one service to another and one country to another; there can be no standard blueprint for perfect administration. Nonetheless the experience of industrial service institutions throughout the world reveals many common problems and shows ways which developing countries find most successful for meeting them. Officials concerned with improving administrative machinery can compare those problems against their own, and from the solutions tried elsewhere select those which might best fit local conditions.

5. The Seminar will not be able to discuss all administrative problems known to its participants. This paper summarises aspects which most

frequently produce difficulties, especially in developing countries. It may help the participants to recognize that many of their administrative problems are not unique, and encourage them to compare experience and bring forward constructive suggestions.

2. OBJECTIVES AND PROGRAMMES

Policy Formulation

6. Industrial service institutions are expected to carry out their activities in accordance with overall national policies and development plans. These define the mission of each service and its relationships to industry, government, and other industrial services. The plan requirements determine the work programmes of the various services, and in return their expertise can be helpful in formulating the plan and in its periodic revision.

7. Each service attempts to forecast future service demands, propose ways to meet them, and programme how this is to be done during a given time period. These estimates become more specific in planning and operating each project. Finally, the service normally looks ahead to plan the work of each staff member for the immediate future.

Industry Participation

8. There are practical reasons why industry should participate in setting policies and plans for industrial services. The basic purpose of these institutions is to help industry. This cannot be done unless industry feels a need for service and believes it will be practical. Industry opinion is reflected by the extent to which a service is used, but unless there is machinery for expressing that opinion, there is no way of knowing whether different policies or actions might have produced more satisfaction and greater use.

9. Industry reactions are received in the course of the institution's work, as staff talk with personnel of industrial enterprises or meet industry groups. However, it is often desirable to give industry a direct

voice in establishing institution policy. If the service is private or is an autonomous public agency, it ordinarily has a governing board, on which industry interests can be represented. A service which is part of a larger organization such as a Ministry of Industry usually is governed by that organization rather than by a board of its own. In such cases an advisory board with industry representation can be established to propose or review policy.

10. Staff of an industrial service institution can contribute greatly to the formulation of policies and plans. In some services staff are represented on policy boards. In others there is machinery for consultation with staff unions or associations. Most directors hold periodic staff conferences, or sessions with senior staff, or allocate time to talk with their personnel. Even where no machinery exists for direct staff participation in setting policy, some arrangement is required for explaining policy to personnel and consulting them to ensure that plans are realistic and will be carried out effectively.

Co-ordination

11. Industrial development programmes are rarely established as a whole or at a single time. Service institutions are often found in several ministries or autonomous agencies; some services are strong and fully developed; others are weak; gaps or duplications may appear; policies may lack a common approach or even may conflict. Machinery is required to ensure that the national programme of industrial development is unified, complete, and balanced.

12. A co-ordinated approach to servicing industry helps to ensure that industries are established and operated as planned. In setting up enterprises a number of services must be provided, such as feasibility studies, financing, engineering, construction, equipping, power and transport, assembling and training of manpower. For production, plants require help in securing materials, managing labour relations, overcoming production troubles, and marketing products. All these must be fitted together in carefully co-ordinated timing. Feasibility must be proved before financing

will become available, trained production manpower must be available when machines are installed, and so on. Delays can be costly if industrial services fail to provide essential help at exactly the right point.

13. Policies of services, as well as timing, must lead harmoniously toward common goals. Otherwise for example financing may be made available for small industry but import licensing may channel machines to large plants; entrepreneurs may be encouraged to locate in depressed areas but transport services may be concentrated elsewhere, technical aid may be provided to meet production problems of a national industry while marketing services encourage imported products.

14. The desirability of co-ordination has stimulated efforts to group as many industrial services as possible within a single principal agency for industrial development Additionally, participation on the policy board of an industrial service institution by representatives of other interested agencies, as an "interlocking directorate", can provide advice and encouragement from those other services, as well as exchange of information. Within a service, co-ordinative committees of staff members encourage those concerned with particular problems to share information and exchange views.

Work Programming

15. Some industrial services are compulsory; it is possible to estimate future demand for them with some accuracy, and to plan on that basis Most industrial services, however, are voluntary. Their volume of use depends on their attractiveness and value, the degree to which industry has heard of them and finds them easy to secure, and ultimately on need for them. This may change suddenly, because of new laws, economic fluctuations, natural disasters, or other phenomena. Hence it is sometimes difficult to anticipate accurately the amount of service which will be requested during a planning period.

