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16555

31st May 1987
English

UC/EGY/86/042

FINAL REPORT ON THE ESTABLISHMENT OF AN INDUSTRIAL SUB-CONTRACTING EXCHANGE IN EGYPT

PREPARED FOR
THE GOVERNMENT OF EGYPT

BY

THE UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
ACTING AS THE EXECUTIVE AGENCY FOR
THE UNITED NATIONS DEVELOPMENT PROGRAMME

BASED ON THE WORK OF

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SENIOR EXPERT IN SUBCONTRACTING

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

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LIST OF ABBREVATIONS USED

UNIDO	-	UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION, Vienna
UNDP	-	UNITED NATIONS DEVELOPMENT PROGRAMME
EEC	-	EUROPEAN ECONOMIC COMMUNITY
BTN	-	BRUSSEL'S TRADE NOMENCLATURE
NASCO	-	NASR AUTOMOTIVE MANUFACTURING COMPANY
KOLDAIR	-	NASR ENGINEERING AND REFRIGERATION COMPANY
IDDC	-	INDUSTRIAL DESIGN DEVELOPMENT CENTRE, Cairo
GOFI	-	GENERAL ORGANIZATION FOR INDUSTRIALIZATION
FEI	-	FEDERATION OF EGYPTIAN INDUSTRIES
DIB	-	DEVELOPMENT INDUSTRIAL BANK
SMI	-	SMALL AND MEDIUM INDUSTRIES
SSI	-	SMALL SCALE INDUSTRIES
NACE	-	NOMENCLATURE OF (ECONOMIC) ACTIVITIES WITHIN EUROPEAN COMMUNITIES

The exchange rate at the time of this report was
100 U.S. $ = LE 218 (Appox)

ABSTRACT

This final report has been prepared by the senior expert in Subcontracting Exchanges attached to the project UC/EGY/86/042 meant for establishing an industrial subcontract exchange in Egypt. The expert worked for a period of 4 months (3 months starting from December 1986 and one month later) and was attached to IDDC, which is the executing agency of the project at the national level.

During this period, discussions were held with organizations like, GOFI, FEI, DIB, etc., and visits have been made to many large and small industries for collection of information or for assessing their capacity/upgradation requirements.

This report deals with the organizational scheme, staffing pattern, activities, financing, location and control board for the subcontracting exchange at IDDC. General terms of contract between a buyer and a supplier have also been suggested. A manual of operation for the subcontracting exchanges has been prepared which indicates the system for information processing at the subcontract exchange. Publicity materials including illustrative brochures have been enclosed. Present operating position of the subcontracting exchange has been indicated and problems faced by the industry have been highlighted. Incentives required have also been identified.

Recommendations have been made for policy initiatives which will generate a climate for subcontracting. Continued assistance to the subcontracting exchange through the regional Arab project has been envisaged.

SUMMARY OF RECOMMENDATIONS

1. The Industrial Design and Development Centre is already playing a promotional role for the SMI sector in Egypt. They provide techno-managerial assistances, workshop and other service facilities to many small and medium enterprises. As subcontracting exchange service should be seen as a part of the total assistance programme for the SMI sector, the IDDC is the proper location for the exchange.

(Para 9.01)

2. The national project for subcontracting exchange should continue to be assisted through the regional Arab programme as both programmes are inter-related and complimentary to each other.

(Para 9.02)

3. To enhance the technical capability of SMI sector, a technical extension service wing should also be attached to the subcontracting exchange. One expert each on tool design, plastic product development, quality control and machine shop practice should be available as early as possible. A tool room and a testing laboratory should also be established.

(Para 9.03)

4. A Control Board for the subcontract exchange should be created and a financial budget may be approved.

(Para 9.04)

5. Subcontracting Exchange personnel should be trained extensively in all spheres of subcontracting including data storage and retrieval from computer.

(Para 9.05)

6. Public sector undertakings should be pioneers in promoting subcontracting relationships with SMI enterprises. They should provide raw materials, tools and dies and techno-managerial assistances to their subcontractors. "Guidelines" may be issued by the Ministry of Industry for this purpose.

(Para 9.06)

7. An apex oragnization for the promotion and development of SMI industries may be created within the Ministry of Industry which may

- Define SMI sector
- Provide credit guarantee to SSI sector
- Ensure prompt payment to subcontractors
- Offer 15% price preference to SSI units
- Reserve items to be exclusively procured from SMI sector.

(Para 9.07)

8. Industrial accomodation with necessary infrastructures may be provided to small entrepreneurs. Large industries may be given financial incentives if they build "industrial estates" for their subcontractors.

(Para 9.08)

9. While approving new project proposals, clearance may not be issued for creating "in-house" capacity for such items as could be manufactured in the subcontracting sector.

(Para 9.09)

10. A definite percentage of total fund available for the industry sector may be ear-marked for the SMI sector only. This can be monitored by the Central Bank as well as by the Ministry of Industry.

(Para 9.10)

11. Interest rate chargeable to SSI enterprises may be at least 5% lower than the normal.

(Para 9.11)

12. Security deposit (at the rate of 10% of the order value) should not be charged from subcontracting SMI enterprises.

(Para 9.12)

13. Federation of Egyptian Industry may play an effective role in developing faith and mutual dependence between large industries and their subcontractors. Large industries in the private sector should be persuaded to enter into long term contract with their subcontractors and provide them raw materials, tool and dies and also technical assistance.

(Para 9.13)

1.0 INTRODUCTION

1.1 I worked as an UNIDO Consultant on Subcontracting in the Project UC/EGY/86/042 for "Establishment of a National Subcontract Exchange in Egypt" for four months - 3 months at the 1st instance and one month later. I arrived at Cairo on 10th December 1986 and started working with IDDC from 11th December. This project overlaps with the regional Arab project on Subcontracting (DP/RAB/86/001) and further assistance to this national project will continue through the Regional Project.

1.2 The Job Description for the project is enclosed (Annexe "1"). The terms of reference of my mission were:

- Survey the industrial capacities and capabilities mainly in Cairo in the Engineering and Metallurgy fields in order to identify a list of industrial enterprises to be covered by the exchange.
- Survey the production adaptation/upgrading requirements of the enterprises.
- Consult with Government and other Institutions involved for providing facilities and incentives to subcontractors.
- Workout a legal frame work, the organizational scheme, activites, financial, staffing and location of the proposed exchange as well as of its Control Board.
- Devise a system for processing the information dealt with by the proposed exchange.
- Prepare and disseminate promotional material for joining the exchange and run seminars for industrialists to explain the benefits of joining the exchange.

1.3 I was associated with a team comprising Engineer Ezz El Sharkawy, Director General, Engineer Nabil H. Soliman, Manager of Technical Extension Services and Training, and Mr. Sabry M. Abou El-Inain who is designated to take charge of the Subcontract Exchange. Mr. Sabry was my counterpart

1.4 Many organizations and individuals were contacted for discussions about the prospects of subcontracting in Egypt. A list of such organizations and individuals is available at (Annexe "2). Based on the data base available a list of 110 industries has been prepared which are to be visited for obtaining detailed information for their registration with the subcontract exchange. Large industries likely to have scope for subcontracting have also been identified. These lists of large and small industries are grouped in (Annexe "3" and Annexe "3B"). Plant visists were conducted on a large number of units and a summary of the same can be seen at (Annexe 4"). An organizational chart for the subcontract exchange is shown in (Annexe "5A"). In Annexe "5B"), some general conditions of contract between a large and a small unit have been provided. A manual of operation of a subcontract exchange which details the flow and processing of information can be seen at (Annexe "6"). Publicity materials for brochures carrying the message of subcontracting are enclosed in (Annexe "7A" and Annexe "7B").

2.0 SMALL INDUSTRY SECTOR

As a background to the establishment of a subcontracting exchange at Cairo, it will be fruitful to have a look at the small industry sector in Egypt.

2.1 Status:-

Egypt has embarked upon a policy of industrialization in a big way and the private sector of industry particularly the small scale units play a significant role along with the public sector undertakings in the overall development of the economy. As estimated by Arthur D. Little International and Associates in their study, review and evaluation of SSE in Egypt 1982, there are about 7,800 industrial establishments in the country employing more than 10 persons. Out of this only 265 units are in the public sector and approximately 7,530 units are in the private sector. About 92% of these private sector units employ between 10 to 50 persons and 7% employ between 50-200, while the remaining 1% employ more than 200. The table below from the same reference summarises the position.

TABLE

INDUSTRIAL ESTABLISHMENT IN EGYPT
(1980 - 1981)

Classification	Grand Total	Sector		Private Sector by Employment			Law 43 * Companies	% of Private 10-50 Employee
		Public	Private	10-50	50-200	200 +		
Textile	1642	42	1600	1350	215	35	24	86 %
Food Processing	850	50	800	650	125	25	20	81 %
Metal & Eng'g	2006	66	1940	1900	37	3	38	98 %
Chemicals	624	65	560	430	95	35	52	77 %
Leather	783	3	780	770	8	2	3	99 %
Building Material	1980	40	1850	1800	30	20	11	97 %
Total	7785	265	7530	6900	510	120	148	

* In operation on 31/12/80 Law 43 companies generally employ 50-200 or more employees.

The role of the private sector will also be apparent from their share of the totaLindustry output of the country.

SMALL SCALE ENTERPRISE SHARE OF MANUFACTURING OUTPUT (1980-1981) *

Industries	Gross Value of Output (LE) million	Private ++ Sector Share		10 - 50 Employee Establishment	
		Value (LE million)	%	% of Private	% of Total
Textile	1400	350	25	40	12
Food Processing	2000	500	25	60	15
Metal & Engineering	1400	252	18	84	15
Chemical	670	235	35	35	12
Leather	450	423	94	96	89
Building material	200	40	20	45	9

It will be seen that out of the estimated gross output of LE 6.1 billion in 1980, the private sector units accounted for about 30%. The output of small units between 10-50 employees is estimated to be LE 1.2 billion or about 66% of private sector output or 19% of the total industrial output.

* Arthur D. Little estimates based on Ministry of Industry, Ministry of Planning and Federation of Industry Data.

++ Includes all establishment with 10-200 employees but not covered under Law 43.

2.2 Definition of SSIs:-

Small industries, which form the vibrant sector of any economy, do not have any standard definition and it varies from country to country. The definition may cover limitation on Capital Investment, employment of labour, or even level of sophistication. Egypt however, has three separate definition of small industries. The Ministry of Industry consider enterprises employing between 10 to 100 workers and investing in fixed assets excluding land and building not more than LE 500,000, to be classified as small industries. The Development Industrial Bank, however, follows the definition suggested by World Bank.

Category	Fixed Asset excluding Land and Building
a) Very Small Industry	- Up to LE 210,000 (US$ 96,000)
b) Small Industry	- Up to LE 420,000 (US$ 193,000)
c) Small & Medium Industry	- Up to LE 2.75 million (US$ 1.262,000)

(All values are in 1983 prices and will be adjusted at current prices).

The Federation of Industries considers enterprises employing 25 workers or investing LE 5,000 in fixed assets as small industry.

2.3 Sectors Having Scope For Subcontracting:

Egypt has a pronounced public sector of industry which produces about 70% of the gross industrial products. The main sectors of production in the economy are:

1) Textile
2) Food Processing
3) Engineering and Metals
4) Chemicals
5) Leather
6) Building and Materials

Out of the above, the first three groups contribute about 80% of the total industrial production. Scope for subcontracting by Feeder industries in the textile as well food processing industries should exist and could be investigated in depth. However, experience has shown that the Engineering and the metal sector offer the maximum scope in developing linkage between large and small industries. This area will also have the potential of being linked with the Arab region or EEC markets. Automotive sector which includes manufacture of Passenger cars, Trucks, Buses, Motor Cycles, offers a very good scope for interlinkages. MS/NASCO, the public sector company operating in the field, has also a feeder industry development division and are committed for inter industry cooperation. The Railway Wagon and Coach manufacturing activities should also provide ample scope for developing capable feeder industries. Similarly Refrigerator and Air-Conditioning sector could also encourage a few small industries by off loading their requirements of hardwares. Technically qualified entrepreneurs may even take up critical items also with encouragement from large units.

Twenty public sector companies, under the Engineering Industries Corporation, which together are reported to be importing parts and components worth $400 million, offer a very good scope for subcontracting operations. Some large private sector organizations also would like to participate in subcontracting. The names of such public and private sector organizations are listed in (Annexe "3A").

Industrial statistics are available to some extent with the organizations like IDDC, GOFI and the Federation of Industries. IDDC, is the only organization providing technical extension service and management counselling to small and medium industries in the country. Profiles of more than eight hundred engineering industries in the small sector are available with them. Out of the profiles available on engineering and metal industries, about 110 small and medium sector units have been selected. These units are being visited by the subcontract exchange staff to collect information on a standard form. These enterprises will be the potential subcontractors and their number will increase gradually. The list of these 110 enterprises is at (Annexe "3B").

2.4 Survey Of Capacity/Capability And Upgradation Requirements of SSI units:

A quick survey was made on a few SSI units to understand the capacity of the sector and also to identify the areas where input are necessary to upgrade their technology level.

Plant visits were made to seventeen enterprises, who are engaged in various activities like Foundry, Die casting, Machine shop, Plastic moulding etc. A questionaire was devised to obtain information about the manufacturing activities of the units. The questionaire and the summary record of the plant visits which includes findings and recommendations on each, can be seen at (Annexe "4").

2.4.1 The capacity and capability of the visited units, though varied widely, were generally found suitable for registration with the subcontract exchange. Some of them are already operating as subcontractors to large private or public sector undertakings. Idle capacity was generally of the order of 50%.

2.4.2 Technology level with the enterprises was found to vary widely. On the one hand there are worker-oriented workshops using old or reconditioned machines, and on the other there are imported automatic chains for electrostatic spray painting, anodizing or die-casting. Technical extension service particularly for the low technology group of enterprises therefore appears essential. Many enterprises work in conjested areas with even wornout machinery. They would therefore need new land/shed and also finance. In many ins-

tances the proprietors were found reluctant to approach banks stating that the actual interest rate is quite high and uneconomical.

