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WORKSHOP FOR MANAGERS OF INDUSTRIAL RESEARCH
INSTITUTES IN DEVELOPING COUNTRIES

Athens, Greece, 4 to 18 July 1967

PROVISIONAL AGENDA

I. Re-establishment and Organization of Industrial Research Institutes

1. This item will include a brief discussion of possible sponsoring and/or supervising bodies and the general methods for providing financial support; the effect on the organizational structure of pre-established objectives and the various forms such a structure may take in practice, depending on the institutional pattern.

A. Sponsoring and/or Supervising Bodies

2. The role of private and/or public agencies concerned with industrial and economic development, such as manufacturers' associations, industrial development corporations, ministries of industry and economy, and development banks in creating and establishing such institutes will be reviewed.

3. Some enabling laws relevant to establishing institutes will be discussed, together with the important items concerning location, authority, and responsibilities of the Board of the institute; the financial structure; general aims, objectives and similar broad policy matters.

B. Relations with other Organizations

4. The relationships of an institute with the business, industrial, scientific and allied communities will be discussed, along with the beneficial effect of their representation on the Board. The number and affiliation of Board Members,

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and the Board's role in broadening the support and enlargement of the sphere of potential clients and organizations serviced by the institute will be evaluated.

C. Institutional Patterns

5. Various institutional patterns such as the specialized or multi-purpose industrial research institute will be discussed. Participants will exchange views and compare their experiences in this organizational matter.

D. Organizational Structures

6. The importance of defining the functions of the institute and the role of the operational and supporting divisions, the activity of each of the main operating divisions, their general type of activities, their inter-relationship and the advisability of establishing a standards division will be discussed.

7. In research as well as advisory and consulting activities, the team approach to the solution of problems and the difficulties that are often encountered will be pointed out with recommended practices to avoid or solve them.

8. The importance of establishing job descriptions stating clearly the responsibilities, authority, lines of communications, and general type of work to be performed, as well as the advisability of adopting an internal operations handbook setting forth rules, by-laws, procedures and the extent of details necessary in both will be discussed.

II. Project Selection, Definition and Evaluation

9. Major research activities of an institute in the fields of economic studies, technical investigations, product and process development and valorization of locally available raw materials generally require the participation by staff members of different disciplines working as a "taskforce". The choice of projects, the mechanism of operation, administration and evaluation of such projects at different stages of accomplishment or time intervals will be presented and discussed.

10. The necessity of co-ordinating work on "in-house" projects with institute remunerated activities undertaken for clients, and the priority of work for the business community will be discussed.

A. Managerial Responsibilities for Developing Useful Projects

11. The difficulties that an institute's management encounters in determining the needs of the country's business community and appropriate policies and procedures for selection of useful projects of practical significance -- thereby making implementation by local industry easier and direct contribution to the industrial development of the country more effective -- will be dealt with in detail.

B. Essential Steps for Evaluation

12. The essential basic steps involved in evaluation consists of preliminary exploration and a well-defined outline stating objectives, technical and economic justifications and an estimate of the amount of technical effort required, all of which will be discussed.

13. The breakdown of a major investigation into stages, its effect on the original estimates, re-evaluation of the project's concept at each stage, together with a review of the original objectives and the effort expended until that time will also be discussed.

C. General Criteria for Evaluation of Projects

14. The first criteria to be discussed is compliance with proclaimed national development policies which may either be broad, such as encouragement of labor intensive or export oriented industries and reduction of imports; or clearly defined in the form of specific criteria classifying the various desirable industries as first, second, or third priority.

15. The compliance of projects with the basic objectives of the institute and its growth plans; a project's ultimate usefulness to the area of industry it serves.

16. The importance of undertaking only those projects which the institute feels it can successfully carry out; included will be the question of equipment available for successful completion of realistic targets.

17. The necessity of scrutinizing the feasibility of an industrial research project from a technical, engineering, marketing, economic and managerial point of view, both in studies undertaken for clients and in-house projects.