16. Much industrial servicing is by consultation on individual problems as requested by industry. The volume of requests is hard to predict, and the type of work involved, the expertise needed, and the time required to meet each request depend on the particular problem conditions in the requesting enterprises, which cannot be known in advance.

17. If service institutions plan future activities in detail, they may lose flexibility to handle those unpredictable consultation requests from industry. If they wait for requests, there are other difficulties. The requests may be unimportant and their solution may contribute little to industrial development. They may come from only a few enterprises, or may be concentrated at peak times, while during other periods staff will be underemployed.

18. Many industrial research institutes meet this dilemma by keeping some resources available to meet requests, while using others for "in-house" or institute-planned research. Other types of services may similarly be able to establish a list of desirable projects to which staff can be assigned when not needed for consultation. This work should be a useful part of the institution's programme, but kept subordinate to answering industry requests for services.

19. Generally, however, an institution can establish an annual work programme which will cover most of the types and volume of work expected in each of its activities. A one-year programme period is common, because this is the usual period of governmental budgeting of resources. However, any alert director of a service should be projecting the current annual work programme into the next five years or so, to have an idea how the current work is to develop. This will have importance for his proposals for staffing and financing.

20. Annual work programmes cannot anticipate the detailed flow of work several months ahead; therefore they need revision during the year. These revisions should be more than automatic corrections; they should be occasions for enquiry why targets have not been met. If the estimating was faulty, it must be made more accurate. If there is under-achievement at some points and over-accomplishment elsewhere, this may show unbalanced plans or working, or a need for changes in priorities. If short-falls are widespread, the reasons should be found and corrective steps taken.

21. A new service in a developing country may have difficulty in keeping closely to an annual work programme, because sufficient experience is not

available or because the progress of industrial development is too unpredictable. Many institutions supplement their annual programmes with detailed plans of work for shorter periods. These may be subdivided to show the work expected from individual staff members. This helps to fix attention on allocation of duties as well as on target dates and the timing of particular tasks.

3. ORGANIZATION AND PROCEDURES

Location Within the Government Structure

22. The fundamental administrative decision concerning any industrial service institution is that of deciding where it is to be placed within the governmental organisation or the private sector. The choice will determine the control of the institution and its policies, and its relationships to other services, and will affect its capability to secure needed resources, its relationships with industrial enterprises, and hence its possibilities for effective activity.

23. If the government assumes responsibility for an industrial service, there are three alternatives for location:

(a) The service can be part of a ministry;
(b) It can be an autonomous unit, or part of such a unit;
(c) It can be sponsored by the private sector, but with substantial government financial support.

24. Industrial services develop gradually and individually. Many begin as industry-oriented subdivisions of more general activities, such as planning or banking. When they reach a size or importance which warrants separate status, relationships already created may keep them associated with their original parent organisations. Thus location in the governmental structure depends more on historical chance than on logical decision, and generally the problem is how existing services can be relocated to group them into a more effective unity.

Principal Agency for Industrial Development

25. The desirability of such grouping has led to the concept of a "principal agency" for industrial development and servicing, under a single head who can plan, guide, and accept responsibility for a number of services. Co-ordination is thus facilitated and industry has a single point to which it can look for help.

26. There is growing agreement on the value of a principal agency for industrial development, but there is still argument whether that agency should be within the general governmental structure — notably as a Ministry of Industry — or autonomous from that structure — as an Industrial Development Corporation or Board. This divergence can be seen in the varied organizational arrangements of numerous developing countries.

27. A strong claim is advanced that the only way in which dynamic national development activities can successfully be carried out is to free those activities from the outmoded traditions of the ministries. This attitude is especially attractive for industrial services, where modern industrial practices in financial procedures, personnel, and decision-making are immediately available for comparison. Often there is a feeling that an autonomous industrial service agency would have greater "importance", greater access to resources, and easier contacts with industry than it would have within a regular ministry.