2.4.3 Upgradation of the performance level of SSI units and their capacity to diversify into new lines of production will ultimately strengthen the subcontracting capability of SSI units. Assistances in the following areas are required:

a) Facilities for manufacturing pressure die-casting dies, complicated tools and jigs and also moulds for plastic components. These should be provided at a reasonable rate and time-frame. These are at present normally imported.

b) Standardization and quality control assistance including testing of raw materials and finished products.

c) New technology in machine shop practice.

d) Designs of plastic components including raw material specifications and also for diversification needs.

3.0 DETAILS ABOUT THE SUBCONTRACT EXCHANGE

In this chapter, the organization, staffing, location and control, funding and also the activities of the subcontract exchange have been discussed.

3.1 Organizational Scheme:

The operation of a Subcontract Exchange would not demand the services of many people. But for running a Subcontract Exchange efficiently it is essential to have the most dedicated and motivated employees. It will be essential to pay them handsomely and at the same time plan for their advancement in career. This career planning and motivation could be inbuilt in the System if subcontract exchange activity could be seen as part of the total small industry development plan in an economy. It will then be essential to plan for providing technical consultancy and also assistances in product design and development, testing and quality control, management and training, tools and die manufacturing, machinery and raw material selection etc., so that the subcontractors can improve their production capabilities and satisfy the exact needs of large industries who are now accustomed to use imported parts and components. With a bigger set-up there will be scope for career planning of officers also.

An extension service unit which will be basically technology oriented (management oriented extension service facility is already available at IDDC and is doing excellent work) should therefore be planned along with the subcontract exchange, whose main function will be to provide technology inputs at all levels, upgrade the skill and capability of the enterprise and make the units efficient in specialized and sophisticated lines where needs for subcontractors are identified.

As far as the Subcontract Exchange proper is concerned, one Technical Director, two Field Engineers, one Computer Operator/Programmer and a Billingual Secretary/Stenographer will be sufficient. The three Technical officers, within themselves, will be able to collect data from about 50 units/month. Considering the fact that data collection at the first instance will consume more time and the distance to be travelled in a day is also quite large, the number of units to be visited per month

as suggested appears reasonable. The technical director and the field engineers should be having sufficient production engineering experience to understand the intricacies and sophistication of all industrial operations so that proper classification of industrial activities could be made and recorded. If however, they need any consultation with other technical officers, they may consult the Extension Officers providing technical assistance. Such cooperation should be automatic and a collective team spirit should prevail.

While discussing with the units during visits, it was found that a major area where technical assistance is necessary is in the design of dies. Facilities for design and fabrication of dies - both for metal working and plastic components require to be augmented. A tool and die making expert (experienced in metal as well as plastics) should therefore be available for advising and assisting entrepreneurs. A tool room with modern facilities should also be established. Detailed facilities which are to be created in the tool room should be finalized only after a survey by the expert. If a suitable local man is available, he may be employed or assistance may be sought from international agencies for an expert and a local engineer may also be got trained as an under study.

Majority of the industries have been seen to be depending on the buyer for final testing of products. A quality control engineer could inculcate a sense of "quality consciousness" among entrepreneurs and persuade them to install basic routine testing and in-process quality control arrangements in their factories. Facilities will still have to be created for testing the input raw materials and also the final end products so that small units can be sure of the raw material they use and also find out the performance results from an independent authority. Perhaps such facility has to be initially subsidised so that small units are tempted to take advantage of the facility and improve the quality of their product.

A large number of units are manufacturing plastic components either for the market or as a subcontractor. Assistances in product designs for suiting to market requirements and also in raw material selection will go a long way in improving the quality of products and product

diversification in the plastic sector and the scope for subcontracting is likely to increase further.

Many small workshops are using machines whose life and accuracy must have been over. Upgradation of the machining facilities at these workshops with latest technology will help in improving the performance of SSI sector and more specialised and sophisticated work orders may flow from large units to this sector. An experienced machine shop man who has an exposure to the latest trends in machine shop practice will be a valuable guide to the SSI entrepreneurs at this juncture.

As discussed above the technical extension group which are presently necessary to back[2]up the Subcontract Exchange group comprise the following:

- A tool and die designer (capable of designing and fabricating metal as well as plastic dies). (A tool room centre should be established and tool and die engineer will assist entrepreneurs in designing tools and dies and fabricating them through the tool room).
- A plastic product design and development officer.
- A quality control engineer. (A testing laboratory for testing input raw materials and also final products is necessary).
- A machine-shop experienced engineer.

The proposed organization chart consisting of the Subcontract Exchange and the Technical Extension Service unit can be seen in (Annexe "5A"). This can very well fit in within organization structure recently prepared for the IDDC.

3.2 Activities Of the Subcontract Exchange:

Linkage between large and small industry-

The main activity of the Subcontract Exchange will be to promote industrial linkages or subcontracting. This can be both at the national level and at the international level. Basic data at the national level has to be collected and recorded with care. International contact with other subcontract exchange shall also be maintained. This involves:

a) registering detailed informations about the items being manufactured in the SMI sector and also the facilities of operations or machinery available with them which can be subcontracted.

b) identifying large and medium industries who are regularly in need of subcontract items and obtaining details of such items or processes which can be manufactured or processed in SMI sector.
c) matching the requirements of large and medium industries with the available spare capacity of the SMI units.
d) encouraging small industries to form "consortia" and tender as a group to foreign enquiries for subcontracting which maybe procured by the national exchange.

For the above activities the officers of the exchange should always be on the move and visit, revisit and continuously visit enterprises both in the large and small sector. Visits are the only useful tool in obtaining orders or informations from large units and also in creating confidence with the small scale clients.

Import Substitution-

Informations about the imports of parts and components can be compiled and with the willing cooperation of large buyers, small scale entrepreneurs could be motivated to select suitable items for manufacturing. Even existing entrepreneurs having necessary facilities and spare capacity maybe guided to enter into such fields. Similar items maybe grouped together so that the volume of production is economical. If the preference of the Government on import substitution as a policy is announced, many entrepreneurs maybe tempted to participate in the venture.

New Capacity-

If a regular demand of large industry cannot be satisfied by the capacity of the existing industrial units, additional capacity can be created within the existing industries or if feasible new entrepreneurs can be encouraged to set-up fresh capacity.

Identification of Scope of Subcontracting-

With active assistance from large industries and the chamber of industries, Industry groupwise surveys may be conducted to identify the scope of subcontracting existing in that sector. If the finding is positive creation of further capacity in such sectors for subcontracting items can be stopped or restricted by the government in case of new licenses to be granted to

large units. Similar surveys can be conducted jointly with willing public sector or joint sector units also so that uneconomic areas of activity could be identified and the same could be vacated for subcontracting units.

Buyers-Sellers Meets-

Meetings maybe organized where buyers can display the products they want to subcontract and the sellers (subcontractors) could see for themselves the requirement of large units, discuss face to face with the buyers on all aspects of the work and end-up with finalisation of contracts. On such meetings the subcontractors also maybe encouraged to display their own products and capabilities so that the large buyers can also satisfy themselves about the capacity of small units and select the most capable subcontractor according to their requirements.

Exhibitions, Fairs, etc.-

Exhibitions and fairs maybe organised periodically on national or zonal basis to highlight the status, scope and possiblities of subcontracting in industries either sectorwise or product-groupwise.

Seminars, Workshop etc.-

To focus the need for subcontracting in developing a healthy industrial growth and also to discuss and sort out the problems and constraints faced by both large and small industries while undertaking subcontract works, seminars and workshops should be organised periodically where besides the industry representatives, the representatives of the credit institutions, related government departments and the Chamber of Industry should also be present.

Analysis of Utilisation of Resources-

Information about the raw materials used, Imports and Exports made by the registered subcontracting units could be tabulated for obtaining general economic information about the industry.

Constraints in Subcontracting-

The problems and constraints faced by the SMI sector in subcontracting activities could be highlighted and sorted out with various agencies of

the government. Problems may be in taxation, import of raw materials, delay in payments, availability of finance in proper time etc.

Providing Techno-Managerial Consultancy-

Capability of SMI sector has to be upgraded to match with the requirements of large industry. Technical consultancy and Management inputs should be provided to SMI units so that they become well equipped to function as subcontractors. Special attention to quality control measures and design development asistance should be given.

3.3 Financing:

The subcontract exchange is essentially a tool for providing marketing assistance to SMI sector. In a situation where subcontracting is already an established practice, perhaps the subcontract exchange may ultimately be a commercial proposition, that is, its services could be chargeable from clients. In Egypt it should be, at least for the next five years, considered as a promotional acitivity within the overall strategy of development of small industries in the country. It will not be possible to levy any charge on the SMI or large industry for the services rendered by the exchange in effecting linkages between industries. The finance for the exchange should therefore be provided by the Government. The only other organization which could underwrite the running cost of the exchange is the Chamber of Industry (Federation of Egyptian Industry), but they are also short of funds and are dependent on the funds provided by the Government.

In five years time the impact of the subcontract exchange should be clear and a decision can be taken whether to go commercial or not. Even if it goes commercial, it will not be feasible to charge enterprises based on the services provided in each time. A flat rate of charge per enterprise maybe fixed as a membership fee. The criteria for fixing the membership fee - which will be renewable each year - will be either the number of workers, or the capital investment in plant and machinery of the annual turnover of the company. Even then the techno-managerial consultancy or the assistances through the tool room or the testing laboratory may have to be provided at a subsidised rate keeping in view the aim of developing small and medium sector enteprises in the country on a sound footing.

In case when the subcontract exchange will be in a position to obtain or handle internaitonal enquiries, it might be possible to charge a small rate of commission based on the order value from the clients inside the country. At no time the international buyer should be charged any commission for the services rendered in effecting linkages with a national unit.

3.4 Staffing Of The Subcontract Exchange:

The requirement of staff for efficiently running a subcontract exchange, which will also be assisted by a technical extension service unit has already been discussed in the chapter on organizational scheme for the subcontract exchange. The staff required will be:

a) Director Technical - one

b) Subcontract Exchange Unit
   - Field Officers (Technical) - two
   - Computer Operator/Information Analyst - one
   - Secretary - one

c) Technical Extension Service Unit
   - Tool and Die Designer - one
   - Plastic Product Design and Development Officer - one
   - Quality Control Engineer - one
   - Machine Shop Engineer - one

Besides above, the tool and die designer will be receiving supporting facilities from a tool room which will be established after identification of the exact needs of the SMI sector. Similarly the quality control engineer will also have a testing centre to assist him in getting the input raw materials and finished products tested so that an overall quality consciousness grows within the enterprises. The staff required for the tool room and the testing centre will be known when the detailed facilities required for these centres are worked out. Qualification and expriences of staff for the subcontract exchange and the technical extension unit are giver under:

Director Technical - (one) :

Must be a qualified engineer - at least a graduate either in mechanical or electrical or metallurgical trades - having about 10 years total ex-

perience of which about 5-7 years should have been in actual production field. Experience in marketing for about 3 to 5 years will be an added advantage.

Must be able to work confidently with chiefs of large private and public sector companies and also with SMI sector. Should be able to meet high level delegations from abroad or buyers from major markets and also participate in seminars and exhibitions on subcontracting abroad. Should be able to promote sales of subcontracting items and increase market share of subcontractors.
Age- Not more than 45 years.

Two Field Officers - (two) :

Must be graduate engineers (either mechanical or electrical or metallurgical) with not less than 7 years experience of which 3 years should have been in the production engineering field. Experience in marketing will be an advantage.

Must be able to meet and obtain informations from senior officers of large organization and also obtain detailed informations about subcontractors by suitable identification of their products and processes. Should be able to analyse the incoming enquiries, identify the facilities needed for sucessful execution of jobs, select suitable subcontractors and transmit the messages to them correctly. Will be required to visit large and small units regularly and follow-up the progress of enquiries, quotations and job works. Have to participate in seminars, workshops, and exhibitions both at national and international levels. Ability to store and retrieve data from computer desirable.
Age - Not more than 32 years.

Computer Operator/Information Analyst - (one) :

Must be a science graduate with Computer Operation/Programming background with two years experience in data entry on computer. He should be conversant/familiar with using various computer packages/ software on the computer. He will be responsible for entering the given data into the computer, retrieval and maintenance of records of data base. He may be required to compile informations on a given subject from the data base available and analyse the same for the benefit of industry/planning.
Age - Not more than 35 years.

Secretary - (One) :

Must have education of high school standard and should be conversant with English and Arabic. Should be able to maintain files and records, take dictation (120 wpm) and type (65 wpm), operate a telex machine and should have a good grasp of business and technical language. Should be able to receive visitors at all levels and during temporary absence of the duty officer at the subcontract exchange, should be able to answer simple technical queries on telephone.
Age - Not more than 40 years.

Tool and Die Engineer - (one) :

Must be at least a graduate in Mechanical Engineering with 10 years professional experience in design, development and fabrication of tools dies, jigs and fixtures in metal based industries. He should also have expertise and field experience in designing and fabricating dies and moulds for plastics and rubber industries. Experience of working in latest techniques of production in both the field is desired. Knowledge on problems faced in SMI sector and participation in their solutions will be an added advantage. Will be required to plan for the establishment of a tool room for providing assistance to SMI sector.
Age - Around 45 years.

Plastic Product Design & Development Engineer - (one) :

Should be a Chemical Engineering graduate with 10 years professional experience in the field of product design and development on plastic items. Must be conversant with all variety of plastic raw materials and should be in a position to suggest the suitable items for production provide product designs, specify exact raw materials, identify production processes and machinery for most economic batch production and also suggest suitable product modification or diversification to suit the needs of the market. Assistance for overall improvement in the quality of product and standardisation will also be necessary. Experience of operations in SMI sector is desirable.
Age - Around 45 years.

