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MANAGEMENT DEVELOPMENT AND CONSULTANCY SERVICES
IN IRAC 1/

The National Centre for
Consultancy and Management Development

by

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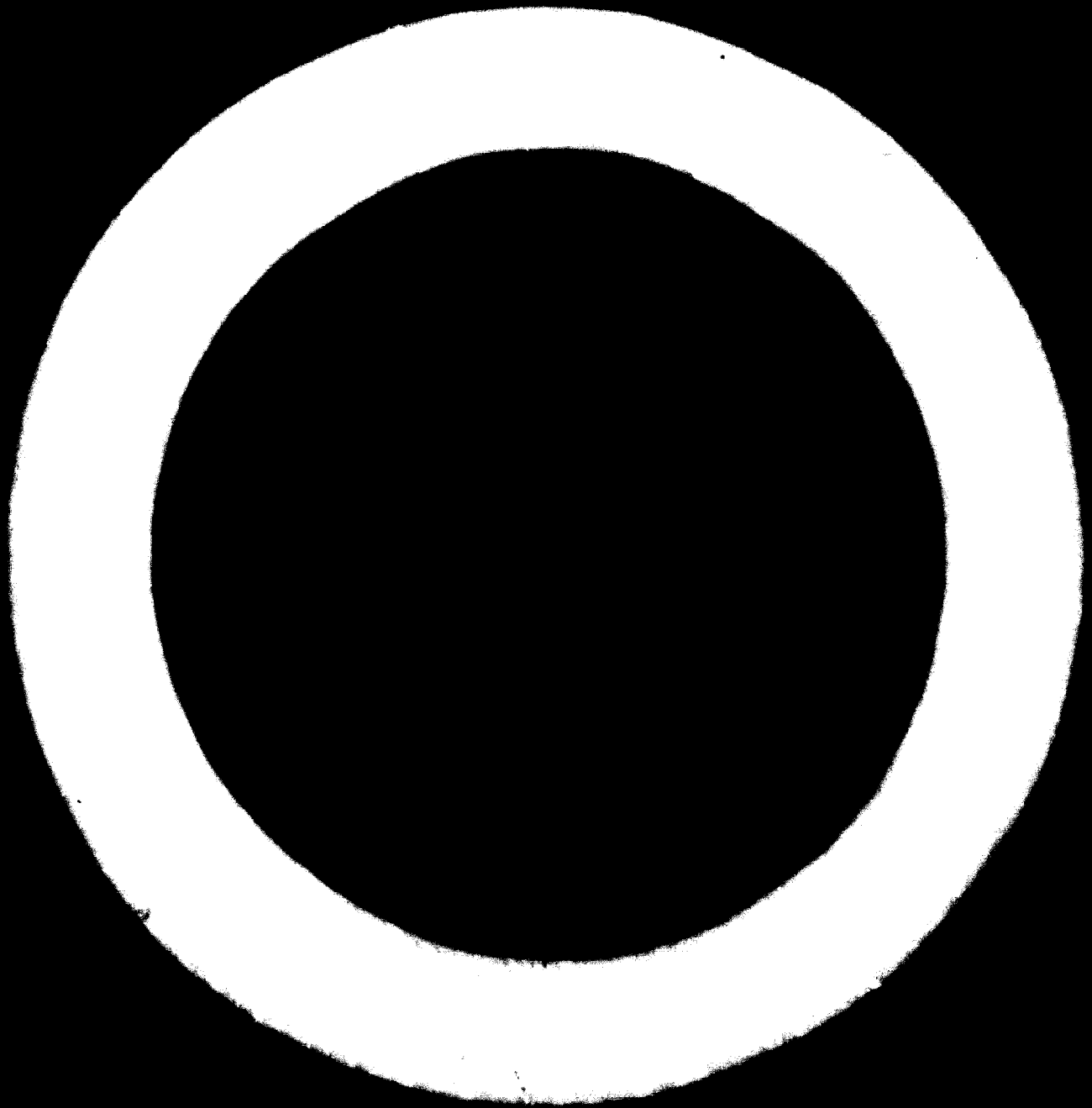
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A. AL-ASAM
August, 1970.

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Introduction

Ever since the beginning of the industrial revolution, in mid eighteenth century, the need for development of technology and management was one of the major requirements of industry in its various forms. This development should go hand in hand with comparable pace and effectiveness. But technology took fairly large steps ahead of management science until nearly a century later when its basic principles started to take shape.

In Iraq, industrialization - in its modern sense - began in the early 1930's with the main efforts concentrated on the technological side. These efforts were directed towards the preparation, training and development of engineers and technical staff who bore the burden of keeping the Iraqi industry running at acceptable degree of productivity. The years shortly following the second world war, witnessed increasing flow of western universities and technical colleges Iraqi graduates.

This trend had continued until the beginning of the 60's when it was realized that the management side of the industry had been greatly neglected. This realization led to the birth of the Management Development Centre (now called the National Centre for Consultancy and Management Development) according to government law No. 56 in 1962 as a result of the cooperation between the government of Iraq, the United Nations Development Programme (Special Fund) and the I.L.O.

This paper, therefore, aims to throw sufficient light on the development of management and constituent techniques in Iraq during the last eight years and the stage to which it has reached up to the present day.

Objectives of the National Centre

The Centre was established with the following objectives:

General Objectives:

- (a) To raise the skills of management at all levels and thereby enable better use to be made of existing plant and equipment, which will be reflected in higher output, lower costs and higher wages with little or no new capital investment.
- (b) To provide the trained management and supervisory personnel which are needed to enable the plans for industrial development to succeed.

Special Objectives

- Training industrial staff by developing their managerial and technical abilities, and to prepare them for higher responsibilities.
- Studying the continued requirements of the country for modern means and methods of training in all the fields of management.
- Boosting up the country's production capacity through the improvement of productivity.
- Providing appropriate conditions and motivations to improve and develop management in the country.
- Creating continuous and increasing demands on the national industrial products.
- Introducing methods to reduce production cost.
- Stepping up the country's capacity of employment as a result of increased industrial development.
- Consolidating the profession of scientific management and creating high calibre managerial leadership which undertakes self development in order to apprehend and apply the modern scientific theories in management

and to contribute actively to economic development plans.

Present Objectives

These objectives were markedly fulfilled in all aspects of the Iraqi industry mainly, through training courses while the new wave of industrialization necessitated further elaborations, modifications and setting up of new objectives. The National Centre has enlarged its organisation and functions to ~~help~~ facilitate the implementation of Iraq's national development plans by:

- (a) The creation of a national consultancy capability directed to the improvement of the productive efficiency and growth of the country's industrial service and other enterprises.
- (b) Improvement of the data processing systems in each enterprise, to provide all levels of management with pertinent, accurate and timely information for decision making, planning and control.