28. There are counter-arguments for keeping any principal agency within the general governmental ministry structure. As more and more public services become autonomous there may be a fragmentation of government and a loss of political responsibility and cohesiveness. Many countries have attempted to meet this difficulty by assigning to the Ministry of Industry supervisory responsibility for autonomous industrial services. These efforts have not always been successful. In some cases the minister's powers have been too limited, or he lacks time or machinery to supervise the autonomous bodies for which he is supposedly responsible. In other cases, the minister has assumed full control, and the so-called "autonomous" agency has become little more than part of the Ministry of Industry.

29. Much depends on the degree of "development-mindedness" within the government as a whole and within the Ministry of Industry in particular. Some countries are so committed to industrial development that they are receptive to the administrative reforms necessary to enable industrial services to carry out effective work as part of an active and progressive Ministry of Industry. Other countries have less commitment to industrial development, or have Ministries of Industry whose leadership and methods are restrictive with no prospect of modernisation. In such cases, autonomy may appear the only path to effective industrial servicing.

Internal Organisation

30. In administrative organization as in architecture, "form follows function". One must first determine the functions or activities which an institution is to perform, and then develop a structure which will best enable those activities to be carried out. Thus there is no standard or "best" structure for all industrial services. Each service, in each country, needs to develop its own organization. This will be determined by its activities, their size, the pattern of other public agencies, and even the quality of staff.

31. For instance, a large comprehensive industrial research institute often provides studies in science and technology, engineering assistance, and even economic analysis. Each type of work is relatively independent of the others. Within each activity there are usually teams working on particular projects. In some cases multi-disciplinary teams are formed from the several major activities. Many of the personnel have high technical skill and work with considerable independence.

32. In contrast, an industrial bank for small industries has much different work, requiring a different range of staff with different organisation and supervision. Its studies of feasibility are numerous but narrow in scope; it needs detailed procedures for handling funds, and a sizeable clerical staff for accounts and correspondence; it is likely to have a number of branch offices. The organisational division of such an institution will be based on stages in the procedures of granting, supervising, and collecting loans, rather than by types of enterprises served.

Procedures

33. Industrial production is based on a flow of materials from one workman or work station to another. Each employee does his specialised bit in shaping the finished product. Much thought is given to production procedures. They are planned carefully; each step is analyzed; time and motion are studied. Along with this, the employee is given detailed directions as to his individual job and how to do it.

34. Industrial services can learn much from their industrial clients. Most service tasks require a process of work by several members of the institution; many are repeated in project after project. Any systematisation of them leads to smoother operations. A number of industrial services have developed standard working procedures for activities such as the flow of correspondence, handling of loans, planning and carrying out research investigations, and even decision-making.

35. Under proper administration the work of an industrial service is carried out through a network of delegation. Supervision does not end when an order is given or tasks delegated. Follow-up is required to keep work moving rapidly and properly. Otherwise delays may occur or misunderstandings arise during the course of execution. This can be particularly true in industrial services where activities are decentralized or call for independence of judgment. Delay may be unintentional, because of the pressure of other work or because the task has been forgotten. Yet this leaves the industrial client waiting for help or prevents other service staff from performing their part of a process. Misunderstanding of directives can be especially common in a new service where staff are inexperienced and have few precedents to guide them. Organizations therefore attempt to systematise work as much as possible, through setting and enforcing deadlines, requiring progress reports, and creating procedures in which work done in early steps is checked and controlled by later stages in the process.

Decentralisation

36. Effective service to industry requires direct contact between the service institution and the individual enterprises. Since industry in any country is likely to be scattered in location, some arrangements are necessary to facilitate this contact. For many reasons industrial service institutions find it undesirable always to require industry to come to their central offices, since this is a passive approach which puts an undue burden on distant entrepreneurs and upon small industry, and discourages requests for service. However, some services such as testing laboratories are most efficient when centralised, while others may require files and contacts centralized in the capital city or commercial centre. An industrial service which is part of a larger unit may share regional offices or personnel with other parts of that unit, using these joint resources to spread its work throughout the country. Where vigorous systems of local or provincial government exist, it has been practicable to use those local units to support or act for certain industrial services. In particular, services to small industry and industrial credit activities find it important to establish co-operative relationships with local government.

4. FINANCE

Sources of Revenue

37. A public industrial service may secure its revenue in three ways. It may have steady income from the annual public budget; it may secure special grants; it may receive income from the sale of services.