D. Project Systems

18. The various methods of organizing the activities and conducting the investigation and research work of the institute, along with the advantages of administration by project will be discussed together with the definition of each of the following: subject; objective; justification; proposed programme; personnel requirements; future possible extension; cost and assignment of responsibility.

19. The above will be illustrated by a case example on the development of a commercial method for extracting a useful chemical from locally available and specific raw materials.

E. Mechanism for Project Evaluation

20. This will include: the necessity of assessment at regular intervals, and by unbiased reviewers from among institute staff not directly connected with the project, of the efforts and results to date.

21. The possibility of review by vertical disciplines: written reports; short conferences or special forms; the level of effort and depth required for such activities; the alternative approach of small select groups of experienced staff members meeting regularly; the applicability of such a procedure to both in-house or external projects.

22. Conventional administration through formal organization versus administration based on the multi-disciplined team; the operation of the latter in practice; and the problems and difficulties that may arise in each case.

III. Financial Administration

23. The principles underlying the financial operation of an industrial research institute: sources of necessary funds; allocation of funds to various activities; estimate of project costs; budget preparation and control; the building of reserves; and overhead charge to clients will be discussed.

A. Sources of Funds

24. The role of sponsoring bodies and their participation in the financing of the institute's operations; endowment from other sources; earnings; the interrelation of these sources; contribution to the yearly annual budget.

B. Budget and Financial Controls

25. The mechanism of yearly budget preparation; estimate of institute needs in terms of capital investment and operational costs, together with estimates of expected income; the need for development of certain activities and the costs of such development.
26. Methods of financial control; current expenditures; expenses involved in non-income earnings or promotional activities; salaries of staff members; time expenditure by staff and its proportion of budget allocations to various activities.
27. Discussion will also include difficulties in forecasting the exact needs of an institute and the extent of its activity within each area of operation; the degree of flexibility to be allowed in the budget and the inter-changeability within subsections.

C. Project Cost Estimates, Control and Overheads

28. Differences and similarities between in-house projects and sponsored projects in terms of direct costs, overhead charges added to staff time costs, will be compared; different methods for computing overhead costs and the latitude allowed in order to make fees competitive will be reviewed.
29. Discussion will also include the necessity of weighing the professional performance of each completed project against its total cost, thereby achieving more accuracy in estimates and improvements in efficiency.
30. Methods of using time cards, and authorization of certain staff to use account numbers assigned to particular projects or specific activities; control of these time cards; their importance as a basic tool for keeping project costs and activities under control; their role as a source of statistical data for current and future projects as well as for projection of institute activities and manning requirements will be stressed.

IV. Personnel Policy and Administration

A. Staff Groups

31. Discussion will center on the director, his background, interests, character, proficiency and ability to attract, select and retain good well-

trained members; also the terms of reference of his responsibilities and authority, especially regarding financial matters and commitments of the institute.

32. The general characteristics desirable in professional staff; their interest in research and investigations of an applied, as well as a basic scientific nature; their interest in the socio-economic consequences of their work; their ability to work in teams; their professional competence and sound assessment of the needs of the industrial and business community.

33. Administrative and clerical staff, technicians and assistants: the relation and ratio of both groups to the professional staff; general activities, methods of operation and role will be discussed. Manual staff, for example those in a workshop or operators whose positions are of a non-professional nature: the required size of this group of employees; their participation on some project work and other assignments will also be reviewed.

B. Recruitment, Evaluation and Promotion

34. Personal invitation, recommendation or advertisement as three methods of recruitment, depending on the level of the job under consideration, will be reviewed. The advisability of having a number of available candidates before making a choice; the careful review of candidates' records, qualifications and practical experience; the importance of the interview as means of assessing personality, alertness, adaptability, etc; the different interviewing methods; rating forms to be filled by panel members as one device.

35. The "terms of service" contract; the duration of probationary periods, including the necessity and variety of evaluation systems for periodic assessment of general performance and leadership ability of all staff members.

36. Promotion at regular intervals and for cases of special merit; financial compensation connected with satisfactory efforts and outstanding service will be discussed, together with the necessity of investigating the reasons behind poor performance, reassignments of staff members to other divisions, and cases where dismissal is ultimately necessary.