To achieve these national objectives the centre aims at:

- (i) Developing and implementing through management consulting a strategy of innovation to accelerate economic progress and growth.
- (ii) Ensuring worthwhile and practical savings and improvements at client-enterprises through management consulting.
- (iii) Developing the national staff as management consultants so that they will possess both the knowledge and the operating skills to undertake management consulting assignments without the assistance of international experts.

- (iv) Establishing within the ranks of Iraqi enterprises an appropriate number of internal Management Services functions on a permanent basis.
- (v) Identifying from the findings of the consulting assignments the specific areas of enterprises in which the research activities of the centre are to be directed.

Hence the above set of objectives are to be fulfilled through Management Consulting services, while the following objectives will constitute the research activities which aim at.

- (vi) Carrying out research activities in the various fields of management interest. They are to be directed to the promotion of modern management techniques and scientific organization of production and work in enterprises.
- (vii) Undertaking joint research activities in collaboration with research and educational institutions both in Iraq and abroad.
- (viii) Compiling current information such as data on productivity measurements and performance ratios, to advise industrial enterprises on efficient utilization of capital and other production resources.
- (ix) Building an extensive library of books, magazines, periodicals, films, film-strips, and audio-visual aids on a wide foundation of managerial and supervisory subjects for the benefits of enterprises throughout the country.

Background and Development of the Centre

It was mentioned before that the Centre was established in 1962 as a semi-official government organization attached to the Ministry of Industry and has its own independent board of directors whose members represent the following:

- Ministry of Industry
- Ministry of Oil
- Ministry of Finance
- Ministry of Planning
- The University of Baghdad
- The Federation of Industries
- The Director General of the Centre.

Assistance was provided to the Government of Iraq by the United Nations Development Programme (Special Fund), with I.L.O. as the participating and executing agency for this project.

The background and development of the Centre may distinctly be divided into three phases:

Phase 1: First agreement with U.N.D.P. from 1961-1966:

The plan of operation of the project was signed on 23th. Sept. 1961. The international experts - totalling seven - took up their posts between Nov. 61 and Oct. 62. They were two industrial engineers, a management accountant, and three experts in the fields of General Management, Marketing & Sales, and Supervisory Training; all working under the supervision of the Chief Project.

This phase particularly stressed on the training on the Centre's national staff who totalled twelve technical and teaching staff by the end of the agreement, through a programme of group courses. Individual coaching of the staff, both in technical subjects and administrative skills continued throughout the project. The national staff in an increasing manner participated in all projects or advisory services stemming from courses either through direct implementation themselves or acting as project supervisors. They also participated as members of consultancy team activities, in some instances taking project leader^{ship} responsibilities within total assignments.

During this period the Centre managed to make marked advances in:

- Organizing courses, seminars and other training activities (which were mainly in English but changed gradually to Arabic)
- Preparation of course material, training manuals and guides.
- Publicity and information services.
- Research services.
- Setting up^a well equipped library.

Phase 2 From 1966 to 1969:

Additional assistance was offered by U.N.D.P. through two years extension of the first agreement commencing from Sept. 1966 (later extended by another year) to intensify and extend the programme of training and advisory services, and further develop consultancy services provided by the Centre.

During this period the Centre proved that it had mastered the management development service (training activities) in which it needed literally little or no assistance from the international experts. Independent consulting assignments were negotiated with and carried out for well established industries such as The Cement, Cotton Seeds Products and Vegetable Oil Extraction Companies. The efforts of Phase I fruited into managerial enthusiasm for installing and applying many scientific management concepts such as Job Evaluation, Productivity Studies, Stock Reduction, Inventory Control, etc... The above mentioned three companies, for example, were the first to have wages and salaries administered on the basis of Job Evaluation, with the national staff of the Centre supported by international experts acted as consultants for these tasks.

The requirements of that period and future prospects necessitated strengthening the national staff force. The number of technical staff gradually reached the total of twenty.

To conclude, the Centre managed to stand on firm foundations regarding training, had a great number of requests for consulting assignments (in fact far more than the existing strength could cope with), had a number of reasonably capable consultants, and expanded all activities of Phase I.

Phase II Present

The government of Iraq has recently entered into a new five years agreement with U.N.D.P. through which the previous Management Development Centre was re-established as a National Centre for Consultancy and Management Development.

The ultimate operational organization envisaged for the Centre is to be in four divisions:

- + Consultancy Division
- + Research Division (including the Information Section)
- + Management Development Training Division (including the EDP training section).

The fourth, servicing the Centre staff:

- + Personnel and Administration Division.

The Centre will be re-organized accordingly in the coming few months when it would have been finally settled in its specially designed and modern new building. The number of Centre staff in the main three divisions is planned to ultimately reach (80) eighty persons by the end of the next two years.

The Centre is attaching special importance to management consulting. Both enterprise and industry wide consultancy assignments of single project and multi-project nature are to be undertaken by the Centre. Ad hoc training is to be provided as necessary to client company personnel to enable them to carry out properly their part in the implementation of assignments.

Specifically consulting services are to be provided in areas where there are strong convictions for their urgency viz.

- Productivity of capital employed
- Productivity of available physical resources.
- Marketing & distribution.
- Export marketing
- Consumer research

- Cost control
- Budgetary control
- Management organization
- Organization and methods
- Operational research
- Personnel management
- Maintenance management
- Production planning & control
- Project management
- Product development
- Quality control
- Inventory control
- Job evaluation
- Incentives & merit rating
- Coordination of consultancy services

Furthermore, thirty five organizations have been identified as suitable for the establishment of internal management consultancy service units, this task is to be exclusively undertaken by the Centre.

Another principle aim of the Centre is the establishment of company information systems i.e. the collection of appropriate activity data and the development and use of company records to provide to the successive levels of management a continuous flow of selected, up to date, and accurate information.

In addition, a series of management appreciation courses are to be provided to introduce the concept and service facility of electronic data processing. Furthermore, where computer access is available and suitably developed data systems and processing volume exist the companies concerned are to be assisted to make the transition from manual processing to electronic processing of the data.

The services of the Centre are planned to be widely extended to non-industrial organizations as well. These organizations had not been totally neglected in the past, but naturally enjoyed less attention from the industrially-oriented Centre.

Development of Own Staff

It is worth mentioning here that throughout the life of the Centre, there were always intensive plans for training and developing its own staff. These plans were mainly concerned with widening the business and industrial scope of new specialists in the Centre, and building up specialized knowledge in management sciences, particularly in the field of specialization.

Newcomers, in addition to previously engaged staff, had gone through series of induction, departmental, and basic courses. In this series the objectives of the Centre, scope of its activities, importance of its role, past achievements, future prospects, teaching skills, and basic management science techniques were introduced. Recently, specially designed courses and training were organized for all Centre specialists in consultancy techniques. These courses are to be repeated whenever the necessity arises.