Government Budget

38. Public budget funds may be provided as general allocations to be spent according to the service's own budget as controlled by its governing board, or as a detailed heading of the general state budget. In the latter case, the industrial service is sometimes considered a developmental activity and its revenues are provided from a special developmental budget. This latter may be for a one-year period, as with the current operating budget, or for a longer development period.

Grants

39. Grants to finance current operations are sometimes provided as an aid in starting new industrial services. There are often sizeable initial costs to obtain facilities, train staff, and employ temporary expatriate personnel. At the same time, the government may be reluctant or unable to allocate substantial sums in its ordinary budget to a service which is new, unknown, and unproved. Grants are frequently received from bilateral or international sources. A grant arrangement is often especially helpful where the service is not a part of the regular governmental machinery, or is a private organization, but needs to receive public subsidy because of its value to industrial development.

40. Conflicts can arise as to control by the donor over spending of grants. The donor naturally wishes to be assured that the grant is to be used for its intended purposes and as economically as possible. It tends to demand not only detailed preliminary budgeting but even accounting in strictly prescribed form. The service institution prefers flexibility in the use of a grant, and can find these requirements and accounting methods unduly restrictive to effective operations. Prior to the grant clear agreement is necessary between the agency making the grant and the industrial service receiving it, to avoid later misunderstandings and conflicts.

41. The category of grants may be considered as including loans. Industrial services most commonly receive loans for large-scale physical projects, such as industrial estates, or financial operations, such as development credit institutions. There is an assumption that revenues from the sale of services or products will enable the institution to repay the loan. This assumption is not always valid, due to over-optimistic financial planning, delays in reaching a revenue-producing stage, bad management, or low profitability because of heavy social costs. Judicious substitution of outright grants at the beginning may be better than having to write off later a loan which cannot be repaid.

Revenue from Sale of Services

42. Revenues from sale of services are of many types, depending on the kind of services. Examples are the sums received by industrial banks as

interest on their loans, revenue from rental of land or factories in industrial estates, and profits from pilot plants for public marketing transactions.

43. Substantial revenues may be received for services such as data collection, testing, or analysis for individual industrial firms. Especially in underdeveloped countries where the small size of most enterprises prevents them from maintaining units for research, testing, or product development, and where private firms to do such work often do not exist, industrial service institutions may have a special responsibility to provide such help.

44. When individual enterprises receive particular benefit from these services, they ordinarily should pay the costs if their size and resources allow. The same is even more true for services such as feasibility studies or consultative help. It is valid regardless of whether the service is furnished to a private industry or to a public industrial enterprise.

45. A cost-payment system has many advantages. It brings in revenue to meet expenditures. It helps to discourage casual or unnecessary requests for service. It leads those who are receiving — and paying for — service to follow it with care, and encourages them to co-operate with the work. At the same time it stimulates the service institution to render help economically and efficiently and to make that help worth its cost.

46. Most government financial regulations require all revenues, including those from sale of services, to be credited to the general funds. While occasionally designated for particular uses, they cannot then be spent until appropriated to those uses. Industrial services which receive sizeable revenues from special contract services must make sure that their budgeted income includes that revenue and that the expenditure side of their budgets includes the costs to be financed from that sale-of-services income.

Control of Expenditures

47. In spending funds, any public body is subject to a complex mass of laws, regulations, and administrative controls. Processes for satisfying those requirements and making expenditures often seem interminable. This

is true in many industrialized countries; it is especially common in newer countries whose financial regulations and procedures were originally designed as cautious colonial controls rather than as active instruments of national development.

48. Industrial service institutions feel these restrictions and delays more acutely than do older more routinized government activities. Industrial services deal with matters which are urgent and must be handled flexibly. A bit of imaginative spending today may help substantially toward increased industrial production, but if the same amount of expenditure is delayed several months it may be too late to meet the need.

49. These are powerful reasons for giving industrial services autonomy from the financial controls of the general governmental structure. Unfortunately even autonomous agencies develop their own financial complexities and delays, through formal regulation or through gradually developing precedents or requirements by chief officers. Their financial procedures or accounting systems eventually may be no more streamlined than those of the Ministry of Finance. Sometimes the service's governing board gains right of prior approval even of minor items of spending.