Quality Control Engineer - (one) :

A graduate Engineer (either mechanical or electrical or metallurgical) having specialisation in quality control activities and with 10 years professional experience in the field is necessary. Should have experiences of actual testing of products in laboratories, establishment of testing systems in factories and also in motivation of workers and management in achieving quality targets. Will be required to organise a testing laboratory for testing input materials and also finished products.
Age - Around 45 years.

Machine Shop Engineer - (one) :

A mechnical engineering graduate with at least 10 years experience in machine shop practice covering wide range of machinery is essential. He should have experiences of latest trends in machine shop practice and must have worked with machining centres, numerically controlled and computer controlled machines and should be in a position to guide and assist entrepreneurs in selecting the most advantageous methods of production. Experiences of operations in SMI sector will be an advantage.
Age - Around 45 years.

3.5 Location Of The Subcontract Exchange:

Subcontracting activities are already being practiced in Egypt in automotive sector and to some extent in appliances sector like airconditioning, refrigeration, cooking ranges etc. Development assistances to private sector industries in the SMI sector are however, provided in Egypt by the Industrial Design Development Centre as one of their mandate from the Government. The Centre is already providing extension services and management development assistances to a large number of clients and a promotional role of the organization exists. The subcontract exchange which has to be a part of a total assistance programme for the SMI sector should therefore be located at the IDDC itself so that the subcontracting units can be provided with other assistances also from the same source.

The Federation of Industry is also offering services to their members in the SMI sector and the General Organization For Industrialization (GOFI) has also a role for development of industries like granting industrial licenses. But the facilities available at IDDC do not exist elsewhere and

could be profitably utilised if the subcontract exchange is located at the IDDC. To some extent IDDC has already been operating in promoting subcontracting linkages between large and small industries. The location of the subcontract exchange is therefore suggested to be at IDDC.

3.6 **Control Board:**

The subcontract exchange is a national project and will therefore be utilised by both large and small industries in the public and private sector. Departments of the Government associated with Industry like GOFI, and also the Development Industrial Bank, Federation of Egyptian Industry will be interested in the proper functioning of the subcontract exchange so that linkage between large and small industries develop. All these interests should be combined together to have a steering committee to guide, advise, control and monitor the plan, programme and activities of the subcontract exchange.

This steering committee may have the following objectives & functions:

1) To consider and recommend to Government measures for promoting linkages between large and small industries in the country both in the private and public sectors.
2) To guide and control the activities of the subcontract exchange, so as to efficiently serve all industry groups in subcontracting.
3) To asses the performance of subcontract exchange, determine priority areas and approve or modify action programmes if necessary.
4) To identify and indicate any new area of activity for the subcontract exchange.
5) To obtain financial grant from the Government for the subcontract exchange and approve its budget proposals or modify them.
6) To monitor the progress of the subcontract exchange and report to the Government.

In view of the importance of the committee the Minister of Industry himself maybe persuaded to chair the committee so that his advise is always available and active participation of all members is also ensured. The membership of the steering committee will not be large

but should cover all interests. The composition proposed is given below:

1)	Minister of Industry	- Chairman
2)	Chairman - Development Industrial Bank	- Member
3)	Chairman - Engineering Industrial Corporation	- Member
4)	Deputy Chairman GOFI	- Member
5)	Chairman - Federation of Egyptian Industry	- Member
6)	Chairman - NASCO	- Member
7)	President, IDDC	- Member/ Secretary

The director (Technical), Subcontract Exchange will provide all background material and secretarial assistance to the President-IDDC for fruitful deliberations in the committee.

3.7 Legal Frame Work:

The subcontact exchange has been proposed to be located at IDDC which is working under the Ministry of Industry, Government of Egypt. A legal frame work for the subcontract exchange therefore exist. However, a control board for the subcontract exchange has also been proposed which will obtain financial grant from the Government and approve budget proposals. It will therefore be necessary for the Ministry of Industry to issue a notification creating the Control Board for the subcontract exchange and make it functional as per the objectives of the board stated earlier.

Subcontract exchange will promote purchasing of goods by a buyer from a supplier. It is desirable to have clear terms and conditions of purchase/ sale prepared, agreed upon and confirmed so that dispute or difference of opinion may not arise or even if they arise, the same can be sorted out smoothly. These terms and conditions have to be properly drawn up regarding the quality of goods, approval of goods, delivery of goods, payment of price, rejection of goods, arbitration clause etc. Common conditions of purchase/sale are summarised in (Annexe "5B"), as "General Terms of Contract". Relevant modifications may be made based on actual condition in each case.

4.0 SYSTEM FOR PROCESSING INFORMATION

The subcontract exchange essentially registers the spare capacity and technical capabilities of small and medium industries so that the same could be matched with the requirements of parts, components and services from large manufacturing establishments. A format for obtaining information from the participating units has been designed and the data collected are being suitably coded for being fed into the computer. The information collected from the enterprises gives all details about the items produced including subcontracted items, machines/operation facilities available, capacity of production including idle capacity, performance details etc. The production items (catalogue and subcontract) are coded as per BTN whereas EEC code B on subcontracting terminology is followed for the machines/operation details. Coded information is stored in a computer and retrieved whenever necessary. A software has been designed for the purpose.

To explain the complete system of information processing "A subcontract exchange operating manual" for the subcontract exchange at IDDC has been prepared. The manual has four basic divisions. The first chapter deals with "the rationale, advantages and functions of a subcontract exchange". In the second chapter, operation of a subcontract exchange, step by step, has been shown. Three distinct stages are involved in the operation:

a) Building up a data bank of detailed information about purchasing organizations and subcontracting units.
b) Generating enquiries.
c) Processing enquiries - locating suitable subcontracting units and transmitting information about available facility to purchasers and following up the progress.

The documentation necessary in a subcontract exchange has also been prepared and specimen letters (circular letters, enquiry information letter, acknowledgement letter, etc), have been enclosed. To explain the flow of information in a subcontract exchange, information flow diagrams, information traingles and flow chart of an enquiry have been incorporated in the third chaprter of the manual. In the 4th chapter, detailed clarification has been provided as to

"How to fill in the proformae" for obtaining information from enterprises, column by column, including the codes to be followed. The manual is at (Annexe "6"). BTN or EEC Code (B & C) are not enclosed due to bulk. They may be separately consulted.

5.0 PUBLICITY

Subcontracting in a limited way is being practised in the engineering sector in Egypt. To attract a large number of clients who may join the exchange, it is necessary to publicise the activities of the subcontracting exchange. In the "operating manual" itself a specimen circular letter has been provided which can be sent to enterprises along with a small information handout. A small two page hand-out has also been prepared for the purpose. Another illustrative brochure, indicating all aspects of subcontracting, has also been prepared. These are enclosed at (Annexe "7A" and "7B"). Arrangement for their publication is being made.

A seminar also was organised when the project coordinator, President IDDC and myself could explain the importance of subcontracting in the national economy and the methodology to be followed in the subcontracting exchange, to a large number of public and private sector industrialists. There is wide appreciation of the need of subcontracting in the engineering sector between large and small industries. Large public and private sector industries have been contacted to explain the importance of subcontracting. The Chamber of industry under FEI has also been requested to inform their members about the activities of the subcontracting exchange.

6.0 TRAINING

A subcontract exchange officer has to be a very intelligent man capable of handling diverse situationsin which he may find himself while executing his functions. He must be able to create confidence in the minds of the small scale entrepreneurs so that they may consider him as their friend, philosopher and guide. The training therefore should cover the following aspects:

a) Identification of sources of information on industry -
   Existing lists, catalogues, exhibitions, trade journals, etc.

b) Visiting an enterprise -
   Create confidence through friendship, obtain information without irritation, repeat visits if necessary, assist wherever possible.

c) Filling up information sheet-
Analyse production particulars, machinery or operation details, subcontracting capacity and capability, consult and record relevant EEC (B and C) code, and BTN.

d) Storing and retrieval of information.

e) Generation, processing and documentation of an enquiry-
Handling different types of enquiries, enquiry form and business letters, registers and folders.

The operating manual at (Annexe "6"), provides basic material for the operation of an exchange. Mr. Sabry, my counterpart, has all along been associated with me and has been provided with on the job training. He has been already exposed to extension techniques and is now thoroughly conversant with all the functions of the subcontract exchange. Mr. Sabry along with Mr. Samir, another officer of IDDC, had been to Hanover Fair, this year, on study tour sponsored by UNIDO. This has been beneficial to the team.

Besides Mr. Sabry, seven technical officers were trained to collect information from participating enterprises. Technical group sessions were conducted for them.

7.0 PROBLEMS AND INCENTIVES- Discussions With Interested Organizations

The subcontractors in the small and medium sector have to face many problems which ultimately affect the quality of their product. Some incentives could also be built-in so that qualified entrepreneurs are attracted. Discussions were therefore held with interested organizations about the need for providing facilities to the SMI sector to enable them to perform better.

7.1 General Organization For Industrialization (GOFI) :

This organization under the Ministry of Industry is repsonsible for granting approval to new industry in the domestic field. All Project reports of new industries are examined here. As they are involved in the development of SMI sector, the following points were discussed.

- Identification of scope of subcontracting at the project proposal stage:

  It was suggested that when project proposals of new entrepreneurs are scrutinised for approval, parts and components which are capable of being subcontracted should be identified and creation of "in-house" capacity for such items should not be allowed. Once a capacity is created in an industry, it is not possible to keep this idle and encourage subcontracting. Proper scrutiny of projects at the approval stage can help the growth of subcontracting.

- Accomodation:

  Many entrepreneurs are operating in limited space and are in need of better and larger accommodation even for their existing activities as well as for future expansion or diversification. They are not however, in a position to invest on land and building out of their own resources. More industrial estates particularly for the small and medium sector of industries are perhaps necessary to satisfy the need. Large public or private sector industries may also be persuaded to invest in industrial estates and provide accommodation to their subcontractors around their factories so that they may also provide assistance to their subcontractors.

- Testing And Quality Control:

  The performance of the subcontracting enterprises depends entirely on the quality of the products manufactured by them. Large industries would invariably desire to have "quality assurance" from the subcontractors. A sense of "quality consiousness" must therefore exist with the subcontracting enterprises. It has, however, been seen that in majority cases, testing or quality control measures are lacking. The final testing of the product is generally done by the large industry placing the order. Sometimes the reason for rejection of a batch of supplies may not be knwon. Government may therefore establish organised test laboratories where small units can get assistance in "development testing" at nominal charges.

- Tool Room Facilities:

  In the engineering industry, particularly in pressure die-casting field, enterprises are constantly in need of Dies, Moulds, Jigs and Fixtures, some of which are quite intricate and sophisticated. In case of plastic components also moulds are necessary for the current and expansion/diversification projects. All most all enterprises visited by us mentioned about the difficulty in obtaining such services and many of them depend on imports, which is costly and time-consuming. Though IDDC has a service centre for such activity, the demand appears to far outstrip the available capacity. More facility centres for tool room services should therefore be created.

- Availability Of Skilled Manpower:

  Basic technical skills are available and industries are capable of turning out good quality jobs. However, some enterprises are finding it difficult to retain their skilled workers as the gulf states are offering them more lucrative jobs. The cost per skilled worker has also gone up due to this reason. National training programmes on an enhanced scale may therefore be organised to tackle such problems.

- An Apex Organization For SMI Sector:

  Discussions also were held on the need for one Centralised Appex organization, perhaps within the Ministry of Industry, to look after the interests of SMI sector and formulate policies for the growth and development of the sector. The organization will sort out all the problems faced by the SMI sector and will monitor and guide the development of this sector. As a policy initiative, the apex body may consider the following steps/incentives which are now being provided to small scale industries in many developing countries.

a) Bring out one definition for small industry in the country so that the exact target-group for small industry development programme is identified.

b) Provide credit guarantee for loans to SSI sector. This will ensure smoother and larger flow of credit to the SSI sector, which will ultimately improve their performance.

c) Ensure payment to subcontractors within 30 days of delivery of goods to the main contractors. This may be done through the banking mechanism.

d) Offer a price preference of 15% to small units in comparison with large units quoting for the same item.

e) Reserve some items to be exclusively procured from SMI sector. The items will be selected depending on the technological capability of the SMI enterprises.

7.2 Development Industrial Bank (DIB):

- Availability Of Finance:

Medium and long term loans are provided by the bank to small and medium industries. Small industrialists were, however, generally found shy in approaching banks for finance. Many industries have to replace their old machines for modernisation or diversification of activity. They also need finance for land or building or working capital. But they like to obtain funds from friends or relatives or wait for generation of funds from within, which naturally takes time. A feeling persists that procedural delay is too much and the effective interest rate is high. On theother hand the bank wants to highlight a major concession that the currency fluctuations are taken care of by the bank in case of foreign exchange loans. Delays may also occur if all informations as required are not provided at the 1st instance. Perhaps a detailed education programme may be taken up by the bank along with other promotional organisations to make the entrepreneurs understand the advantages of operating with institutional finance and also the norms and regulations that are to be followed:

° Discouraging import of capital goods for manufacturing parts for which capacity already exists in subcontracting sector. Applications for capital goods imports are received by banks for provision of financial loans. These are scrutinised at the bank before finance is sanctioned. It would be advantageous if IDDC is consulted while scrutinising such applications to locate if capacity for manufacture of such parts and components is already available with the subcontracting units. In such cases instead of allowing fresh import of capital

goods, tie-ups could be effected between the eligible SMI units and the large industries.

- Lower Rate Of Interest For Small Industry:
  In many developing countries small industries are required to pay a lower rate of interest compared to the large sector of industry. This is basically done to attract technically qualified persons to start small industries and distribute the benefits of industrialization on a wider and decentralised basis. The chargeable rate may be 5% lower than the normal subject to a specified ceiling of loan.