The Centre staff had also ample opportunity in training abroad through fellowships offered by the I.L.O. In these fellowships the national staff participated in theoretical courses organized by well reputed management institutes and universities. This was supplemented with visits to industrial firms where certain outstanding management techniques were implemented. The present agreement with U.N.D.P. offers fellowships in relevant management areas amounting to (120) man-months for the next five years.

Types of Activities Pursued by the Centre

To fulfill its objectives the Centre had been and is pursuing the following activities:

(i) Training Activities

Courses, seminars and other training activities are organised by the Centre for the following groups of managerial staff in industry:

- Top management
- Upper middle management
- Middle management
- Line supervisors & foremen.

These activities are held in different management techniques: General management, production management, production planning, plant maintenance, materials handling, layout, financial management, cost analysis and cost control, marketing management, purchasing, personnel management, office management, supervisory training, etc.

The training activities held are classified as follows:

(a) According to levels of courses:

Appreciation courses: These general introduction is made to management science and its constituent techniques to participants of top management or upper middle or middle management with different background.

Basic Courses: In which basic principles of certain field of management topic is treated like production planning & control, personnel management - for participants of top & middle management.

Advanced Courses: Designed for experienced senior executives and advanced staff of comparable responsibilities in industry in which extensive treatment of certain management techniques are made e.g. CPA/PERT, design of control systems - treated from basic principles to implementation.

Special Courses (Tailored made)

(i) To cope with certain requirements of a company i.e. to train its staff on certain techniques e.g. Planning & Control with special emphasis on CPA - for planning engineers of Engineering Industries Co.

Or (ii) Special training for company staff to provide assistance for the Centre staff to carry out specified consulting assignment e.g. Job Analysis, Stock Reduction.

(b) According to length of courses:

Short Courses: Appreciation courses, seminars & review programmes which are held for one week or less.

Long Courses: Basic, advanced and special courses which are held for more than one week mostly followed by implementation projects.

(c) According to type:

Conferences: Usually held for 2-5 days for one level of management (top management & upper middle management) to discuss one or two related topics e.g. decision making, organizational structure, for the purpose of exchanging experiences and views.

Residential Seminars: It is usually a long course lasting 3-5 weeks for one or two close levels of management to discuss several integrated topics of General Management in particular.

In-Centre Courses: They include all kinds of courses (basic, appreciation, advanced, etc.) which are held at the Centre's premises or at rented meeting halls.

In-Plant Courses: They are mainly the Training Within Industry and tailored made courses which are usually held in the industrial organisations.

Most of the training courses are followed by project implementation carried out by the participants in their respective industries under the supervision and follow up of the Centre's Staff for a period mostly twice or three times as long as the duration of the course. Course certificates were introduced and recognised as legal documents. They were presented to participants, subject to a minimum attendance qualification and notification concerning project implementation. The certificates were signed by the Chairman of the Board of the Centre on behalf of the Board. They contained details on the subjects given in the courses.

The total number of courses held by the Centre up to mid 1970 is 167 in which 2350 participants from various industrial & commercial organizations took part.

The table below indicates distribution of the training activities among the departments of the Centre:

<u>Department</u>	<u>Number of Courses</u>	<u>Number of Participants</u>
General Management	13	402
Personnel & Industrial Supervision	81	683
Marketing Management	12	228
Management Accounting	29	582
Production Management	32	455
<hr/>		
Total	167	2350

The number of industrial and non-industrial organizations (public & private sectors) which benefited from the Centre's training activities were in the range of 200 organizations.

(11) Consulting Services:

With an unabated expansion and diversification of total activities of the Centre, the most striking development was the Centre's rapid expansion into a wide variety of advisory and consultancy assignments. These services were, at the beginning, mainly concerned with the projects as part of course participations, but later developed into independent consultancy assignments.

Major assignments carried out in the past few years include:

- + A spinning & weaving company felt in need for establishing strict control over its stock of raw materials, spare parts, in process materials, semi-finished and finished products. The Centre offered effective services in this respect which fruited into the release of about D 325,000. Further elaborations on the recommendations and proposals

submitted indicated larger savings than anticipated.

- + The Centre offered consulting services to the Iraqi Republic Railways regarding building a plant for wagon manufacturing. The final report together with three-dimensional model of the plant whose 1st stage capacity is 100 carriages per annum, was submitted to and approved by the Board of the Railways. Preliminary steps are being taken for the implementation of this project.
- + Consulting services were offered in the field of marketing for two major companies of the Food Industry. Reports which included recommendations and proposals were submitted and approved. In essence the reports called for re-organizing the marketing departments, and establishing sections for advertisement & sales. Early results indicated strong possibilities of increasing sales and reducing cost of marketing overheads.
- + Job evaluation assignments were carried out in Cotton Seeds Products Co., Cement Co., and Electrical Fitting and Equipment Co. The Centre actively participated in the permanent committee formed by the State Organization of Industries to carry out Job Evaluation programmes in four of its major companies. The Centre trained task forces in these companies provided Job Descriptions for the purpose of evaluation under the supervision of the permanent committee.

- + The Centre acted as consulting body in establishing Management Service Units and provided the necessary training courses in the Cement Co. and a company of the Food Industry. The Centre coached these units in the implementation of their projects in the early stages of establishment.
- + The Centre participated in the Incentive Schemes Committee formed by the State Organization of Industries. This Committee carried out studies and submitted recommendations for the implementation of incentive schemes in similar companies of the State Organization.
- + On request from the Dairy Administration, the Centre installed Standard Procedure Instructions for 160 jobs affecting 500 people. This task included drawing Organization charts and simplified Job Descriptions.
- + Consulting service was offered to the National Leather Manufacturing Co. to install a Costing System. The final report which included the consulting team observations and recommendations was submitted and adopted by the company.
- + In the early part of 1968 an extensive assignment in Resource Utilization Improvement was undertaken for the textile industry, a member of the State Organization of Industry. This was, to be a multi-function multi-level consultancy effort that would set the pace & pattern for all of the Centre's planned consultancy work.

It is to be mentioned that this textile industry is an important industrial sector, and at the time consisted of seven companies with total assets amounting to D 10 millions (about U.S.\$30 millions) and suffered from serious managerial and technological problems.

Specifically the areas selected for investigation were:

- Financial performance
- Material utilization
- Machine utilization
- Manpower - planning, selection, training, development, records.
- Functional organization & authority structure
- Existing incentive schemes - Nature, coverage and effect.
- Union representation of labor-coverage operation & effect.

The assignment was conducted in three phases, the first dealing with the survey of all seven companies to determine precisely the areas of study appropriate to each. The second and the third phases comprised detailed studies in two of these companies leading to implementation of improved arrangements.