50. Any autonomous industrial agency uses public funds as part of the national development programme. The state therefore insists on adequate machinery to ensure that this programme is followed and the money properly spent. In developing countries most autonomous agencies receive their initial capital from the government, and often have to ask for additional capital or for annual operating grants. They must then justify the new requests and account for stewardship of previous appropriations. Even if the agency is free from outside controls before expenditures are made, it rarely escapes post-audit by the Ministry of Finance, by the independent general public auditor, or by a private auditing firm. In nearly every country there is also some arrangement for periodic parliamentary review of the accounts and finances of autonomous public agencies. The most successful system appears to be to give the agency responsibility for spending and accounting, using external control for review of the agency's financial policies as a whole.

51. Modern financial management places growing emphasis on accountability which is related to work performance. This has become especially desirable as governments have concentrated on economic development activities. It begins with budgets which allocate funds according to the units of work which are to be accomplished. This in turn leads to accounting which shows unit costs. Individual projects are budgeted as unities, and their costs can be seen and watched. Emphasis thus is shifted to making public services responsible not merely for handling their resources legally but for using them in such a way that they accomplish as much as possible, as well as possible, with the available resources. Industrial and commercial enterprises commonly use such methods in their financial operations. Industrial service institutions therefore are in an especially important position to encourage adoption of similar methods by public services. In this matter they can in effect reverse the usual flow of assistance and learn from their industrial clients.

5. STAFFING

Salaries

52. Personnel with the qualifications, training, and experience desired by an industrial service are almost always in short supply in a developing country. The service must bid for them in competition with other potential employers such as the civil service as well as private or public industry, which nearly always pays higher salaries than the government.

53. Industrial services therefore must search for incentives additional to salary. Sometimes the challenge and excitement of building the national economy can attract staff. Many posts in industrial services offer valuable professional experience and contact with industry and its operations. Personnel with good qualifications are more willing to start in junior posts when they are offered a clear future career. Although travel abroad for training, for visits to industries or to industrial services, or for attendance at seminars is usually thought of in terms of its value to the service or the job, these opportunities also make a job in an industrial service more attractive to the individual.

Recruitment

54. Careful recruitment is a protection to the service, enabling it to obtain staff appropriately qualified for its needs. Within or outside the usual civil service recruitment system, the industrial service needs to ensure that wide advertising is given to its recruitment needs, that examinations fit the background of appropriate candidates and examine for the specific qualities which the work of the service requires, and that after examination the service has a fair opportunity to choose among the highest-ranking candidates. If regulations allow, interviews by the higher officials of the industrial service or by members of its policy board may be a very desirable part of the process of choosing among candidates for senior posts in the service.

Training

55. The techniques of any modern industrial or administrative activity change rapidly, and even the best of specialists must constantly be learning in order to keep up with the changes in his field. Thus in any country, whether developed or developing, the senior and specialist staff of an industrial service need to take advantage of all possible training opportunities.

56. Industrial services in developing countries have another fundamental reason for training. Many of their staff members come into the service with minimal knowledge of industry and its needs; rarely have they any special training for the work they are to perform. Most of them have had little or no experience in planning and supervising work programmes. Many are newly graduated from university and are unfamiliar with working in a group or bureaucratic situation.

57. Training in any country tends to be oriented toward local conditions. In developing countries industrial service personnel need to become especially familiar with the operations and problems of simple and small-scale enterprises. They should understand the concepts of planned economic development in which each industrial enterprise, whether private or governmental, is expected to fill its needed position in the total national economy. More than this, they need thorough knowledge of their country's national

development plan, both generally and as it affects specific industries and enterprises. Finally, they usually have to learn to carry out their daily work using the very simplest techniques and equipment, often improvised and almost always assuming a scarcity of human and material resources.

58. Few individual industrial services in any developing country have enough staff to be trained or enough training resources to do all this successfully. Much of it, however, can be accomplished if a number of services work out a co-operative training programme. They may be able to supplement this effort by regional or sub-regional training programmes with neighboring countries whose industry or industrial services operate under similar conditions.