7.3 Federation Of Egyptian Industries (FEI) :

This organization represents all industries in the country with investments above LE 5,000 and hence include the small, medium as well as large industries. It has twelve separate chambers dealing with different product groups. As the problems of SMI sector are special, the need for organising a chamber of small and medium industries under the federation was discussed. As the federation represents both the large and small industries in a sector, many problems that arise between the large industry and the subcontractors could be settled through the mediation of the federation. Major problems discussed were:

- Security Deposit:
  A small enterprise has to make a deposit of 10% of the order value with the large unit which places the order. In case such orders are placed on another large industry, the security deposit is not insisted upon. This imposes an extra financial burden which should not be placed on a small enterprise once the large industry is satisfied about the capability of the enterprise.

- Long term Contract:
  A steady order on a long term basis or at least for a reasonable period of time is necessary if a subcontracting enterprise has to make effective and efficient planning for its manufacturing activities including procurement of capital goods. Large industries are however, placing orders on subcontractors on one-time basis against tenders and this does not allow SMI units to plan their

production in a cost effective manner. The federation can encourage faith and mutual dependence between the two sectors of industry and thus generate a healthy relationship in subcontracting.

- Raw Material Availability:
  Materials as per desired specifications are not available. The specification of available materials from trade sources are also not known. As the requirement per enterprise is small, small enterprises can not afford to make direct import of materials. The problem therefore continues. As done in many countries, large industries while placing orders on subcontractors may be persuaded to provide them with imported or scarce raw materials so that the subcontractors can make quality products with proper raw material. Proper material required for manufacturing dies, mould, jigs and fixtures may also be procured for the subcontractors by the large industry requiring such services.

- Cost Of Tools & Dies:
  For a small quantity of order it is neither econimical nor feasible for small enterprises to invest heavily on tools and dies. The large unit placing the order should therefore, supply the required tools and dies. If the subcontractor has to purchase that tool or the die, the cost should be amortised on the given quantity of order without fail.

- Anomaly In Custom Duties:
  Many entrepreneurs mentioned that very often they have to pay higher custom duty for raw materials than for the finished product. Subcontracting in such areas therefore get discouraged. Perhaps such anomalies have crept in by mistake and could be corrected if the federation takes up the matter with the concerned authorities. Graded custom duties for raw materials, intermediates and finished products will help the subcontracting enterprises in import substitution.

- Techno-Managerial Assistance From Large Industry:
  For sustained and effective subcontracting relationship the large buyer industry should feel committed to provide techno-managerial inputs to the small enterprises besides the assistances provided in

procurement of raw materials, testing and quality control etc. Technology transfer from large to small industry could take place through such contacts. Small industries face many problems in manufacturing processes, new technology areas, designs of new tools, Jigs and fixtures and assistance from large buyer industries are essential for an harmonious growth of the sector. Small industrialists, who are normally technical persons, also lack expertise on management techniques and would benefit immensely with assistance from large industries. Management of men, money and materials to the best advantage of the enterprise will ensure a balanced growth of the subcontracting sector. The Federation can play a privotal role of such enlightened cooperation between the sectors.

8.0 ESTABLISHING THE SUBCONTRACT EXCHANGE

Substantial progress has been made in the course of establishing a national subcontracting exchange in Egypt. As has been mentioned earlier, a survey of capacity and capability of few SSI units have been undertaken and recommendations have been made for providing assistances in tool and die making and also in testing and quality control. A few large and small industries have been selected for enlistment with the subcontract exchange. It has been decided to locate the subcontracting exchange at the Industrial Design and Development Centre, at Cairo. This centre, under the Ministry of Industry, is already engaged in the promotion of small and medium industries in Egypt and provides technical and management assistances to a large number of clients. The subcontracting activity will be a part of the total assistance programme to the small industry sector.

A room has been alloted for the exchange and Mr. Sabry, in-charge designated of subcontracting, has already started running his office from the room. This room is adjacent to the main visitors hall of the centre and is therefore appropriately located. Visitors for the exchange can now visit the officers of the exchange or if necessary wait at the visitors' hall where information materials will be available. Visitors can also avail of other workshop or services and this is considered an added advantage. The Industrial Design and Development Centre, already being a running centre, has facilities like telephone, telex and photocopying, which the exchange can utilise. A vehicle is also available for collecting information from SMI enterprises.

Mr. Sabry, designated chief of subcontracting exchange, has an exposure to technical extension work and is ideally suited for the job. Two more technical officers have now been placed with him exclusively so that collection of data from selected units could be made expeditiously. The exchange can also obtain the facilities and assistances from other multi-functional departments in the centre as and when the occasion arises. Many technical extension officers have been trained on the job for collection of information from industrial enterprises. Regular visits are undertaken for collecting information from small and medium industries and about 50 files have been prepared containing detailed information on as many units. As has already been mentioned earlier, some basic data on eight hundred engineering industries are already available at the centre and detailed information as required for subcontracting purposes are now being collected. Products manufactured, machines/ operations available are also suitably coded. Information brochures have been prepared for obtaining participation of potential subcontractors in the subcontracting exchange programme. An information handout in Arabic language is in variably distributed to enterprises which are visited for enlistment with the subcontract exchange. Files and registers are now mantained as explained in the operating manual and enterprises are alloted code numbers based on sector of activity and region of operation.

The information collected from large and small industries will be stored in a computer with the possibility of retrieval in a very short time. A computer software expert from UNIDO, Mr. Spina, has been assisting in developing a software for the purpose. He has visted Cairo twice and a computer expert from the IDDC has been associated with him as a counterpart. The French version of the software is now being translated into English and testing of the software by actual data entry and retrieval will be done shortly when the computer expert from UNIDO revisits Cairo.

Besides Mr. Spina, the subcontracting exchange had benefitted from the presence of three international experts during the year. Mr. R. Holtz, Project Coordinator, visited during February, 1987 and along with Dr. Yusef Mazhar, President IDDC and myself, launched the subcontracting exchange programme in Egypt in a seminar where large number of industrialists (small and big) particpated. Mr. Detourbet,

Expert on Fairs visited in March, 1987 for suggesting modalilies for organising subcontracting Fairs. Mr. C. De Mars, Expert on nomenclature visited in May, 1987 to explain in details the nomenclatures to be followed on subcontracting.

Large industries in the engineering sector have been contacted and some items for subcontracting work have been identified. M/S NASCO are already subcontracting items for manufacture of buses, trucks, passenger cars etc. They are nowlooking for subcontractors for manufacturing parts and components for tractors which they are manufacturing with foreign collaboration. Subcontract exchange officers visited the workshop of M/S NASCO and have selected 15 parts and components, (gears and gear box sub-assembly items, sheet metal parts, turned components etc..,) which could be prima facie, manufactured in the SMI sector. Detailed drawings, material specifications, tolerances, order quantity are being collected so that capable small units could be identified and motivated to undertake the manufacture of these items. M/S NASCO have assured all assistances to subcontractors including technical facilities at their workshop. Similarly M/S KOLDAIR, a public sector enterprise in airconditioning and refrigeration have identified jointly with the subcontract exchange staff of IDDC, a list of 15 items (plastic, aluminium and sheet metal parts and also electrical parts and accessories) which they like to procure from subcontractors. The estimated value of their annual requirement is more than 4 million Egyptian Pounds, 50% of which (mainly electrical parts and components) are presently being imported. Capable small units in plastic, aluminium and sheet metal field are being introduced to the company for their selection as subcontractors. One small unit has already developed a water cooler tap (presently imported) and is likely to sign a contract soon.

9.0 RECOMMENDATIONS

Following recommendations are made:

9.01 The IDDC is already playing promotional and developmental role for the SMI sector in the country. As subcontracting exchange is also an assistance programme for the SMI sector, the other available facilities at IDDC such as, technical extension service, management counselling, workshop services will complete the total assistance package neces-

sary for the growth of the subcontracting sector. The location of the subcontract exchange should be therefore at the IDDC.

9.02 Though the national project for subcontracting exchange is over, the exchange should be assisted further through the regional Arab programme. The two projects are complimentary to each other. Regional cooperation will be possible only when the national subcontracting exchanges are operating successfully.

9.03 A technical extension service wing may be attached to the subcontracting exchange so that the technology level of SMI sector can be improved. One tool designer, one plastic product development officer, one quality control engineer and one machine shop expert should be available as early as possible. A tool room and a testing laboratory should also be established.

9.04 The Ministry of Industry may wish to create the control board for the subcontracting exchange through a notification and also authorize national budget for the subcontract exchange. All infrastructure for the subcontract exchange may then be suitably organized.

9.05 Training of subcontract exchange personnel covering all aspects of the programme may be organized. As all subcontract exchange officers will ultimately have to handle the computer for data storage and retrieval, special training programmes may be conducted for them.

9.06 Public sector undertakings may be asked to become pioneers in developing subcontracting relationship with SMI sector. They may declare subcontracting as their accepted policy and provide to their subcontractors (i) scarce and imported raw materials, (ii) costly tools and dies, (iii) technical and managerial assistances including assistances in testing and quality control. The Ministry of Industry may like to issue "guidelines" to public sector undertakings to promote subcontracting as far as possible. Long term contracts between large and small industries should be encouraged as a normal method of subcontracting.

9.07 An apex organization for SMI industries may be created within the Ministry of Industry which may

i) define the SMI sector of the country.

ii) Provide credit guarantee for loans to SSI sector.

iii) Ensure payment to subcontractors through the banking system within 30 days of delivery of goods.

iv) Offer a price preference of 15% to small units in comparison with large units quoting for the same.

v) Reserve some items to be exclusively procured from SMI sector.

9.08 Suitable industrial accommodation complete with infrastructures like, roads, water, electricity, telephone, etc., should be provided to a large number of enterprises who are now operating in conjested locations. Large public andprivate sector undertakings may be encouraged to build industrial estates for their own subcontractors. Financial incentives may be provided for such large undertakings.

9.09 When new projects are approved, proper scrutiny may be made to exclude the creation of capacity for such parts and components which are available from the subcontracting sector. Banks may not also finance such capital investment and may direct entrepreneurs to capable subcontracting units.

9.10 Sufficient fund from financial institution should flow to the SMI sector. It may be worth while to fix-up a definite percentage of the total fund available for the industrial sector to flow to the SMI sector only. This could be then monitored by the Central Bank and the Ministry of Industry for necessary follow up.

9.11 A differential rate of interest in fabour of SMI sector (5% lower than normal subject to a ceiling of loan) may be provided to attract capable entrepreneurs in this field.

9.12 Small industrialists should not be required to deposit 10% of the order value as security. The capability and performance of the unit may be verified before the order is placed.

9.13 Federation of Egyptian industries can play a very big role in creating faith and mutual dependence between the large and the small sector. They may persuade the private sector large scale industries to promote subcontracting relationship as has been suggested for the large public sector undertakings. If "guidelines" for public sector undertakings are issued for developing subcontractors, the same could be

followed by private sector also. Entering into long term contracts with subcontractors and providing them with scarce and imported raw materials, costly tools and dies, and also techno-managerial assistances including testing and quality control, should be encouraged by the federation. The "general terms of contract" as prepared may be widely circulated amongst its members so that possible disputes between the contracting parties could be eliminated to a large extent.

10.0 ACKNOWLEDGEMENT

I like to record my deep appreciation and thanks to all those who made it possible to complete my mission sucessfully. I express my sincere thanks to large number of eminent persons whom I met in various departments and organizations and who spared their time to share their valuable ideas and experiences with me. I also like to thank profusely the owners and managers of large and small industries who welcomed us and gave us their time and also informations about their enterprises which helped us to concretise our findings. I must make a special mention of the cordial atmosphere and team-spirit with which I could work in IDDC, Cairo. I like to thank all the staff members of IDDC at Cairo, particularly Mr. Sabry, my counterpart, Mr. Nabi' H. Soliman, General Industrial Extension Service Division, and Dr. Yusef Mazhar, President IDDC. I also thank all the officers of UNDP, Cairo and UNIDO, Vienna for the briefing and guidance and also for the back up support and facilities extended.

UNITED NATIONS

Annexe "1"

UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION

UNIDO

The Arab Republic of Egypt

JOB DESCRIPTION

UC/EGY/86/042/11-01/31.3.M

Post title	Senior Consultant in Industrial Subcontracting Exchanges
Duration	4 months (2 split missions of 2 months each, with 4 months interval)
Date required	As soon as possible
Duty station	Cairo, Egypt, with possible travel within the country
Purpose of project	To assist the Engineering and Industrial Design Development Centre (EIDDC) in establishing an Industrial Subcontracting Exchange
Duties	The consultant will be assigned to the Director General of the EIDDC and work in close cooperation with other relevant organizations such as the General Organization for Industrialization, the Federation of Egyptian Industries and the Industrial Development Bank of Egypt. The consultant is expected to advise the organizations and assist them in establishing a Subcontracting Exchange (its legal framework, organizational structure, operations, extension service unit, financing, staffing, location and Control Board) to service the industries in the Cairo, and possibly Alexandria, areas in the engineering, metallurgy and chemical industries sectors.

In particular the expert is expected to, during his:

First Mission (2 months to start as soon as possible)

(a) Survey the industrial capacities and capabilities (including plant visits and discussions with the plant managers) mainly in the Cairo (and if possible Alexandria) area in the engineering, metallurgy and chemical industries sectors, in order to identify a list of industrial enterprises to be covered by the Exchange.

..../..

Applications and communications regarding this Job Description should be sent to:

Project Personnel Recruitment Section, Industrial Operations Division
UNIDO, VIENNA INTERNATIONAL CENTRE, P.O. Box 300, Vienna, Austria

V.81-33106

(b) Survey the production adaptation/upgrading requirements of the enterprises in order to ensure an adequate fulfillment of their subcontracting obligations and a smooth development of domestic and international sub-contracting relations.

(c) Consult with the Egyptian Government and institutions involved (GOFI, Federation of Egyptian Industries, Industrial Development Bank...) and negotiate the provision of facilities and incentives to be granted to the sub-contracting enterprises.

(d) Work out the legal framework, the organizational scheme (including the extension service unit), activities, financing, staffing and location of the proposed Exchange, as well as of its Control Board.

(e) Devise a system for processing the information dealt with by the proposed Exchange.