+ Some of other assignments were carried out in the following industrial organizations:

- Engineering Industries Co. - Reorganization
- Electrical Fitting & Equipment Co. - Marketing
- Light Industries Co. - Reorganization & development.
- Northern Cement Co. - Productivity study.

The total number of major consulting assignments undertaken was (32), from which (29) different industrial and non-industrial organizations benefited

(iii) Research Activities

Research activities were carried out in the fields of particular importance for the management development in Iraq in general, and for the practical activities of the Centre in particular.

In principle, a research activity is directed to the collection of information and examples of management practice in the various types of enterprise. Enquiry is conducted by questionnaire and personal interviews. The data collected is edited to provide comparative studies, published in survey form, and disseminated throughout the management community with a view to improvement of management practice generally.

Highlists of past activities:

- In order to carry out a survey of the leading industries in Iraq, a questionnaire was issued aiming at the assessment of the needs of general management. This, however, was found not to be sufficient and personal interviews, although more time-consuming, proved more practical and enabled insight into the managerial climate in Iraq. The information collected in that way assisted materially in preparing the immediate work programme at top management level. It was reviewed and adjusted to suit further needs and requirements.

- A survey questionnaire prepared by the Management Accounting Department was tested on a specifically selected sample of firms and the evaluated results confirmed that the direction of the current Management Accounting Course was correctly oriented for the conditions prevailing in Iraq.
- Analysis of the results of another survey carried out by the Marketing Dept. of the Centre revealed that there was virtually no marketing or sales organization in most industrial companies that replied to the questionnaires prepared by the Dept. The additional visits to other organizations than those circularized confirmed that the marketing function had in no way been developed in Iraq. This survey revealed areas which should be introduced into courses conducted by the Centre and helped better orient the courses to the needs of the country.
- A research project on the economic conditions in Iraq was carried out in the period 1964-65. It aimed at providing a general description of the economic base of the country, and assessing the significance of its business indicators. The descriptive material prepared for the project was presented as a series of lectures in a Faculty Training Course.
- An analytical research project "The Authority System in Iraq" was undertaken. It included the analysis of social and cultural factors associated with authority, and relating to the management development work.

- A research project "A Cultural Basis for Management Development in Iraq" was carried out. This project arose from and replaced the above-mentioned project "Authority System in Iraq" which formed only a part of the larger project. A paper on this subject was presented at a Top Management Residential Course.
- Within the Centre the Management Research Group is providing information service to the other sections.

(iv) Research-studies and Publications

The Centre is also concerned with developing managerial knowledge within its staff and making it available to all those in the management field in Iraq. For this purpose much time is given to reading and studying books and journals, mostly published abroad. As much information as necessary is sought about the management topics under study, material is then sifted and carefully chosen for its applicability to management in Iraq and published in one or more of the following:

1. Monthly bulletin of the Centre.
2. Other technical and management magazines such as the "Magazine of Iraqi Management Association".
3. "The Industrial Magazine" published by the "Federation of Industries".
4. "The Economist Magazine" published by the "Iraqi Economist's Society" and
5. Other publications.

Some of the most recent achievements of the Centre in ^{this field} (for 1969-1970) are:

- (a) Translation into Arabic of two famous books published by the I.L.O.

1. **Creating A Market.**
 2. **How to Read A Balance Sheet.**
- (b) Inclusion in its monthly bulletin of scores of Research-study summaries and articles, some of which are:

1. **Collective Bargaining.**
2. **Basis of Sales Development In Industrial Organisations.**
3. **Cost Estimating As Means of Planning And Control.**
4. **Problems of Industrial Relations.**
5. **Practical Planning For The Execution of Engineering Projects by Critical Path Analysis.**
6. **The Importance of The "Arab Common Market" In Developing Exports of Iraq.**
7. **Financial, Social And Psychological Incentives.**
8. **Challenges Met By The Production Managers In The Iraqi Industries.**

The Centre has also prepared and published three guides:

- a) **Job Evaluation**
- b) **Industrial Safety**
- c) **Personnel Records.**

(v) Encouraging Professional Organizations:

It is the Centre's policy to encourage establishing management and related technical organizations, and support their activities.

One of the significant contributions in this respect is the formation of the Iraqi Management Association. The idea of establishing the I.M.A. was initiated in a top management seminar organized by the Centre in May 1966. A preparatory committee was elected by and from participants of the seminar which undertook the legal and technical procedures for the establishment of the I.M.A. The main objectives of the association are:

- To promote managerial and social consciousness conducive to the development of Business and Industrial Management in Iraq.
- To raise the scientific and professional levels of members and to improve their managerial skills and competence.
- To study questions relevant to business administration from the scientific viewpoint in case such questions are presented to the association from parties concerned and any other legislation and decrees having connections with management in Iraq.
- To forward technical information and scientific consultation to organizations and individuals consistent with the objectives of the Association.

Membership of the Association:

Persons accepted as members are mainly those who occupy top posts in the state and private business and industrial organizations.

- Ministers, deputy ministers and their assistants
- Managing directors and general managers of government enterprises and large private companies.
- Deans of colleges, professors and senior lecturers of management science and accountancy.
- Specialists (National Staff) of the Management Development Centre (The National Centre).

The Association had organized several panel discussions and lectures on current topics such as: The Arab Common Market, Workers Pension's Law and Social Security, and the Optimum Accounting System in Development of Arab Economy.

The Association publishes a quarterly magazine in Arabic containing many important business and industrial management articles by outstanding figures in the Iraqi Management Community.

Samples of Training, Consulting and Research Activities

1. Training Activity

Title:	Waste Reduction Programme
InCentre theoretical course:	One week
InPlant implementation projects:	Six weeks
Preparation time:	Three weeks
Review meetings:	One day
Programme director:	Specialist (National staff)
Session leaders:	Specialist (" ")
	Two experts (I.L.O.)
Date of course:	11/3 to 27/4/1967
Number of participants:	Fourteen

See Appendix (I) for list of designations and organisations of participants.

Objectives

1. To reduce material waste in selected process-industries in Iraq where it is known to occur in excessive proportion and at high total costs.
2. To promote waste consciousness in the Iraqi industry, and create models which can be used in other needful situations.
3. To develop knowledge and experience within the centre in the field of waste-reduction which, at present, is highly significant in the Iraqi industry.

InCentre Sessions

All concepts and techniques presented within the one week theoretical part were supported by realistic examples and true cases. This was highlighted by three case studies, Prepared with considerable effort by different members of

the Production Management Dept. They were selected from industries represented in this programme, and the respective participants assisted in the preparation and presentation. The third case study was very carefully presented in the form of a role-play in which participants played the leading roles. The presentation was made partly in English and partly in Arabic.