Retention and Rotation of Staff

59. When an industrial service has developed adequate staff through effective recruitment and training, there is still the problem of retaining them. The civil service and the industrial sector are counter-attractions. An industrial service often is a relatively small organization compared to other government departments or to industrial enterprises. The grades and titles, number of subordinates, and extent of responsibility enjoyed by the average senior officer of an industrial service are often less than they would hold elsewhere. The number of senior posts is small; hence promotion possibilities for juniors are limited. All these become important factors along with salary when an officer is considering whether to remain with the industrial service or to move.

60. Hence there are reasons to encourage rather widespread programmed rotation of personnel to and from these services. Secondment and movement between the civil service and public industrial enterprises is already common. Benefits to staff and programme may be gained by developing similar scheduled movement for limited periods between all industrial services — whether private or public, ministerial or autonomous — and their client industrial enterprises. This would require arrangements to protect competitive secrecy, to adjust individual salaries, and to guarantee continued career opportunities. Those arrangements should not be too difficult in most developing countries, since industry is usually rather

completely part of a planned economy and large-scale industries are often public corporations or have substantial governmental participation. Recruitment of experienced industrial personnel as temporary staff members of any industrial service would be advantageous to the service itself, and in the long run would be helpful to industry by producing service better adapted to its practical needs.

Staff Participation in Decision-making

61. Many personnel of an industrial service are individuals with professional or technical qualifications. Much of their work involves responsible relationships with the higher levels of industry. They will not be content to submit themselves to authoritarian direction from their superiors, but need a large degree of independence in judgment and action. If they are supervised too closely on details they will not perform with zeal or ability, nor develop their full capacity to fill higher posts at a later time. They will not do their best work unless they have opportunities to use their own thinking and imagination, and unless they feel that they are fully participating in developing the institution and its work. The concept of participative management is becoming increasingly common in industrial operations in developed countries, as junior executives, foremen, representatives of labour unions, or members of workers' councils take part in formulating policies, discussing problems, and reviewing plant operations. This participation is not yet as common in civil service departments. The special position of industrial service institutions, and their relatively new development, put those institutions in a favourable position to apply the methods which have been developed by industry and draw all staff into active participation in decisions regarding the services' programmes and operations.

6. REVIEW AND ASSESSMENT

Measurement of Performance

62. Efficient performance of industrial services is needed to ensure the best and fullest possible help to industry, and to justify the expenditure

of resources for that service. Results can be measured only if clear and valid standards are set up. Performance can then be compared against past record or similar programmes.

63. Assessment of industrial performance is difficult in developing countries. It is unreal to measure the contribution of any institution in isolation from its environment. External political, legal, or administrative regulations can prevent the institution from producing most effective or economical service.

64. Measurement and evaluation should concentrate on accomplishment rather than on effort. Results require work, but work does not always produce results. Hence measurement should always compare service results against programmed goals. It will be found that quality of work is much harder to measure than is quantity.

65. Generally an institution should concentrate on a limited number of measurements. This is most practical and reduces the effort of reporting and analysis. It also forces the director and staff to consider which indicators most clearly and fairly show what is being accomplished.

66. Measurement of cost is often given greatest emphasis, for several reasons. Budget and accounting machinery already exist to watch costs, collect data, and try to enforce economy. Modern budgeting emphasizes measurement of performance costs and seeks to define work in costing units. In industry, factory work study has been cost-concentrated, and similar analysis is increasingly being applied to clerical and intellectual activities. Thus industrial services deal with very cost-conscious industrial clients. Especially when those clients share in financing the service, they will tend to ask that the institution watch and minimize its costs, even as they must do. Nonetheless, service of a high quality, carried out with care and understanding of industry's needs, may be what is needed, even if it is somewhat costly. In the early life of a service institution, when clientele is being developed and while supervisors and staff are still inexperienced, costs may be temporarily but justifiably high. Hence cost cannot be considered the only basis for measurement of an industrial service.

Evaluation

67. Measurement shows what is being done, but only evaluation can reveal whether what is being done is enough or is moving along proper lines. Evaluation thus involves the analysis of work or results as compared to standards or goals. The goals should be visible in the institution's basic programme, but there must also be rather specific standards of the levels of achievement which are to be considered large enough or good enough. These may be set in the programme; they may be developed by comparison with past performance; they may result from comparison with past performance; they may result from comparison with other industrial services, or they may even be fixed by detailed work study.