(f) Prepare and disseminate promotional material for joining the Exchange, and run seminars for industrialists to explain the benefits of joining the Exchange.

Second Mission (2 months, after an interval of 4 months)

(a) Assist in the initial operation of the Exchange

(b) Complete tasks undertaken during the first mission

(c) Train the technical manager and the field engineers in sub-contracting activities and in running the Exchange.

(d) Accompany, guide and train the 3 selected professionals from the Exchange during their study tour in Europe.

Qualifications: Industrial economist or engineer with extensive experience in industrial operations and negotiations and in establishing and running Subcontracting Exchanges. A good knowledge of the small and medium industry sector is desirable.

Language: English

Background information: As a result of two UNIDO projects related to subcontracting in Egypt:

- Project UC/EGY/84/280A "Identification of the possibilities for small and medium industries to act as feeding industries to the car manufacturing sector" (mission to Cairo from 11 - 20 February 1985)
- Project DP/RAB/84/008 "Preparatory assistance to the establishment of domestic/international Subcontracting Exchanges in 7 Arab countries" (mission to Cairo from 17 January to 4 February 1985)

It appeared that:

- the establishment of a Sub-Contracting Exchange would greatly benefit both the large and small manufacturing industries in Egypt, in the various industrial sectors
- the Engineering and Industrial Design Development Centre would be the most appropriate institution to host such an Exchange and to provide extension services to small and medium sub-contracting industries.

Similar Exchanges, after 6 months of operation have achieved the following results:

- a computerized roster of 300 sub-contractors, with formulation on their equipment and technical capabilities;
- a card file of more than 30 large firms which can act as main contractors for the small firms;
- extension services to about 180 small and medium industries;
- an information campaign to more than 1,000 industrial firms regarding the economic benefits of the sub-contracting exchange;
- within the first 6 months, 25 contracts actually concluded.

Similar results could be expected from the present project.

In order to secure a proper integration of the Subcontracting Exchange in the Egyptian economy and supervise its proper functioning, it is recommended to set-up a Management or Control Board composed of all organisations concerned, such as:

- the General Organization for Industrialization (GOFI)
- the Federation of Egyptian Industries (FEI)
- the Industrial Development Bank of Egypt (IDB), and of course the
- Engineering and Industrial Design Development Centre (EIDDC)

It should be mentioned that, within the regional preparatory assistance project (DP/RAB/84/008) mentioned above, a study tour and meeting were organized in Tunis, 2 - 6 December 1985. The participants to this meeting recommended to launch a regional programme for the Development of Subcontracting in the Arab Region aiming at developing an integrated Arab subcontracting system and the establishment of an Arab network of national subcontracting exchanges. It was also recommended to initiate, at this stage, a process of regional Arab cooperation which should progress in parallel with the various national projects, including this one. Egypt was not represented at the Tunis meeting, but, later on, it fully endorsed its recommendations.

Consequently, the Regional Programme DP/RAB/86/001 was designed according to these recommendations and approved by UNIDO and the UNDP Regional Bureau for Arab States. The programme is presently being considered by the Governments of 7 Arab countries to be covered by the project (Algeria, Egypt, Iraq, Jordan, Morocco, Syria and Tunisia). Accordingly, the Egyptian Subcontracting Exchange (SE) not only will be part of the regional network, but also will serve as an example for other S.E. in the region. The experience built-up in this Exchange will be made available to other Exchanges to be set up in the region. Furthermore the regional project coordinator, as well as a regional Coordinating Committee, will see to the proper integration of this national project into the regional programme.

Annexe "2"

LIST OF INDIVIDUALS/ORGANISATIONS VISITED

UNDP	- Mr. Luciano Cappelletti, Resident Representative Mr. Tharwat Sabry, Se .or Programme Officer Ms. Mona Hetata, Programme Officer.
Ministry of Industry	- Mr. Sami Darwish, First Undersecretary
GOFI	- Dr. M.A. Mongy, Deputy Chairman Engr. Malek M. El Ashkar. General Director, SMI Sector.
Federation of Egyptian Industries	- Dr. Engr. A. T. Gazarin, Chairman Mr. Adel Shoeb, Director Chamber of Industry
Development Industrial Bank	- Dr. Engr. Mohamed El Said El Ghoroury, Chairman Mr. Remah El Kasry, General Manager
Engineering Industrial Corporation	- Engr. Abdel Wahab El Haboack, Chairman
NASCO	- Mr. George Abdel Malak Gurgis, General Manager, Feeder Industry Division Mr. Mohamed Abdel Raouf, Manager, Engineering Industries. Mr. Bhagowalia, Unido Consultant
KOLDAIR	- Engr. Fahmi Heider, Technical Director Engr. Abdel Lateef Mohamed, Project General Manager Engr. Abdel Satter M. Abdel Wahab Project Manager Engr. Sadek M. Bushra, General Manager, research & development
IDDC	- Dr. Engr. Yusef K. Mazhar, President Engr. Ezz El Sharkawy, General Director Engr. Nabil H. Soliman, Manager, SMI Engr. Mohamed Kamal, Head, Industrial Technology application programme Engr. Sabry M. Abou El-inain, Subcontracting division Engr. Rudolfo O. Sumicad, ILO Adviser Engr. Mohamed Mazen, Head, Management services group Engr. Mona Tuzcn, Production management specialist Engr. Sondos Monam, SMI Training Specialist Mr. Rafaat Badr, Information

Annexe "3 A"

SELECTED LIST OF PUBLIC AND PRIVATE SECTOR ENTERPRISES OFFERING SCOPE FOR SUBCONTRACTING

A. PUBLIC SECTOR:

1. Canal Refrigeration and Electrical Marine Industries Company (CANALECTRONE)
2. NASR Boiler & Pressure Vessel Manufacturing Company
3. Springs and Transport Needs Manufacturing Company
4. MISR Engineering and Tool Company (MICAR)
5. Alexandria Metal Products Company
6. Cairo Metal Products Company
7. NASR Engineering and Refrigeration Company (KOLDAIR)
8. Erection and Industrial Service Company
9. The Egyptian Company for Metalic Construction (METALCO)
10. Engineering Enterprise for Steel Works
11. The Egyptian Mechanical Precision Industries Company (SABI)
12. The Egyptian Light Transport Manufacturing Company
13. The General Egyptian Company for Railway Wagons & Coaches (SEMAF)
14. El NASR Company for Television and Electronic.
15. El NASR Electrical and Electronic Apparatus Co. (PHILIPS)
16. The Arab Company for Transistor Radio And Electronic Equipment
17. Egyptian Electro Cable Company
18. Alexandria Shipyard
19. The Delta Industrial Company (IDEAL)
20. El NASR Automotive Manufacturing Company

B. PRIVATE SECTOR:

1. Egyptian Cooler Manufacturing Company
2. Zanosy
3. Keriazy
4. Alaska
5. Seltal
6. International Air Conditioning Company
7. M/S Taco Group
8. M/S Talaat
9. M/S Atlas
10. M/S Philips
11. Eastern Company for Metallic Industries

Annexe "3 B"

LIST OF UNITS SELECTED FOR COLLECTION OF INFORMATION AND REGISTRATION WITH SUBCONTRACT EXCHANGE

Serial No.	Name of Unit	Region/ Industrial area	Existing Code
1.	Ramis Key	Abbasia	118014
2.	El Amal Factory	"	101158
3.	Canaa for Plastic	"	301010
4.	Taki	"	320025
5.	El Kahara El Kobra foundry	"	105168
6.	Technical Workshop (Soliman A. Soliman)	"	120042
7.	Technical factory for presswork	"	120062
8.	Technical workshop for turning (Hassan A. El Miguid)	"	120066
9.	Technical workshop for turning	"	120090
10.	Tricot art workshop	"	120096
11.	Technical workshop for electroplating	"	120111
12.	Shalabi foundry	"	114012
13.	Helco metals	"	108039
14.	El Nagua factory	"	105061
15.	El Nahda factory	"	105015
16.	El Shank factory	"	113101
17.	Italix	"	105006
18.	El Ahram electroplating	(Imbaba/6th October/Alexandria & Giza)	105002
19.	Standard (Nova)		119031
20.	Mohamed Abdel Rasik Soliman	"	113037
21.	Miraco	"	113022
22.	Iberna	"	109019
23.	Genedy for industry	"	107018
24.	Engineering Group	"	120101
25.	Mahmoud Ashmewy workshop	"	113170
26.	Olympic	"	115001
27.	Taco Group	"	120018
28.	El Giza Company for rubber	"	305089
29.	Mog (Port side Company)	Madinet-Nasser	116001
30.	Plastica	Heliopolis	316019
31.	Aamins sons for electroplating	"	
32.	Egyptian company for nails	"	105150
33.	Electrica	"	105046
34.	MISR Company for trailers	"	113166

Serial No.	Name of Unit	Region/ Industrial Area	Existing Code
35.	Tantawi Medical Company	Heliopolis	120102
36.	Crown MISR	El Bassatin	411005
37.	El Bassatin factory for die casting	"	105148
38.	El Sakary factory for metal work and die casting	"	105109
39.	Svan	"	119001
40.	El Halbawy Establishment for plastic	"	305046
41.	El Bassatin factory for wire work (El Saftway)	"	105011
42.	Firma "Safwal-Wasfy Naguib	"	319010
43.	Shobra for Plastic	"	319002
44.	El Gazel factory for foam	"	307018
45.	El Basha factory for press work	"	
46.	Selko Plast (Farouk Noor)	Dar El Salam	306010
47.	Abu Yousef	"	101165
48.	Metal technical factory	"	113012
49.	Sidco for filters	"	119048
50.	El Kahira factory for turning	El Saida Zaind and Abdin	103002
51.	Technical workshop for springs		120014
52.	Emad fahmy for filter	Shoubra, El Sahal	105128
53.	Fine workshop for metal casting	"	103001
54.	Sayed Mahmoud Hussein	"	105121
55.	El Dosoky establishment	"	105110
56.	Eirian Sidhom workshop	"	105072
57.	Hawash	"	105048
58.	Hamdy Abdel Aziz	"	108007
59.	Fahmy for industry & commerce	"	106001/25
60.	Precise mechanical workshop	"	116003
61.	Said said Atia	"	119014
62.	Saad Engineering factory	"	119017
63.	Sohil refaie factory	"	119055
64.	El Anwar company for metal work	"	119036
65.	Mechanical workshop	"	113019
66.	Technical workshop	"	120091
67.	Technical workshop for modern turning	"	120035
68.	Bakalistic	"	302001
69.	Rashid Tawokol	"	113015
70.	Technical workshop (Fikri Abd El Aziz)	"	120027

Serial No.	Name of Unit	Region/ Industrial Area	Existing Code
71	El Control El Senai	El Amiria/El Zaytan El Hamra/El Sakracia	105112
72	Portside company	"	116004
73.	Salah Abdel El Hamid for plastic	"	319033
74.	Egyptian company for carbon	"	105106
75.	Magi El Masry	"	113150
76.	El Ethad El Handsy	"	120104
77.	Evo for plastic	"	305019
78.	Maadinko	"	113167
79.	Medester for plastics	"	313002
80.	Noor wood	"	120023
81.	Technical workshop	"	120024
82.	Technical factory	"	120036
83.	General workshop for shop forging	"	107003
84.	Talaat factory	"	120056
85.	Engineering workshop	"	105021
86.	Technical workshop (Ahmad Scliman)	Bulak/El Sabtia	120042
87.	Technical company	"	120047
88.	Technical company (Mohamed Abdel Hag)	"	120063
89.	Engineering workshop	"	120092
90.	Technical workshop for milling	"	113096
91.	Mohamed Gamal	"	113042
92.	Drilling machine factory	"	113061
93.	Mechanical industries	"	113004
94.	Hussein Farag	"	108025
95.	Fine Product factory	"	106015
96.	El Ahlia for metal	"	105090
97.	Machine company	"	105112
98.	Testa and Toni	"	120001
99.	Metal Press	"	120004
100.	El NASR factory for bolts	"	105050
101.	El Basatir factory for metal cans	Bassatin	101168
102.	KIMO company	Midtown	111001
103.	Alpro for casting	Giza	101126
104.	Abd El Mooty Fahmy Mabrook	Giza	101125

Annexe "3 B_4"

Serial No.	Name of Unit	Region/ Industrial Area	Existing Code
105.	Osamco for casting	Giza	115005
106.	El Shark for rubber	Bulak	305060
107.	Mechanical spring factory	El Saida Zenab and Abdin	113097
108.	El Amal factory for springs	"	101133
109.	Brake Engineering	Abbasaiya	102009
110.	Electrika	Heliopolis	105046
111.	El Sufan	Midtown	105005

Annexe "4"

QUESTIONAIRE FOR SSI UNITS SURVEY

Date of Visit :

1. Name of the Company :
2. Address :
3. Year of Establishment :
4. Name of Proprietor :
5. Total Investment :
   a) Land & Building -
   b) Machinery & Equipment -
6. Items or Production :

Name of Item	Production Capacity (Annual	Quantity	Approximately Value LE)

7. Number of Workers :

Workers	Technical Qualified Persons

8. Are all facilities for production available at the factory. If not How are they arranged? Please Name of them.

9. Where are products sold :

   To Market - % As subcontract item - %

10. Subcontract Items Sold to :
11. Are repeat orders received ? What is the average rejection rate ?
12. How were original products selected ?
13. Is there a design development department? Any original design work done? Any modification of design undertaken to suit market needs?
14. How is quality of products ensured ?
    a) Are input raw materials tested ?
    b) Inprocess quality control ?
    c) Final testing of products -

d) Any national/international standards followed ?

e) If not. any standard of the Company followed ?