Plant Implementation Projects

- (i) A specific plan was prepared, together with instructions to serve as a guide for the various stages of the assignment.
- (ii) Projects, with the objective of waste reduction at certain stages of production process, were selected by participants in their respective industries. The six weeks were spent in locating the areas of investigations, investigating the original process involved waste in production, making use of the theoretical course material which involved methods of waste reduction, and finally submitting reports with conclusions and recommendations.

During the six weeks, the Centre's staff conducted on-site meetings, coached the participants and provided the necessary instructions.

- (iii) A two-session Review Meeting was held at the end of the project period, in which reports were submitted on the project-work carried-out, and the background in which that was done. Very useful discussions and exchanges ensued, and the meeting could have usefully been extended, had that been possible.

- (iv) Actual implementations of recommendations and proposed modifications took place after the approval of the authorities at each industry.

See Appendix (II) for summary of one project.

Conclusions

- (i) In cases where further detailed investigation was required, and where implementation was of a major nature requiring protracted assistance by the centre if it got involved, it was suggested in the participants' final reports that an official request for consulting-services be made to the Centre.
- (ii) The scope and actual achievements varied with the local situation and the commitment of those concerned. It can be noted that, in certain cases, substantial results failed to be achieved mainly because of lack of enthusiasm and "commitment" on the part of the participant and others concerned within his organisation. This regrettably restricts achievements, reduces the benefits gained from the programme by the industry, and lowers its effectiveness. Heavier commitment by the organization and its participant is, in good many instances, deeply required.

2. Consulting Activity

The Assignment

Title : Stock Reduction Assignment at Spinning & Weaving Company.

Task Force: Three persons from the Company.

Consultant Team: One I.L.O expert and one specialist (National Staff).

Total Number of Reports Pages Submitted: 95 pages.

Information About The Company

(a) Historical Background:

The Spinning & Weaving Company is one of the oldest industrial enterprises in Iraq, having been established in the mid 1920's. The Company was nationalized in July 1964. The Company employs 900 workers and is engaged in the production of woolen textile products such as cloth, blankets and yarn. The growth of the Company in terms of volume and sales, has been steadily increasing over the last five years. The total sales have gone up from D 415,000 in 1961/62 to 1,140,000 in 1965/66. The programme for 1966/67 is about D 1,300,000.

(b) The Scope of Inventory Control in The Company

The scope and usefulness of inventory control in the Company can be clearly understood from the analysis, based on balance sheets, given in Appendix (III). A few significant conclusions are:

(i) The investment in inventory exceeded that of Fixed Assets (land, buildings, machinery, etc.). The respective figures for the last three years are:

	1962/63	1963/64	1/4/64 to 12/7/64	11/7/64 to 31/3/65
Fixed Assets	496,945	482,787	482,819	492,684
Investment in Inventories	649,847	599,177	714,520	666,731

- (11) The total time-lags between raw material getting into the plant, and the same being despatched as finished goods, were 16.23 months in 1962/63; 14.42 months in 1963/64; 15.56 months from March 1964/July 1964 and 9.94 months from July/March 1965.

Objectives of The Assignment

The purpose of the assignment was agreed to be: "Reducing the heavy current investments in materials, spareparts and supplies".

More specifically it was agreed to be the "improvement in the productivity of capital sunk in inventories". It was also agreed that this would be fulfilled by the achievement of optimum conditions in:

- Stock levels.
- Stock service.
- Stock organization and procedures.
- Staff effectiveness in stock control.

To meet this objective a "Task Force" and a "Consultant Team" were formed.

Functions of The Task Force:

- (a) The Task Force was fully responsible for achieving the objective of the assignment.
- (b) The Task Force made best use of the advisory and training services of the Consultant Team.
- (c) The Task Force was fully responsible for its decisions and actions and for achieving results.
- (d) The chief of the Task Force was fully responsible head of the Force.

Functions of the Consultant Team:

- (a) The Consultant Team provided a full advisory and training service to the Task Force.
- (b) The Consultant Team was fully responsible for the quality of its advice and training, but did not have an executive role under the assignment and therefore did not have an executive responsibility.

Means of Achieving the Objective:

The achievements have been accomplished largely through:

- (i) A basic change in stock and production policies whereby optimum investment and cost conditions are approached. The effect of this policy change is a steadier and more economic production programme throughout the year and lower stock levels in finished goods, work-in-process, materials stores and parts.
- (ii) A change in the stock policies for slow-moving and dead stocks where by these stocks have been disposed of through sales or salvaging.
- (iii) A major overhaul of physical storage conditions, house-keeping procedures, store records and procedures.

Advantages:

- (i) Capital investment actually released through reduction of stock level during 1965/66 totalled B 35,000.

(ii)	Saving achieved through the disposal of the large inheritance of slow-moving and dead stock including yarn, cloth, rayon fibre, obsolete spare parts and in reducing the operating cost. 225,000	D 45,000
(iii)	Capital investment released through reduction of stock level during 1966/67 totalled	D 245,000
		<hr/>
Total		D 325,000

(iv) The implementation of the recommendations also resulted in:

- (i) Better production planning whereby smoother production schedules were carried out.
- (ii) A basic change in purchasing procedures whereby a steadier ordering and delivery programme was implemented.

3. Research Activity:

The text of this survey was part of a paper titled "Materials Management" delivered by Mr. Y. Abouha (Specialist-Production Management) at the Pan-Arab Top Management Residential Course which was organized by the Centre in Oct. 1966, and to which guest speakers were invited from the National Institute of Management Development in Cairo.

The Importance of Materials Used in Production in Iraq

The importance of materials used in the Iraqi Industry is of equal importance to those used in industries of developed countries. This is due to bad utilization of materials in general and stocking them in unduly large quantities.

For the purpose of illustrating the importance of materials used in industry it is sufficient to know that the investment ratios in the Iraqi industry are much higher than the same ratio in the U.S. industry. Table I indicates that investment in all assets in Iraqi industry is 70% higher than investment in U.S. industry for the same standard of production. Hence for the production of certain quantity of a commodity, the capital required in Iraq is 70% higher than required capital in U.S.

One of the main reasons for having such a high ratio of investment in materials is that the Iraqi companies invest 17.5% in inventories, 3.5% in credits, 3.9% in goods in transit, 1.6% in pre-paid expenses etc. making a grand total of 26.5%, while the same total in the U.S. does not exceed 4.8% of the total capital invested in all assets.