68. A proper evaluation needs to be absolutely honest. On the one hand it should not be unfairly critical by condemning the industrial service for faults beyond its control, or for failure to carry out activities not within its programme, although such facts need to be noted for future consideration and action. On the other hand, neither should the evaluation present too favourable a picture by omitting or underemphasizing the points at which the service failed or fell short of its goals.

69. Evaluation is done by a number of persons, for a number of reasons.

a. The director or supervisors need to see whether their own supervision is producing effective results and whether subordinates are performing their work properly. Thus evaluation is a normal and necessary function of management.

b. A relatively new technique is to encourage all staff to do a considerable amount of self-evaluation of their own work and results as well as of those of the service as a whole. Any officer is normally forced to do a certain amount of this simply as he reports on his work. If he is faced with comparative data about previous periods or about the work of others, he may be led to consider ways and incentives for improving his own performance.

c. Any governing or advisory board should want information concerning evaluation, and under certain circumstances may actually do its own evaluation.

d. Occasionally there is reason to have special evaluation by persons completely outside the institution, when things are going badly, when major policy questions require outside objective advice, when substantial expansion or change is being considered, or when the country's entire industrial development programme is being reviewed.

e. Outside evaluation of a restricted nature is carried on by agencies responsible for the institution's financial support and auditing.

f. In many ways industry itself is the most important body for evaluation of any industrial service. Entrepreneurs decide whether the services are of value and meet their needs. If the institution policy body contains representatives of industry, they can express that client evaluation. The institution may find value in setting up periodic meetings at which industry can state its needs for service and its evaluation of past services. At the same time, the institution will have a chance to inform industry of what it can provide.

Follow-up

70. Evaluation is merely an intellectual exercise if it fails to lead toward improvement. Follow-up can be accomplished at a number of levels. If the evaluation shows poor work by individuals, action may be needed to clarify their duties, improve their supervision, make sure they are properly trained, and improve their motivation. Where a process or activity is faulty, it may have to be redesigned completely, perhaps in consultation with the industrial clientele. Evaluation may even lead to revision of the institution's goals and programme, to ensure that resources are used most effectively toward providing the services most needed and demanded by industry.

7. SUMMARY

71. Administrative machinery in any industrial service can help to ensure clear policies and programmes. Some of that machinery will be procedural, to consolidate ideas into a harmonious plan and to provide supervision and working methods by which plans can be transformed into service. Some of it will be organizational, to ensure participation by appropriate persons and bodies, including industry itself.

72. The organisational location of an industrial service can affect its ability to obtain resources and develop effective relationships with industry. If the service is sponsored by the government, as is common in developing countries, its placement within a particular ministry or its degree of autonomy may be crucial to its success.

73. Industry needs co-ordinated servicing, without fragmentation, inbalance, conflicts, or gaps. The relationships of one industrial service with all others are important. Sometimes these are facilitated by grouping services into a joint organization. Where this is not feasible, other methods of co-ordination are required.

74. Within each service institution organizational relationships are formed as work is divided among individuals, some of whom are given responsibility for supervising others. Many of these relationships are informal, but there is always need for a formal structure with defined jobs, duties, and powers. This ensures that each individual knows clearly his range of work, and establishes processes by which work flows from one to another.

75. Administration also involves the provision of resources for carrying out service. Finance is a basic resource which enables others to be purchased. Effective budgeting and accounting are needed, as is administration to transform budget allocations into the equipment and facilities required for service.

76. The most important resource of any industrial service is its manpower. For personnel to be available at work, a mass of administrative actions are required to recruit, train, and pay them and to handle their records, welfare, facilities, and travel. Much of the personnel of any industrial service provide clerical or labour support, with problems which are more administrative than technical.

77. Direction of professional and technical staff also involves not only their substantive work, but a large part deals with such administrative matters as allocation of work, systems of reporting, staff relationships and problems, facilities and equipment, and finances.

78. If industry is to receive the services it needs in developing countries, the specialized professional staff of service institutions must be able to devote all possible time to helping industry rather than struggling with administrative problems. Their knowledge is a scarce skill. Without adequate administrative machinery they cannot use that skill fully and effectively, and industry will not receive sufficiently the services it needs.

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