15. Any facility needed for better capacity utilisation or product quality upgradation from government or UNIDO ?

16. Are you interested in registering your unit in the Subcontract Exchange?

17. **REMARKS:**

a) Managerial Competence
b) Technical Competence
c) Quality Control Methods
d) Plant & Machinery Maintenance
e) Machine Layout
f) Material Handling Arrangement
g) Storage Facility for Raw Material & Tools

18. **RECOMMENDATIONS:**

SUMMARY OF PLANT VISITS

No	NAME AND ADDRESS OF THE UNIT	DETAILS OF PRODUCTION	CAPACITY AND CAPABILITY	UPGRADATION REQUIREMENTS	RECOMMENDATIONS
1	Al Sakari for Metal Works El Basatin Industrial Area (Mr. Hosni M. Abdel Baki) Visited on 20/12/86	The unit was established in 1969 but only recently it has been partitioned. Present investment about LE 500,000 & produces: Sheet metal components 12 x 27 tons annual. Pressure diecasting of Al Alloys 12x5 ton annual Workers : 26 Supervisory : 3	The proprietor himself has been a worker throughout his life. His son has also joined him now. He has himself fabricated almost all his Presses, wire drawing machine. As the products he manufactures are not required to be of a precision type, he can sell his products in the market easily. For the two items he produces he has the reasonable capability. He is already selling his products to M/S MON, M/S Plastic, M/S NASCO (for bus handles)	The space of the unit is very much limited. This is due to recent partition of the unit. As such the workshop is very much conjested. Lighting is also poor. Better machines will improve productivity & quality of products. The electroplating section is also crowded. Quality improvement measures should be taken.	The units is turning out good job in the given conditions. Immediate provision of extra space will be helpful. Bank finance may be ensured, though the unit was not very enthusiastic about it. Maybe enlisted in the subcontract exchange.
2	El Basatin Factory for die casting El Basatin Industrial Area. (Mr. Adduiati Abdul Rahman) Visited - 20/12/86	The unit was partitioned off from the above noted unit. Started work only for about one year. Present investment in machinery will be about LE 400,000 Products: Pre die casting al alloys & zamac Al 12x15 tons per annum. Zamac 12x2 tons/ annum Workers : 15 Supervisory : 1	The proprietor is also an experienced worker. His son has also joined him in business. Besides pressure die casting, he is diversifying in plastic items also for which machines have been imported. In the pressure diecast areas he is already supplying to M/S NASCO & are getting repeat orders. Dies are imported & if new dies are required, they will again be imported.	The unit is having all imported machines & they are performing well. For adopting any new product the main bottleneck is the die manufacturing capacity.	Centres for tool and die making should be established to cater to such units. They now have about 50% idle capacity. The unit maybe registered with the Subcontract Exchange for pre die cast components.

No	NAME & ADDRESS OF THE UNIT	DETAILS OF PRODUCTION	CAPACITY AND CAPABILITY	UPGRADATION REQUIREMENTS	RECOMMENDATIONS
3	Wire ware works Bassatin Industrial area. (Mr M.T. Fayoumi) Manager Visited on: 23/12/86	Produces: -Wire welded trays - Household articles made of tubes & wires Epoxy coated Production capacity wire 5 tons/day Tube 2 tons/day Had annual sales of over 2 million LE last year Machinery & equipment worth 1.5 million LE are installed. Presently manufacturing wiremesh trays for refrigerators. Workers : 150 Technical Persons : 6	The unit was started at this place in 1973 by shifting from an older location where it existed since 1967. There again a fire accident in this company in 1983 & a new factory is being organised nearby which is also partly working. The unit has very good automatic chain of epoxy coating plant imported from abroad. Also they have imported controlled & programmable machines for manufacturing wire welded trays. They have been supplying these trays to refrigerator manufacture like Phillips, Iberna, Alaska, Kirazi etc. & are getting repeat orders.	The unit is well equipped with machinery for the jobs they are engaged in. With the repairs of the burnt out machinery, they will have more capacity for production. The unit is trying to diversify its production & include new articles for household use. Assistance from Industrial Design point of view will be useful. They have six qualified engineers who are looking after the quality aspects of their production.	The unit is a good one and is progressive in out look. They have underutilised capacity & can be registed in the subcon-exchange for wire-welding, tube bending and epoxy coating areas. Design assistance for products may be provided.
4	Crown MISR Electric Equipment Factory 3, Factories St., El Bassatin Industrial area, Cairo (Mr. Ibrahim Abdel Hamid Abdo - Engineer) Visited on 23/12/86	Produces: Table Fan, Pedestal Fan Boxtype Fan 8,000 Fans/Year Turn over about - LE 4 million/Year Machinery & Equipment LE 2.5 million Approx. Workers : 78 Technical Persons : 10 of which 5 engineers	The unit has been established only in 1985 & is very well equipped. It has a special machinery line for manufacturing fan guards. Facilities also exists for plastic moulding with imported machinery, pressed components etc. However, many components like motors, timers, printed sheets of aluminium, allen screws etc., are being imported as,	They are installing electroplating facilities also, as their need is quite high Design & development section however, does not exist & they are mainly copying market products with slight modification. They are following B.S.S. and their product is approved by the Government.	The units is a good one and the investment is also quite high. They can supply plastic parts but tools will have to be imported. Tool making facilities should be created by government & if possible subsidized so as to generate more activity in this area in the country. The unit may be registered for wire welded fan guards and plastic components in the Subcontract Exchange.

No	NAME & ADDRESS OF THE UNIT	DETAILS OF PRODUCTION	CAPACITY AND CAPABILITY	UPGRADATION REQUIREMENTS	RECOMMENDATIONS
4			it is learnt, no capacity exists in the country. They are likely to enter into contract with M/S Olympic for supply of fan guards & with M/S Koldair for plastic parts.		
5	ALPRO 6th October City Industrial Area (Engr. Abdel Satter) Visited on 24/12/86	Produces: Al die-castings Anodised & galvanized items	The unit has been established only in 1985 with completely imported plant & machinery for permanent mould gravity die casting of aluminium. Has also an automatic chain for anodising (but seen to be manually operated at the time of visit)	The products manufactured are of good quality However, there is less demand now for construction materials and their capacity is idle. Product diversification will be useful in fully loading the capacity.	New items of production should be taken up. Registration with Subcontract Exchange may be useful. Maybe registered for anodising as well as for al die casting.
6	El-Aml Work Shop for metal working La Avvasaiya Industrial area. (Mr. Hassan Abdul Monaim Hussain) Visited on : 27/12/86	Produces: Pulsator for washing machine. (Turning & Backelite moulding) Steel Pins (Turning) Annual Turnover around LE 200,000 and investment in plant & machinery approximate LE100,000 Workers : 10 Technically qualified -nil	Has centre lathes, a cylindrical grinder, a recently imported automat for pins etc, and bakelite moulding press. This is a small unit and its capacity is being utilised for supplying turned parts & components to M/S Ideal. He gets repeat orders also.	In the present level of working, the facilities are are all right. However, better machines & skills will allow him to diversify his market. It appears M/S Ideal are having many other items of turning jobs which are presently being imported. Improved machine capacity may bring further orders from M/S Ideal.	The unit does not have much extra capacity for subcontracting work over & above what is done for M/S Ideal. However, he is eager to run one more shift if extra work is available. As the entrepreneur is eager, the unit may be registered with the Subcontract Exchange.

No	NAME & ADDRESS OF THE UNIT	DETAILS OF PRODUCTION	CAPACITY AND CAPABILITY	UPGRADATION REQUIREMENTS	RECOMMENDATIONS
7	Greater Cairo Factory Abbasaiya Industrial Area (Engr. Ahmed Zaki) Visited on: 27/12/86	Produces: a) Steel casting (low & high carbon) b) chrome steel c) manganese steel d) grey iron casting. Machines: Induction furnace with two crucibles available having capacity per charge ½ tons maximum. Production capacity about 10 tons/day Producing steel casting job orders for customers and are developing pumps for direct marketing. Workers : 15 Engineers : 2	The unit has been established only last year and has yet to procure many items. They are negotiating for purchasing an annealing furnace. In the steel meting field there are not many enterprises and as such they have a number of clients.	The unit has only chemical testing facilities for raw materials. Physical testing facilities will also be needed. As the casting is done in sand bed, arrangement for sand testing, sand mixer etc, will be necessary.	The unit may be assisted in the procurement of all balancing machines so that it can establish itself as an efficient unit. Steel casting capacity can be registered in the Subcontract Exchange.
8	Port Side Company 45 Port Side Street (Mr. Sabri Ahmed & his brother) Visited on: 1/1/87	The unit mainly undertakes machining jobs for maintenance work of big machine. Also manufactures hydraulic jacks for trucks mainly for replacement demand. Has 10 workers. Technical qualified persons - nil	The owner has work experience & is engaged in mainly maintenance works. Many machines like surface grinder, internal & external grinding machine, drilling machine which are imported are lying idle for about 3 years. The problem appears to be non availability of skilled workers. Only the centre lathes were found in operation. Standard raw materials (steel items) are also not available and he has to buy any material he comes across.	The existing facility needs to be utilised fully. Skilled manpower normally goes out of the country & hence training capacity in the country should increase. Standard raw material for input should be available and testing facility for such raw materials should also be provided.	The unit can be registered with the subcontract exchange for it has good facilities which are under utilised. However, its manpower problem also has to be sorted out.

No	NAME & ADDRESS OF THE UNIT	DETAILS OF PRODUCTION	CAPACITY AND CAPABILITY	UPGRADATION REQUIREMENTS	RECOMMENDATIONS
9	El Control El Sanai 801 Port Side street Four Partners: - Mr. Adil Abdel Kawai - Mr. Ahmed Gouda - Mr. Rawhey - Mr. Abdul Menaw Morci Visited on 1/1/87	They are mainly carrying out subcontracting work comprising: 1. machine parts 2. press work 3. welding Has 50 workers Supervisory - 4 Technical qualified - nil (Some visiting engineers are engaged)	The unit has a large complement of old lathes, shapers, milling machines & are manufacturing goods for NASCO, SIMAF, Egyptian authority of railways, etc. The jobs are not required to be of a very accurate type. Testing is done by the buyer at this premises. Partners are experienced persons and as such they have good business.	Many machines need replacement if quality goods are to be turned out. The layout is also conjested. It is learnt they have a plan to upgrade their machines. This should be done faster at a better location.	The unit is having enough load with them from main buyers. They may be registered in the subcontract exchange but they may also be assisted in improving the quality of their machines.
10	Port Side Metal Works (MOG) NASR City (Mr. Mohamed Khalid) Visited on 3/1/87	The unit produces: a) washing machine b) steel furniture for hospitals c) electrical heating appliances No. of workers - 150 Engineers - 3 Investment in machinery Approximately : LE 2 million.	The unit is in the medium sector having very good facility in press shop. They have eccentric presses, hydraulic presses having 250 tons capacity & about 50% of the press shop capacity (one shift basis) remains idle. They are already doing some subcontract work for other units.	Testing and quality control area needs further attention. Design modifications are not attempted as new licenses are reported to be necessary for any change in design.	The capacity for Press shop could be utilised for subcontracting.

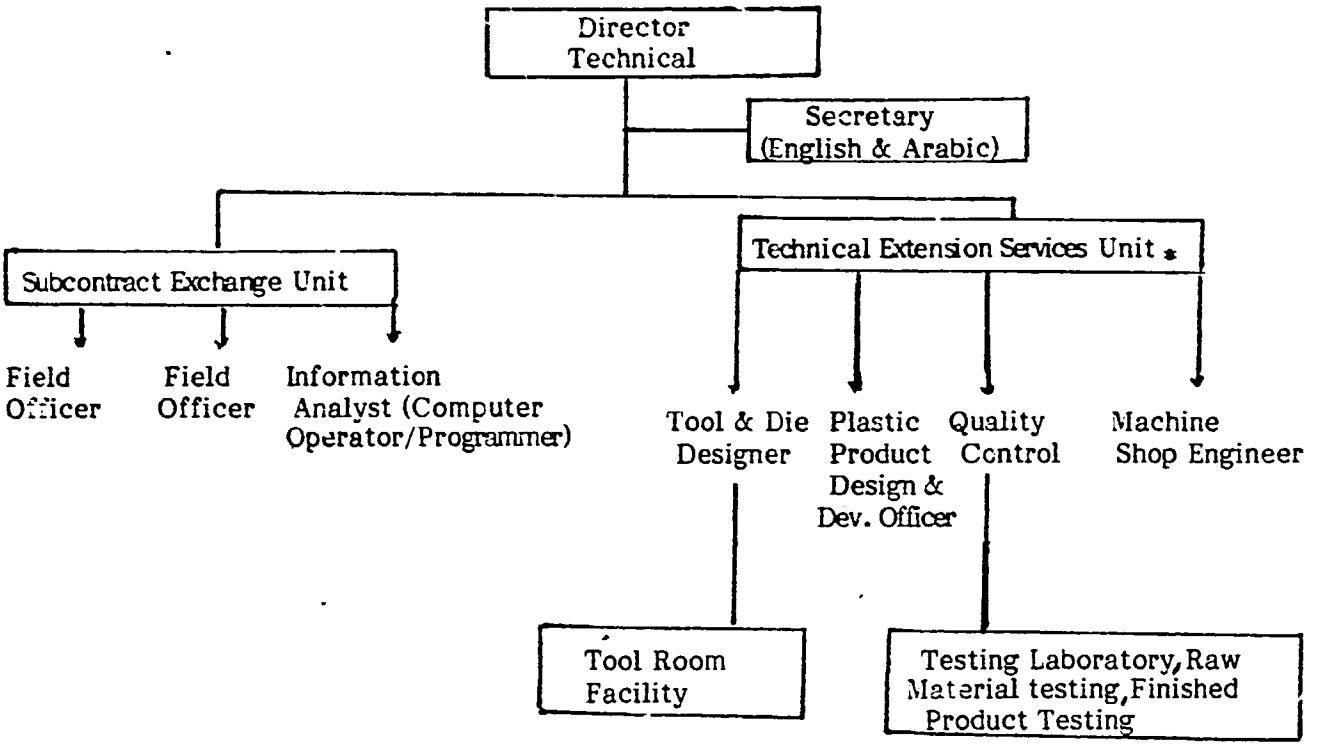
No	NAME & ADDRESS OF THE UNIT	DETAILS OF PRODUCTION	CAPACITY AND CAPABILITY	UPGRADATION REQUIREMENTS	RECOMMENDATION
11	M/S Ramis Key 37 El Aghory Abbasiya (Mr. Samir M. Saad) Visited on 7/1/87	The unit produces aluminium die cast products. Workers : 23 Technically qualified persons - nil.	The proprietor is a skilled worker and has been running the unit profitably. Has centre lather, surface grinders, spark erosion machines, electroplating arrangement besides having the pressure die casting machine. The centre lathe, grinder, spark erosion machines are mainly used for making dies. He is already subcontracting for NASCO, MOHM and private companies.	The space available is very limited and the whole workshop is conjested. Better layout and material handling will be possible in a new location. This will improve efficiency of production & quality of products.	The unit wants to have subcontracting activity only with the spark erosion machine. This can be recorded.
12	M/S M. A. Shuman 3 Kennawy Street Giza. (Mr. M. A. Shuman) Visited on: 8/1/87	Produces special purpose machines on demand. One tube sealing machine has a good demand and he makes about 400 pcs./Yr. No. of workers : 7	Mr. Shuman has innovative ideas and has fabricated many special purpose machines, gadgets suiting to particular needs. Has two centre lathes, shaping machines, eccentric press but the utilisation is rather low except for one centre lathe.	The unit also has space problem and more production will be feasible in a changed location. The eccentric press cannot be utilised due to vibration problems which disturbs neighbors.	May be register with the subcontract exchange for turning and shaping works.