Notes

1. Sum of total assets of companies of the State Organization of Industry is about 1045 millions. Therefore this survey can be considered comprehensive for 31% of the total capital invested in the companies of the S.O.I.
2. Investment in productive resources
(Land, Buildings & Machines) = 4,833,670

Table I

* Comparison Between Invested Capital in the Iraqi Industry and U.S. Industry

Assets	Capital Invested in a Number of Productive Organizations in 1956 (1)		Capital Invested in the U.S. Organizations 1956 (2)	
	Millions of Iraqi Dinars	Percentage of Total Investment	Millions of Iraqi Dinars	Percentage of Total Investment
Land, Building & Machines	4,833,670	36.1	32.0	81.3
Inventory	2,362,810	17.6	2.5	4.8
Receivables	2,268,080	16.8	11.2	21.5
Cash & Bank Balance	1,106,820	8.2	1.0	1.9
Other Assets	2,858,260	21.3	5.5	10.5
	13,435,640		52.2	100%

* The figures produced here are compiled for a limited number of companies from both Iraq and the U.S. These companies have been selected so that they are of similar industrial nature.

(1) Ref. Annual Financial Statements of some companies of the State Organization of Industry.

(2) Ref. Publications of the U.S. Department of Commerce.

Investment required for other items
e.g. inventory and current assets
based on the known ratio in the U.S.

$$4,833,670 \times \frac{38.7}{61.3}$$

= 3,051,800

3. Therefore investment required based
on the known rate in the U.S.

= 7,885,270

4. Actual capital invested in Iraq

= 13,439,640

Hence capital invested in Iraq is equivalent to 170% of that invested in the U.S. for similar level of production. This matter undoubtedly raises concern particularly in a country badly in need for capital required for its economic development since the utilisation of capital invested is much less than it is in the developed countries.

Establishing Management Services Units in Industry

The Centre, through its contacts with the Iraqi Industry, realised that the demands on the services it offers are far beyond its resources. The Centre therefore adopted the strategy of establishing internal management services units in certain potential companies.

To achieve this goal the Centre organised a course in "Industrial Engineering Practices" which was divided into two phases:

- Phase 1 : In-Centre training for ten days, from 7th May, 1966 to 16th May, 1966 during which management techniques were introduced and discussed.
- Phase 2 : Implementation part which lasted for six months and which involved the organisation of the services units in the interested participants companies and the carrying out of projects by these units under the supervision of the Centre's Staff.

Eight industrial and public services organisations were selected to participate in the course with a total number of 16 participants.

Achievements:

During the implementation phase two management services departments were established in two of the participating companies and below are the achievements of these departments.

Company A:

This company belongs to the cement industry in which the established management service department, upto May 1968, carried out three main projects in their factories which resulted in cash saving of about Rs 50,000.

Project No. 1:

This project involved the installation of a tubing machine newly purchased by the company for their Paper Sack Factory.

The determination of the optimum position for this machine involved a new layout for the Factory which resulted in:

- The improvement of storage space.
- more effective material handling which resulted in the reduction of distance travelled and time consumed.
- Higher manpower productivity.

Project No. 2:

This project was concerned with the planning and control of ^{the} production of paper sacks in the Paper Sack Factory. The study resulted in a production programme which took into consideration the actual requirements of the cement factories from paper sacks based on the actual needs of these factories during the past periods. This programme was drawn into the form of a Gantt Chart which allowed for closer control.

The implementation of the project yielded the following results:

- The release of a substantial sum of money sunk in store.

- The release of storage space which led the company to abandon the idea of building a new store which would have costed about D 15,000.
- The reduction of process time upto 50%.
- The reduction of waste in tubes and sacks.

Project No. 3:

This project involved the practical application of method study in sack making, the implementation of this project yielded the following results:

- Simpler ways of inspecting tubes and sacks.
- Reduction of the drying time which led to the reduction of the number of sacks being stuck together.
- The release of some 20 workers from their duties and their transference to other tasks.
- Better quality of tubes and sacks.

Company B:

This company belongs to the Food Industry, in which a committee was formed during the implementation phase to investigate the existing reporting system in the company.

The committee in which the Centre was represented worked for six months and installed a complete "Management Control Reports System" which enabled the management to be in full possession of the information needed for decision making.

At the end of the implementation phase a management service department was established which carried out many projects but no official reports were received by the Centre.

Job Evaluation

It was previously mentioned that the Centre carried out two job evaluation assignments in two of the companies belonging to the State Organisation of Industry namely:

1. The Cement Group
2. The Cotton Seeds Products Company.

These assignments were the first comprehensive work of its kind in Iraq which took place between May 1966 and July 1967.

After the implementation of these assignments many companies belonging to the S.O.I. requested the Centre to undertake similar tasks. These requests were far beyond the available resources of the Centre.

The Centre therefore suggested the establishment of a Permanent Committee which should be represented by the Centre, The Ministry of Labour and by the personnel who had participated in the above mentioned assignments.

The Committee was formed in November 1968. The functions of the Committee were:

- The coordination of the requests and the selection of the companies in which job evaluation plans were to be carried out.
- The formation of a Task Force in each individual company where job evaluation plan would be implemented and the selection of the personnel of the task force.
- The participation of some of the committee's members in the Task Force.

- The revision of the work of the Task Force and its approval.

The role of the Centre apart from participating in the committee was:

- To train the members of the Task Force in the techniques of carrying out job descriptions.
- To make sure that the members of the Task Force are capable of preparing job descriptions through practical exercises.
- The provision of reference material for job evaluation.

The committee undertook four such assignments in four companies namely:

- The National Leather Manufacturing Company.
- The Asbestos Manufacturing Company.
- The Vegetable Oil Extraction Company.
- The Rayon Manufacturing Company.

All these assignments are in the final stages of completion.

Conclusions

The Centre achieved the following objectives:

1. The diversioⁿ of the resources of the Centre toward other government departments where they were most needed.
2. The establishment of management functions which are not already practised, for example, quality control, materials handling, Plant layout, installation of management controls, in the companies where such departments were formed.

3. Giving the management of the companies where such departments were established a first hand aid to the solution of their problems.
4. The creation of scientific management consciousness in these companies.

Services Offered to Non-Industrial Organisations

The non-industrial organisations made full use of the training courses organised by the Centre by sending their appropriate personnel to participate in these courses. In fact, many courses were prepared mainly for non-industrial organisations.

In the early stages of undertaking consultancy assignments, the Centre however concentrated its efforts toward the industrial enterprises. But during the last two years the Centre undertook completely or participated actively in twelve assignments concerning non-industrial sectors.

The following are samples of the services offered to such organisations:

1- The Consultancy Assignment at the Baghdad Passenger Transport Service (BPTS).

The Centre, in February 1969, undertook an assignment at the B.P.T.S., the objective of which was:

"To develop a layout of the new bus maintenance workshops".

To achieve this objective two teams were formed:

Team 1: This team was concerned with the Body Re-building process. It carried out a production study which covered the entire overhauling process to determine the time required for various elements of overhauling operations.