C. Emoluments and Fringe Benefits

37. Staff salaries and wages and their relation to general salary levels in commercial organizations and other business enterprises; the salary levels of different staff categories will be discussed, as well as overtime and compensation methods thereof on an ad hoc basis for certain levels of staff.

38. Medical care, accident and life insurance, pensions, superannuations, credit or savings systems and other such fringe benefits; their importance in creating a healthy working atmosphere will be discussed.

39. Annual leave, leave of absence without pay, sabbatical leave, training fellowships and staff study tours and their effect on morale and technical proficiency will be reviewed.

V. Relationship between Institute and Clients

A. Sponsorship Development

40. The necessity for systematic and periodic contacts with potential clients; factual assessments of their needs, their number and the fields in which the institute can assist them; and exact evaluation of the potential market for institute services will be discussed.

41. Discussion will also cover the necessity of undertaking general studies of public interest and industrial sectoral studies at the national level; preliminary feasibility studies of certain industrial enterprises; potentials of certain raw materials; results of scientific investigations.

42. The role and necessity of an adequate public relations mechanism responsible for systematically: representing the institute at all meetings and seminars of an industrial, economic, technological or business nature; the publication and distribution of a house organ; sponsoring and organizing various industrial meetings and events; encouraging participation of staff members in professional societies and similar activities.

B. Contracting Sponsored Work

43. Discussion will cover the importance of clearly defining the problem; the role and obligation of both the client and the institute; the nature of the assignment and its limitations; as well as a clear understanding of the institute's position as a consultant.

44. The different types of agreement from the short simple "letter of intent" to the formally signed and witnessed contract for major long-duration work; the general and special provisions to be included in contracts.

45. Different methods of charging fees for services rendered: lump sum; cost incurred; cost incurred with ceiling; retainer basis; hourly or daily basis; also the general level of fees and possible methods of payment.

C. Communications with Clients

46. The general topic of adequate communication with potential and actual clients, and the levels at which such communications ordinarily take place, will be discussed. The importance of designating a liaison officer in both the institute and the client organization for the duration of a project, will be included in discussions.

47. The general climate and the necessity of fostering mutual confidence between client and institute will be reviewed; also some of the frequent reasons for misunderstanding and the resulting unsatisfactory client-institute relationships.

48. Discussion will also cover the necessity of reviewing, particularly in early years, each consulting or research engagement undertaken by the institute and examining the conditions, shortcomings, productivity and overall performance of institute staff; also making comparisons of the estimates on which project costs were based, against the actual costs.

VI. Case Study of Research Institutes

49. Research institutes in developed countries will serve as sample case studies and all aspects of their establishment, by-laws, operation and performance will be discussed in depth. The following points will be covered:

- a. organization and structure;
- b. staff selection, recruitment, salary adjustments, turnover, incentives and dismissal;
- c. types of operation and stages of development;
- d. financing and earnings;
- e. relationship with clients and other organizations;
- f. selection of research programmes.

VII. Evaluation of Performance of Research Institutes

A. Desirability of Evaluation of Performance

50. As an institute grows, the field of activity, number of staff and operating budget grow accordingly. The necessity of assessing the usefulness of the institute to the communities it serves and assists; the realization of its objectives; its success in fulfilling its original goal; its requirements and budget will be discussed.

51. In the process of assessing the usefulness of the institute, certain criteria serve as guide lines; discussion will cover these criteria, both of a qualitative and quantitative nature.