No	NAME & ADDRESS OF THE UNIT	DETAILS OF PRODUCTION	CAPACITY AND CAPABILITY	UPGRADATION REQUIREMENTS	RECOMMENDATION
13	M/S El Ahram Metal Parts 41 El Ahasiry street Giza. (Engr. Omal Murad) Visited on 8/1/87	The unit produces plastic articles, plastic moulds, anodised aluminium labels, plastic labels, etc. No. of workers : 20 Technical qualified - 1	Engr. Murad is a capable person having wide experiences. The unit has a spark erosion machine for making moulds, two injestion moulding machine, electroplating arrangement and are producing good plastic and anodised aluminium products.	The operation is now in a old building spread over three floors. Material handling is a problem. Electroplating section also needs better space and arrangements.	Idle capacity exists in mould making area and subcontracting work is desireable. May be registered with the subcontract exchange.
14	M/S Amin Sons (Mr. Irian Amin) (Mr. Munir Amin) Visited on : 12/1/87	The unit has a service centre doing hard chrome plating on metal dies. No specific production is there. No. of workers : 10 Managerial : 2	The unit has increased its capacity with a new electric arc metal spraying equipment. The entrepreneur is enthusiastic, in collecting informations on new technology areas.	The facilities available with the units is something special & the unit has good demand for its services. However, further diversification is not being attempted as they are not sure of market demand.	The unit should consolidate its activities in in these two areas and expand its activities after assessing demands for specific services. Maybe registered with the subcontract exchange.
15	M/S Orient Workshops 236 Shobra Street (Mr. Abdul Haidi Said El Ahl) Visited on: 15/1/87	A very small unit manufacturing machined parts also presently manufacturing moulds for concrete for various civil contractors. No. of workers: 4	The owner has a technical bias and is a good entrepreneur. Within his limited capacity, he is doing good work.	In the present space, no further machinery can come. Even he has no space for welding or painting work and perhaps this is done on roads. For further facilities he has to shift to a new location.	Interested in subcontract works on machined parts. Recommended for registration.

No	NAME & ADDRESS OF THE UNIT	DETAILS OF PRODUCTION	CAPACITY AND CAPABILITY	UPGRADATION REQUIREMENTS	RECOMMENDATION
16	M/S Atia Saad Atia Workshop 8 Wekalel El Khurnop Bulak, Cairo (Prop- Atia Saad Atia) Visited on: 17/1/87	The unit has one more shop in Al Tarik El Nasr Imbaba. He has a lathe & a shaper there and has only one lathe in this workshop at Bulak. Engaged only in machining work. Workers - 2 at one place 1 at another	A very small unit which is again scattered in two places. The present place at Bulak is almost free - rent being about LE 3/month. Has a very limited capacity and capability.	The unit should combine its two scattered units, increase further facilities and build up a better workshop if subcontracting activities from bigger units are to be procured.	May not be taken into the register of subcontract exchange unless the unit improves its facilities further.
17	M/S Technical Workshop for turning Prop- Ahmed Soliman 4 El Shref Street Polak, Cairo Visited on: 17/1/87	The unit is engaged in job-works making parts and components for various public sector units. Has number of good machines centre lathes. 6 nos. universal milling machine 2 nos. shaping m/c 1 no. drilling m/c 2 nos. Investment in machine LE 400,000 Turnover Annual LE 1 million No. of workers : 15 Supervisory : 2	The proprietor has long years of experience & his two sons are also engaged in the workshop. They have expertise in making complicated parts & components and are supplying to large public and private sector units.	The unit is cramped for space. But the locality is also suitable for them. They are therefore searching some space near by. This unit has a good potential for development.	The unit should be assisted with a new accomodation. May be registered with the subcontract exchange.

IDDC SUBCONTRACT EXCHANGE

Proposed Organization Chart



For the preparation of tools, jigs, dies, fixtures for metal working and also dies and moulds for plastic and rubber parts and components.

a) chemical testing of basic materials

b) physical testing of hardness, tensile load etc.

c) metrological tests.

d) final testing of selected product groups.

e) at a later stage further tests like X-ray metallography, vibration tests, controlled atmospheric tests on products could also be added.

* The technical extension service unit shall take the assistance of existing management development team and product development team in case of management associated problems and industrial design problems. Management problems may cover a wide spectrum including layout, handling, cost control, inventory control, financial management, market analysis etc.

ANNEXE "5 B_1"

GENERAL TERMS OF CONTRACT

1. General Conditions

i) Contracts should be clear and

ii) Atmosphere of mutual trust and fair business ethics should prevail between the buyer and the supplier.

2. Product Specifications/Drawings/Designs

i) Buyer's requirements may refer to:

a) organizational, national or international specifications to which the goods should conform

b) intended end use for which the material should be suitable

c) tests which the material will have to pass

d) drawings giving dimensional tolerances, finish, fit, etc., as required.

ii) The supplier should not divulge details of buyer's products, parts, drawings, specifications, process, etc., or enter into any direct or indirect sale of these products/parts, without buyer's express permission.

iii) The buyer should make sure that the supplier does not get into trouble on account of infringement of patent rights due to the nature of specifications, given by him to the supplier for manufacture.

3. Tools/Fixtures

i) Buyer should specify whether tools/fixtures required specifically for the job would be lent by him to the supplier or these would be developed by the supplier at the buyer's cost directly or indirectly.

ii) Expected life span of tools should be specified and replacements planned accordingly for continuation of supplies.

iii) Tools not in use due to non-requirement or obsolescence of the product should be withdrawn by the buyer.

4. Samples

A supplier should submit samples to the buyer for inspection prior to mass production. After inspection, any deviation observed or changes required should be communicated to the supplier in writing.

5. Packing and Delivery

i) Special packing required, if any, should be clearly specified

ii) In cases where supplies are received in the supplier's own containers, the same should be returned in a reasonable time, failing which the supplier may demand cost towards the missing containers.

iii) The type, mode and place of delivery and as to who would bear the cost of transportation should be clearly specified.

6. Prices

i) Price should be fixed at the time of contract and should specify:

a) item rate per unit
b) packing and forwarding charges
c) all Government levies such as Excise Duty, Sales Tax & Octroi

ii) Unit price may be eligible for revision if the contract is subject to price variation clause

iii) Additional development expenses, if any, should be worked out and specified in the contract for payment in lumpsums basis or as may be mutually agreed upon between the buyer and the supplier.

7. Quantities

i) The total quantity to be purchased and delivery schedules should be specified. The quantity may be subject to quantity variation clause like $\pm$ 5%, $\pm$ 10%, etc.

ii) Fair consideration should be given for lifting quantities against firm delivery schedules when the product specifications are suddenly revised by the buyer.

Annexe "5B"

8. Payments

i) The terms and mode of payment should be specified clearly in the contract.

ii) All bills/invoices for supplies made bearing sales-tax registration number, duly endorsed with the purchase order reference and material details, are payable by the buyer as per the terms of payments agreed upon.

iii) Reasons for part payments of the bills if any should be intimated by the buyer to the supplier.

iv) If payments are unjustifiably delayed by the buyer resulting in delayed subsequent supplies from the supplier, the same should not be held against the supplier's delivery performance.

9. Inspection

i) Goods delivered should conform to the specifications when inspected by the buyer.

ii) Product performance problems related to design parameters should be the responsibility of the designing party.

iii) In case of rejection, the supplier should remove the rejected goods within a specified period from the receipt of the intimation from the buyer.

10. Non-Performance & Cancellation of Contract

i) The supplier should comply with the terms of the contract for the quality and delivery schedule of the goods failing which the contract is liable for cancellation.

ii) Buyer should carefully examine the reasons including force measures for non-performance before taking the extreme step of cancellation.

11. Disputes and Jurisdiction of Courts

i) The contract should be governed by the laws of the country.

ii) Disputes or difference of opinion relating to the contract between the buyer and the supplier should be settled through bilateral negotaition and arbitration. When needed, this should be referred to the relevant court or jurisdiction and such a court should be specified in the contract.

SUBCONTRACTING EXCHANGE

OPERATING

M

A

N

U

A

L

INDUSTRIAL DESIGN DEVELOPMENT CENTRE
203 Pyramid Road, Cairo
Arab Republic of Egypt

TABLE OF CONTENTS

1.0 The rationale, Advantages and Function of a Subcontract Exchange

1.1 Engineering industry needs a variety of equipment and machine tools to complete a job economically and ensure the desired level of quality. Number of workshops, each specialised in a performance such as foundry, forge, sheetmetal, finishing etc., are therefore necessary for the purpose. However, it is neither possible nor advantageous economically to create all facilities under one roof. Access to units having specialised manufacturing facilities and willing to undertake jobwork, therefore, helps in planning for total manufacturing operations of a project. Even if a large unit has a particular machine, it may be running in full capacity and hence for balancing production activities or for urgent requirement of more parts and components, it is necessary to have sources of manufacturing activities nearby so that the production can continue without any interruption. Again if large units have machines which are not utilised for an optimum period, a large amount of funds will be unnecessarily locked up without giving adequate returns. Most of these specialised and expensive machines will also need skilled manpower and they will also remain idle. Such factors naturally influence the make or buy decisions of the management of large and medium undertakings and signal the need for locating suitable manufacturers specialised in particular fields. Subcontracting arrangements arise out of production planning requirements and the need to catch up with the market and are dictated by the conditions of inplant factors of production at a given time. Economies of scale rather than socio-political considerations guide the principle of subcontracting.

1.2 On the other hand, technicians and skilled operators can start a small shop with a few machines in which they have the necessary skills. As they are specialised and are equipped only for a few selected operations or processes they have to be in touch with the market to secure orders from outside. The operations which are normally executed by them form only a small part of the numerous operations that are carried out on a job before a finished product is ready for the market. Therefore, it is necessary for them to get orders as subcontractors from large manufacturers. These small units should also know where the related and ancillary works are undertaken in case they getjob of such a nature which require various operations

on equipment not available with them.

1.3 The Subcontracting System thus, is a form of mutual cooperation between the large units and the small manufacturers. This also increases specialisation and division of labour within the industry. The aim of a rational subcontracting system should be enduring relationships between subcontractors and their principals. The advantages of subcontracting system can be fully secured only when cooperation is on a long term basis.

1.4 Role of a Subcontractor - A subcontractor may provide:

(i) Parts, components or sub-assembly either for further processing by the main contractor or for incorporation in a finished assembly or

(ii) A processing facility whereby the subcontractor performs certain machining or other operations on materials supplied by the main contractor.

1.5 Advantages of subcontracting - Some of the important advantages are:

1.5.1 Reduction of capital investments in the large unit and greater and profitable utilisation of available equipment.

1.5.2 Availability of parts off loaded to subcontractors at comparatively cheaper rates because of lower overheads, special purpose machines employed, specialised knowledge etc.

1.5.3 Greater Flexibility of operation in small units, and possibilities of quick deliveries in emergency.

1.5.4 Main contractors may get relief from manufacturing and management problems, like finding skilled personnel, training, redundancy during off-season etc. They can concentrate on areas like planning, designing, research and marketing.

1.5.5 Reduction in element of risk for a single undertaking as it is shared by many.

1.6 Why a Subcontract Exchange?

To meet the growing needs of both the large undertakings looking for subcontractors and of small units desiring to secure orders from large undertakings or of cooperating with other small industries in the production of a finished product, a clearing house for providing the desired information on subcontracting capacities is necessary. The Subcontracting Exchange meets this need.

1.7 The Functions - The main functions of a Subcontract Exchange are:

1.7.1 To register the spare capacities for different facilities/ machines available with small units.

1.7.2 To obtain list of items/facilities required by large industries which could be subcontracted to small units.

1.7.3 . To assist in creating additional capacity in the small sector for specific processor facilities or items needed by large units.

1.7.4 To organise contacts among buyers (main contractors) and sellers (subcontractors) either individually or group wise, as may be possible.

1.8 In these Exchanges, information about the existing subcontractors with relevant details would be kept and communicated immediately on demand. The information stored in such Exchanges should be comprehensive to avoid unnecessary movements. The Exchange keeps the information of manufactured items, existing facilities including machines etc., in one industry. A buyer wanting to locate a subcontractor for a particular job contacts with the Exchange and specified the work to be done. The Exchange from its records would be able to identify units which have the required machinery besides having unutilized production capacity. The Exchange may contact those units to confirm that they still want the work. The final list of the interested units is supplied to the buyer for making direct contacts with the firms of his choice.