The time for the entire process was reduced by over one-third through the elimination of some avoidable delays and by arriving at proper and systematic sequence of operations.

Team 2: This team concentrated on the Mechanical Overhauling section. The team investigated the various effective ways of using the areas allocated to Mechanical Overhaul.

The results of the investigation may be summarised as follows:

- A practical method of separating the body from the chassis.
- A realistic sequence of stripping and cleaning operations.
- A detailed layout of all equipments used in reconditioning of engines and other parts.

The findings of both teams were implemented by the E.P.T.S. in the beginning of 1970.

2- The Industrial Survey Programme:

The Centre participated in the Industrial Survey Programme which was undertaken by the Central Statistical Organisation in the Ministry of Planning in co-operation with the Industrial Development Centre for Arab States- Arab League.

The objective of the Programme was:

"To assess the present situation of industry in Iraq in order to establish solid basis for industrial development in the next Five Years Economic Plan and to take measures to overcome the existing problems facing the industry".

The work involved a field survey aiming at collecting a variety of information concerning the following topics:

- Raw materials used.
- Types of produced goods.
- Designed, available and actual production capacities.
- Quality control.
- Planned expansions.
- Types and durations and of reasons unplanned stoppages.

The participation of the Centre involved the full time work of five of its specialists for periods ranging from three to six months which amounted to 720 man-days.

3- The Job Description Assignment:

The Centre participated actively in the preparation of job descriptions undertaken by the "Committee Studying laws and Regulations

of Services in the Government and the Public Sector".

The objective of the assignment was "To get a sample of job descriptions of different jobs in different organisations which would form the basis for the new law of service in the government departments and the public sector".

The participation of the Centre involved the full time work of five of its specialists for a total period of 150 man-days which yielded 150 job descriptions plus the full time work of one of its senior specialists for 60 man-days who was involved in co-ordination and controlling the work of preparing the descriptions, analysing and drawing conclusions of the whole task.

The above objective was further developed so that the concept of job Evaluation was introduced in the draught of the new Civil Service law. This additional task was wholly performed by the Centre, making use of the job descriptions mentioned above.

Among other non-industrial organisations which benefited from the Center's services are:

- The General Directorate of Income tax.
- Directorate of Government Press.
- Al-Jumhurya Press.

Difficulties Encountered

The difficulties encountered varied in nature according to the progress made by the Centre since its establishment. They are treated here with respect to the past two and present phases of Centre's development.

Difficulties of Phase 1:

In the early years, the Centre endeavoured to sell itself to the management community in Iraq, and create a good image in the mind of business and industrial circles.

In all Centre's activities, particularly training courses, the national staff took every opportunity to clarify the objectives of the Centre and explain the importance of its role. This was well received and appreciated by participants of courses. In addition the Centre used personal contacts, bulletins, brochures, and other publications to familiarize the management market with its services. Furthermore, one of the means of promotion used was through issuing certificates for course attendance and project implementation which were important moral incentive for participants.

While striving to win the confidence and support of the Iraqi management community, the Centre had suffered immensely and still-to a certain extent-suffering from a shortage of technical and teaching staff who are prepared and convinced to meet the challenge embodied by the nature of the activities pursued. The Centre followed strict rules

in selecting its staff. It was seeking qualified persons with distinguished university education and industrial experience, but in return it had little temptation to offer in terms of salary and financial incentives due to budgetary restrictions. Fellowships and self development in management science were probably the main incentives for suitable staff taking up appointments at the Centre.

As regards the cost of accommodation for seminars and larger courses, budgetary provisions were often proving inadequate. This has eased up considerably since the allocation of sufficient budget by the Board of Planning to which the Centre is now attached.

One of the difficulties met in the early years, was the limited number of suitable participants for the courses which were conducted in English. This difficulty diminished as the language barrier was lifted by having well experienced national staff to deliver courses in Arabic thereby extending the number and levels of participants.

It was often a problem to find competent international experts in the fields of general management and marketing management. This created some difficulties in developing these departments within the Centre in the early years.

Difficulties of Phase 2 and Present:

After making considerable impact on the industry and its management through training activities, the Centre managed to take effective steps in the direction of consultancy. Hence a new difficulty arose in preparing competent national consultants.

Due to the increasing demand on the Centre's services, the process of developing its own staff had been hampered and prolonged. Newcomers, before going through proper development, had to be introduced to field-work under close supervision of a limited number of senior staff, thus taking appreciably long time to be adjusted to the nature of the Centre's activities and conform with the new field of operation. In addition the senior staff and international experts were not always available to train the newcomers, particularly in consulting techniques, due to their heavy commitments.

With the present expansive field of operations, undoubtedly new difficulties are arising, namely further development of existing staff to consolidate the new organization and cope with future requirements, and finding suitably qualified and experienced new recruits.

The present government in Iraq and the Board of planning provided strong backing and are just as concerned as the Centre's management to expand the scope of its activities and intensify its role.

Appendix I

11th. March 1967 - 19th. April 1967

(J. Mark DeCentre - 6 Weeks Implant)

List of Participant's Organisations and Designations

Organisation	Designation
1. Cotton Seed Products Co.	Production Manager - Soapery
2. " " " "	Production Manager - Edibles
3. Dairy Administration	Section Manager - Liquid Milk
4. Directorate of Supply	Baghdad - Bakery Manager
5. Fattah Faha Spinning & Weaving Co.	Production Manager
6. " " " "	Technical Supervisor
7. Iraq Jute Industry Co.	Cost Accountant
8. Iraqi Tobacco Co.	Factory Manager - Turkiya
9. Rafiq Hussain Oil Co.	Production Manager
10. National Carton Industry Co.	Planning Manager
11. Rafidin Detergent Industries	Process Manager
12. United Iraqi Paper Manufacturers Co.	Factory Manager
13. United Match Co.	Chemical Engineer
14. Vegetable Oil Extraction Co.	Chemical Engineer