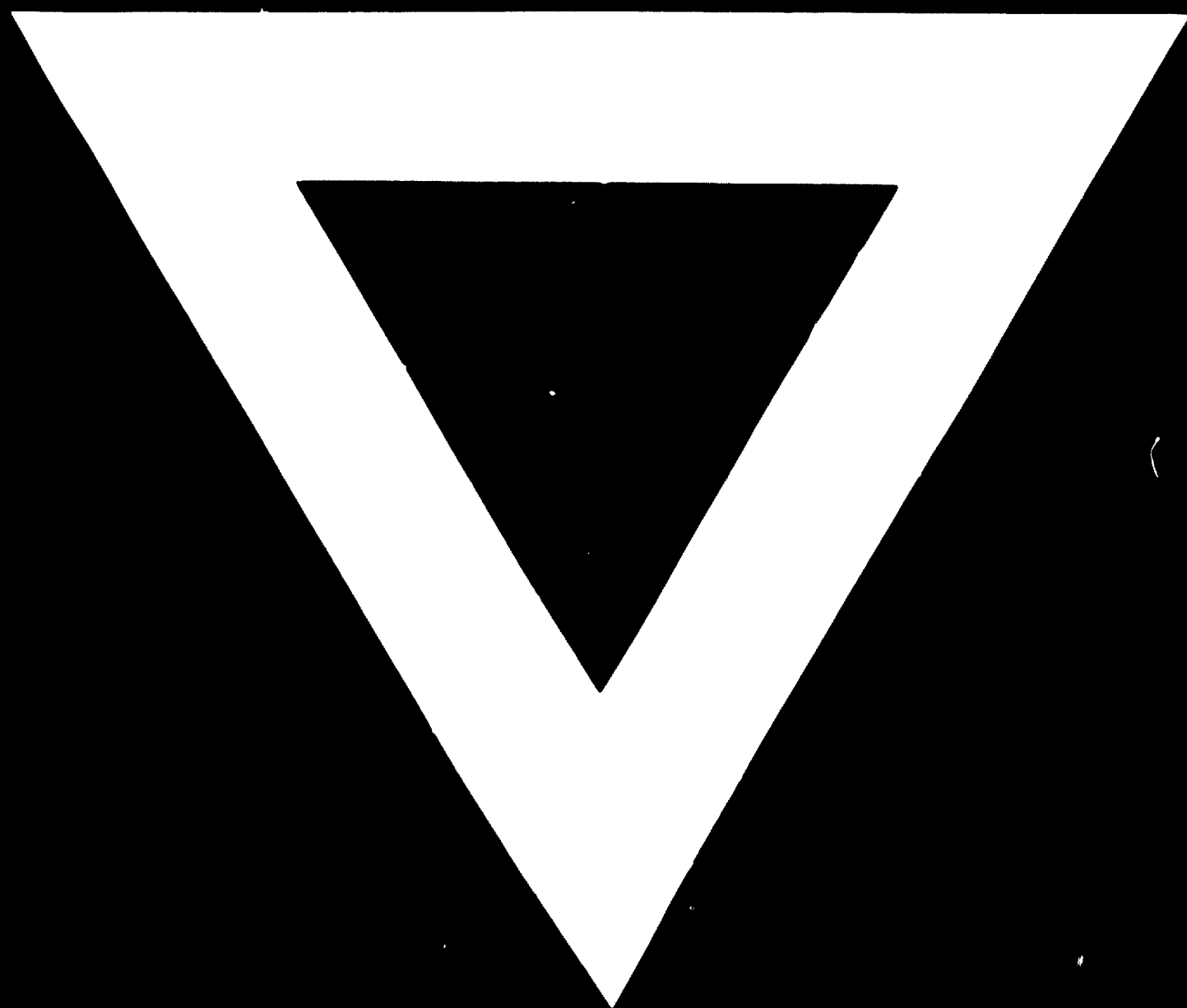
B. Qualitative and Quantitative Criteria

52. The interest of the founding and sponsoring bodies in the institute's work and development; their willingness to provide both moral and material support; the reaction of the industrial community and its acceptance of the institute; degree of utilization of the institute library; requests for general, technical and business information are all examples of qualitative criteria to be considered in overall evaluation.

53. Rate of growth of operating budget, staff, earned income and number of clients; increase of the research, consulting and analytical activities as quantitative criteria of its success.

54. Development and performance of operational divisions; staff turnover; success of a series of individual assignments; and "repeater" clients will also be discussed as useful criteria for evaluation of the institute's performance.





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