Appendix II

Summary of Project Assignments in Waste Reduction

1.	Synopsis + Expectations	3.	4.	5.	6.
Orgn. +	Synopsis + Expectations	Source of Data +	Achievements +/ or	Report Finalization + Certificate	Advice +
Ptcipnts.	Synopsis + Expectations	Method of Analysis	Implementation	Report Finalization + Certificate	Advisory Hour
<u>ESTABLISH</u>	The objective of this study was to reduce the amount of caustic soda and sulphuric acid used in the oil refining process. Also this study was aimed to establish a control procedure to reduce the wasted quantities of the above mentioned materials.	Previous data of actual usage of caustic soda and sulphuric acid were used, and special method of analysis including graphs, process charts and tables were used.	The established method of control has been applied and some good results are already achieved.	Reported in English. The report was delayed to get the data after applying the control method.	M.M. Azzawi 3 visits of a day each, with 2 meetings of an hour each.
<u>IL</u>					
<u>EXTRACTION</u>					
<u>C.</u>					
Isabel A.					
Ajawi	<p>The study showed, after taking all technical points in respect that a saving of about D36,000 could be achieved. This saving could be achieved through minimizing the quantities of caustic soda and sulphuric acid used during the neutralization of crude oil and during the treatment of soap-stock, also through the savings of crude oil. The study showed that an average of 58.9% of caustic soda as well as 136.7% of sulphuric acid were used above the allowable limit. After applying special control method the actual caustic soda used were dropped to 12.2% only. This brought a total saving of D 3,057.9 per month or about D36,000.</p>	<p>A special control method was established, using essentially 2 graphs.</p> <ol style="list-style-type: none"> To show the readings of the flowmeter against the actual quantity of caustic soda used. To show the flowmeter readings against free-fatty acid of crude palm oil percentage. 	<p>The quantity of caustic soda used dropped from 58.9% to 12.2%.</p> <p>The savings which have been achieved through applying this control method were D3,057.9 per month. This saving was achieved through reducing the quantities used of caustic soda and sulphuric acid and also from the oil saved from going to soap stock.</p>		

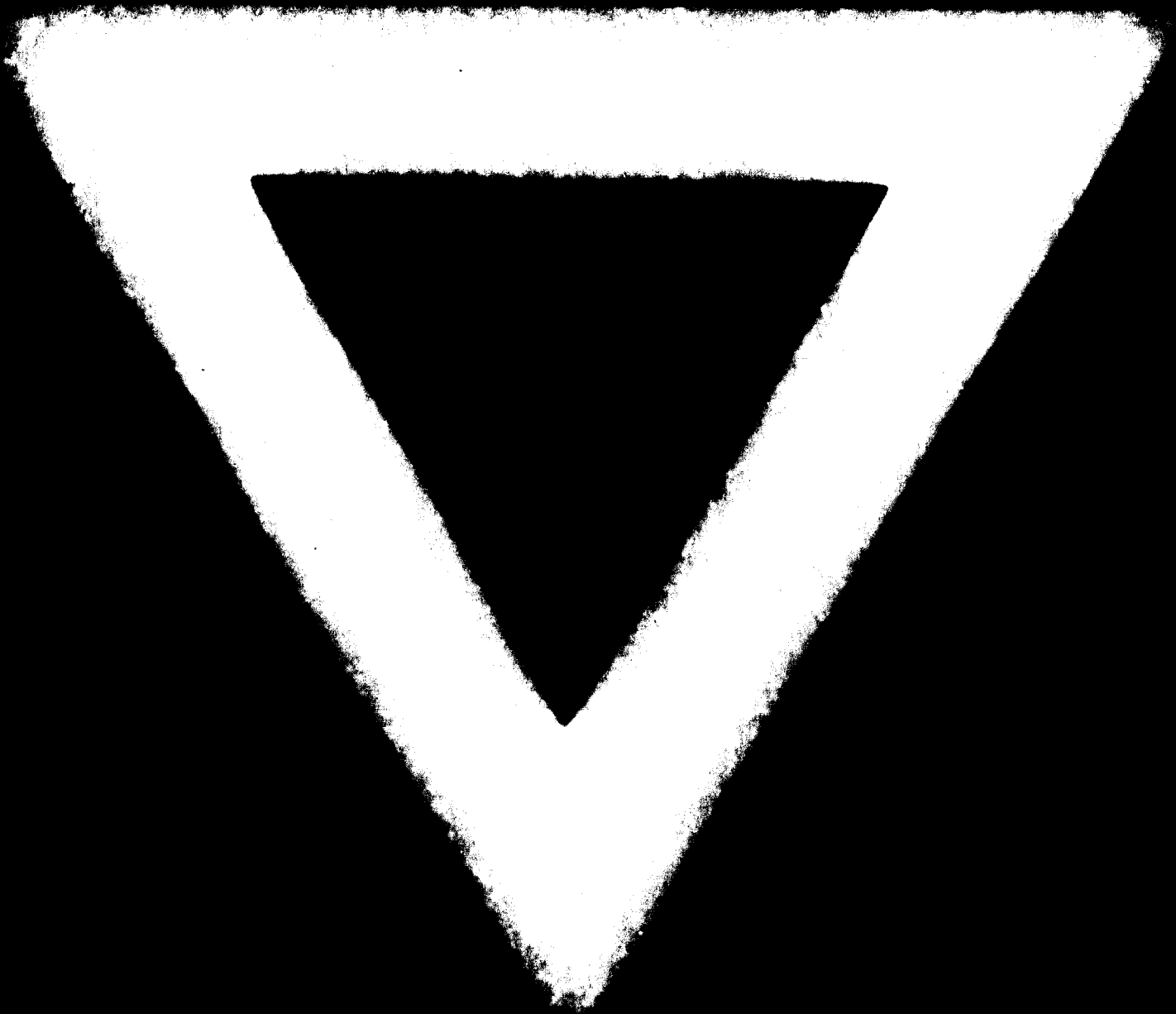
Appendix (III)

Spinning & Weaving Co.

Inventory Analysis

	<u>1/1/62 -</u> <u>31/3/63</u>	<u>1/1/63 -</u> <u>31/3/64</u>	<u>1/1/64 -</u> <u>31/7/64</u>	<u>11/7/64</u> <u>31/3/65</u>
Investment in Fixed Assets	496,945	482,787	482,819	492,684
Investment in Inventories				
a) Finished Goods	274,801	279,726	250,987	179,830 ⁺
b) Work-in-Process	129,390	151,865	209,023	203,109
c) Raw Material, General Stores and Spare Parts	231,136	128,461	228,018	238,800
d) Goods in Transit	7,748	21,876	4,142	55,774
e) Deposits for Purchases	6,772	17,249	22,350	9,218
	<u>649,847</u>	<u>599,177</u>	<u>714,320</u>	<u>686,731</u>
Ratio of Investment in Inventories to Investments in Fixed Assets	1.31	1.24	1.48	1.39
Total Sales (at production cost)	543,118	587,298	181,013	751,046
Turn-over period for Finished Goods (in months)	6.07	5.72	4.85	2.04
Consumption of Raw Material General Stores and Spare Parts	383,695	309,494	121,477	428,313
Turn-over period for Raw Material, General Stores and Spare Parts	7.25	4.47	6.57	4.74
Average Work-in-Process	109,531	140,628	180,444	206,066
Turn-over period for Work-in-Process (in months)	2.91	3.73	4.14	3.16
Total time-lag between material getting into the plant and its being con- verted into delivered sales	16.23	14.42	15.56	9.94

D 70,000 written off for sales of old stock.



74.10.18