2.0 OPERATION OF A SUBCONTRACT EXCHANGE

2.0 General Function of an Exchange

A Subcontract Exchange is an industrial information and promotion centre. It registers the existence of production items (catalogue or sub-contracting items) and manufacturing facilities and in turn advises other companier in need of them about their availability outside their own organization. The Exchange's scope ranges over the whole of the engineering field whenever there is a need. The Exchange, thus is in a position to serve both the buyers as well as the suppliers, by establishing many,hitherto unknown,contacts.

2.1 Operation Requirements

An exchange must fulfill the following operational requirements:

2.1.1 . Answer enquiries received from user companies to locate sources of

a) specific capacity (one or two operations or facilities)
b) manufacture of components requiring specialized operations or facilities.
c) catalogue items

2.1.2 Generate statistical information by analysing the enquiries and also from its knowledge of the capacity of the operating areas and its rate of utilisation.

2.1.3 Establish operating procedures and "paper-work" both for clients and operating personnel so as to produce desired information as accurately as possible with least delay.

2.2 Broad Divisions

To achieve the operational requirements as mentioned in para 2.1, the activities of the Subcontract Exchange can be broadly divided into three stages:

2.2.1 Building up a data bank of detailed information about purchasing organisations and subcontracting units.

2.2. Generating enquiries.

2.2.3 Processing enquiries - locating suitable subcontracting units and transmitting information about available facilit them to purchasers and following-up the progress with purchasers and subcontractors.

2.3 Building Up of A Data Bank

2.3.1 The names of main contractors (buyers) and subcontractors (sellers) who are in need of subcontracting activities will have to be located first. The Subcontract Exchange should contact the following sources to obtain a potential list of probable customers of the subcontract exchange.

1) Federation of Industry and of Chambers of Commerce and Industry
2) General Organisations for Industry (GOFI) (licenses issued)
3) Industrial Development Banks (DIB) (Finance Sanctioned)
4) Telephone Directories
5) Industry Directories if any published
6) Advertisements in papers
7) Catalogues of manufacturers
8) Industrial Extension Service Institutions

2.3.2 All potential main - and sub-contractors should be contacted through personal contacts, telephone or correspondence. For this purpose a suitable circular letter should be addressed to all units enclosing a "brochure" or a "write-up"(1) about the purpose and activities of the Subcontract Exchange, and enclosing an application form for enrolment with the Subcontract Exchange.

As the same form is being used for the large and small industry, the circular letter should indicate the column numbers specially meant for main contractors/subcontractors so that relevant informations are furnished.
(Doc: circular letter A, brochure, Enrolment form B)

2.3.3 After two weeks of the issue of the circular letter with brochures etc, the technical staff of the Subcontract Exchange should visit the enterprise and record as much information as possible in the proforma questionnaire. Remaining informations if any may be collected later. He also records his observations about the performance of the unit.

2.3.4 Based on the performance and other details, the Director of the Subcontract Exchange decides either to enrol the enterprise or not as a client of the Subcontract Exchange.

2.3.5 If it is to be registered as a client, the name, address and the person to be contacted with telephone No will be recorded in register I and the client will be alloted a client No (code No.) This code number will communicated to the client through an acknowledgement letter "C." All information collected in form B about the unit will be stored in a computer so that any information about the unit could be retrieved whenever necessary. It any subcontractor is not accepted for registration, the same should also be informed by the same letter "C" with slight modifications.

2.3.6 An item wise and process wise list of manufacturers with their code numbers will be procured from the computer and kept ready in a master file for quick consultations when an enquiry is received either on telephone or telex or correspondence.

2.3.7 Alphabetical list of subcontractors/clients will also be entered in a visible index stand with their code number and also the person to be contacted with his telephone number. This list coule also be available as a computer print-out.

2.4 Generation of Enquiries

2.4.1 All large and medium industries in the public, private and joint sector should be contacted personally after the circular letter, brochure and enrolment form have been forwarded to them as mentioned in para 2.03 (b). The enquiries received could be of two types. One where the large unit desires to have some items and facilities to be located and where detailed orders orders will be discussed between the buyer and suppliers. This will be available from form "B." In this case the information about capable units could be obtained from the computer and passed onto the large unit. In the second type of enquiry, a large unit is in search of getting some job done through subcontractors for which drawings, specifications, delivery dates,

etc., have been worked out. Here the buyer makes a querry to the Subcontract Exchange to locate suitable subcontractors for obtaining quotations and placement of orders.

For the second category of enquiry which will normally be a written request from the large unit, it is desireable for the Exchange to obtain more details on the following:

1) Mode of Inspection :
   i) at supplier's premises, or
   ii) at buyer's premises
2) Terms of payment
3) Drawings/specification of materials
4) Details of any existing tools which will be made available,or who is to design and make tools and at whose cost.
5) Details of documentation required.
6) Special packaging instruction if any.

2.4.2 The letter in the second case will be treated as an incoming enquiry. When the Subcontract Exchange receives a verbal enquiry or generates an enquiry based on the data furnished by the buyer in form"B", an incoming enquiry paper maybe prepared indicating the basis of the enquiry (verbal or through analysis of data), the date and the type of enquiry. This paper will be kept in the file of the buyer.

2.4.3 All incoming enquiries will be registered in Register 2 and will be alloted an enquiry No. The letter's number and date of written or verbal enquiry should also be noted. This enquiry no. should be quoted in all subsequent documentation relating to this enquiry.

2.4.4 The information furnished by the main conctractor while filling-in the proforma questionnaire may not be complete in all respects and also may change with time, some items being added or deleted. It is therefore important for the Sub-contract Exchange personnel to keep close contact with the buyers and obtain from them firm enquiried for processing.

2.5 Processing of Enquiry

2.5.1 Once a firm enquiry has been obtained and a number has been alloted to it, details of the enquiry may be entered in an Enquiry Form 'D."

2.5.2 The Subcontract Exchange officers will identify the facilities needed to satisfy the enquiry.

2.5.3 Suitable subcontractors capable of manufacturing the items desired or having the facilities desired by the buyer will be located by retrieving information from the computer. While selecting subcontractors, care should be taken to note the performance grading of the unit, idle existing capacity, quality control arrangements available etc. It may be useful to check on the telephone with the unit whether idle capacity is still available with in the unit, if the information available is old.

2.5.4 The enquiry will then be referred to the selected subcontractors through a forwarding letter "E" giving all details about products/processes desired by the buyer along with quantity, delivery schedule, drawings, testing and inspection details, payment terms as far as available. The enterprises will be asked to quote directly to the buyer (unless the buyer desires to keep his identity unknown at the first instance, in which case quotations may be routed through the Subcontract Exchange). If details are not available, portions A to D along with the line "details of the order are as under" may be scored off.

2.5.5 The buyer concerned will also be informed that his enquiry has been referred to selected subcontractors, whose names may also be indicated. The buyers maybe assured that further particulars about the enterprises could also be given if that helps in selecting subcontractors.

2.5.6 The progress of the enquiry as reported by the subcontractor should be recorded onthe back side of the enquiry form 'D."

2.5.7 The progress of quotations and placement of orders maybe followed up regularly with the buyers and the recommended subcontractors. Subcontractors maybe assisted in procurement of raw materials or technical assistance through sister organisations.

2.5.8 The enquiry should be treated as closed when (i) when the orders have been placed and executed by the subcontractors recommended by the Exchange (ii) when the buyer decides not to place an order for the item in question.

2.6 The steps involved in the flow of an enquiry have been described above in detail. However, there will be cases where some of the steps may not be required. The Subcontract Exchange staff may therefore use their discretion in processing the enquiries.

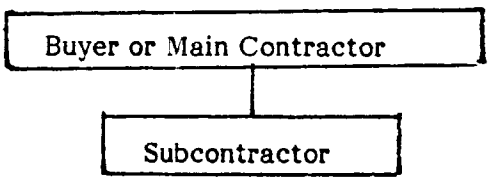
2.7 Documentation :

The documentation necessary in a Subcontract Exchange has already been indicated while describing the activities. These comprise a circular letter, an enquiry information letter, an acknowledgement letter, etc. Some of the forms are suggested to be in colour tc distinguish them from others by quick recognition. Annex " 1"gives details of the documentation proposed.

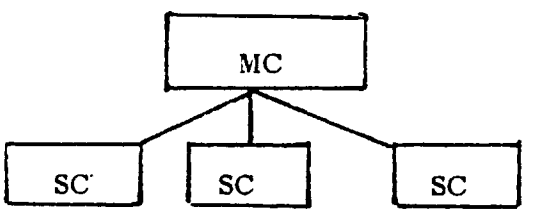
2.8 The list of equipment which is normally required for a Subcontract Exchange is described in Annex "2".

3.0 The Information Triangle and The Flow Chart Of An Enquiry Handled In A Subcontract Exchange

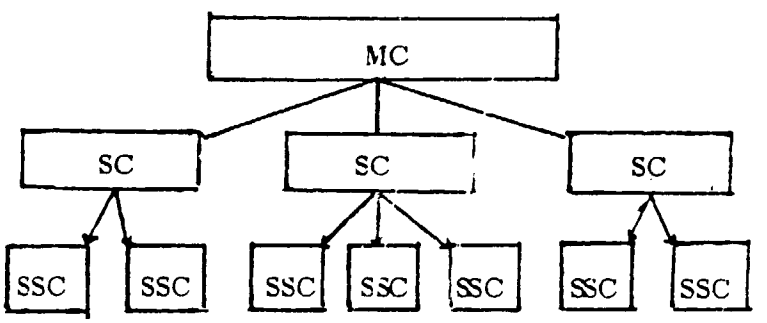
3.1 The subcontracting relationship is between a main contractor (buyer) and a subcontractor (seller) as the diagram shows.



3.2 In actual practice, a Main Contractor will have many Subcontractors and not only one (as shown).

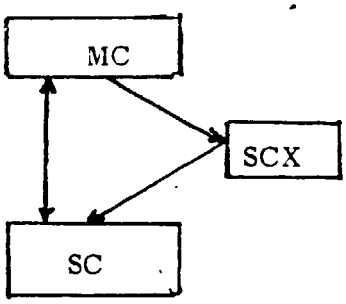


3.3 Subcontractors may not have all facilities with them and can get some operations done through their own subcontractors. These may be small units, although sometimes a subcontractor which is a small unit may get some of its job done in a large unit whereby the large unit becomes a sub-contractor to a subcontractor. Thus sub-contracting can have many layers of activities.



3.4 But how do the main contractor and the subcontractor and even the sub-subcontractor know the requirement and capacity of one another so they can cooperate mutually? The Subcontract Exchange steps in here and provides the information to all parties concerned. With the flow of information from the subcontract exchange, the interactions may take the following shape.

The main contractor enquires from the Subcontracting Exchange about the the names of capable units for a given job. The ubcontract xchange selects from its data bank capable suppliers and informs the subcontractors about the requirements. The subcontractors contact the main contractor and try to obtain the order.

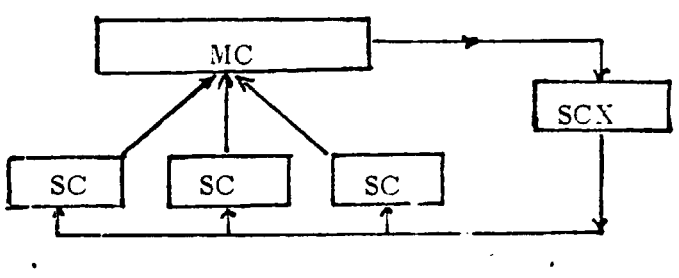


MC- Main Contractor (buyer)

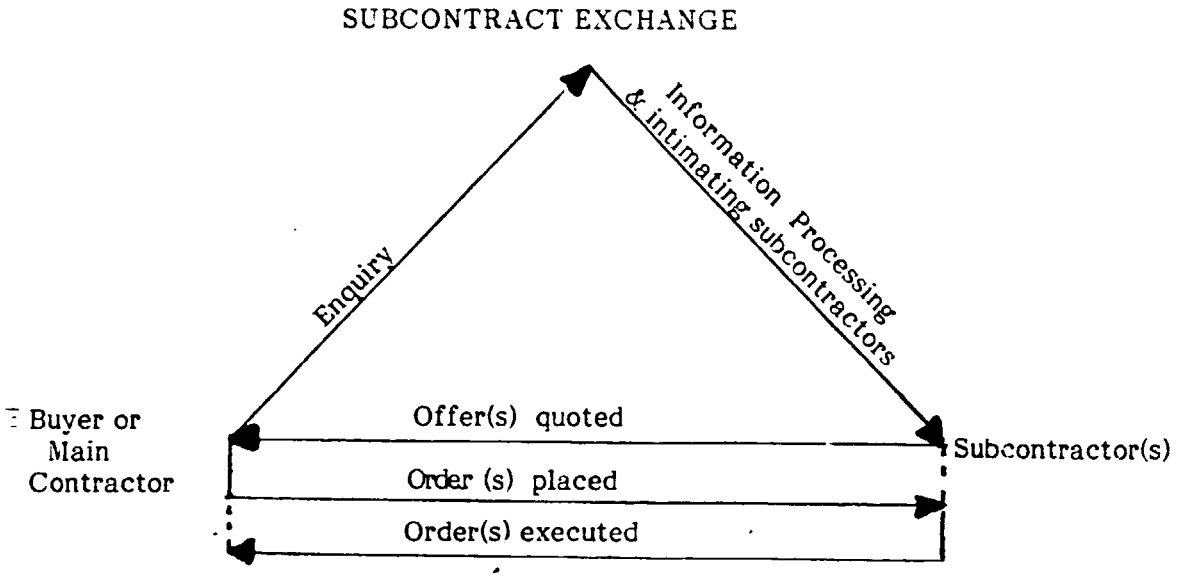
SC - Subcontractor (seller)

SCX- Subcontracting Exchange

3.5 This is true for large number of subcontractors or sub-subcontractors and not just for one. (as shown)

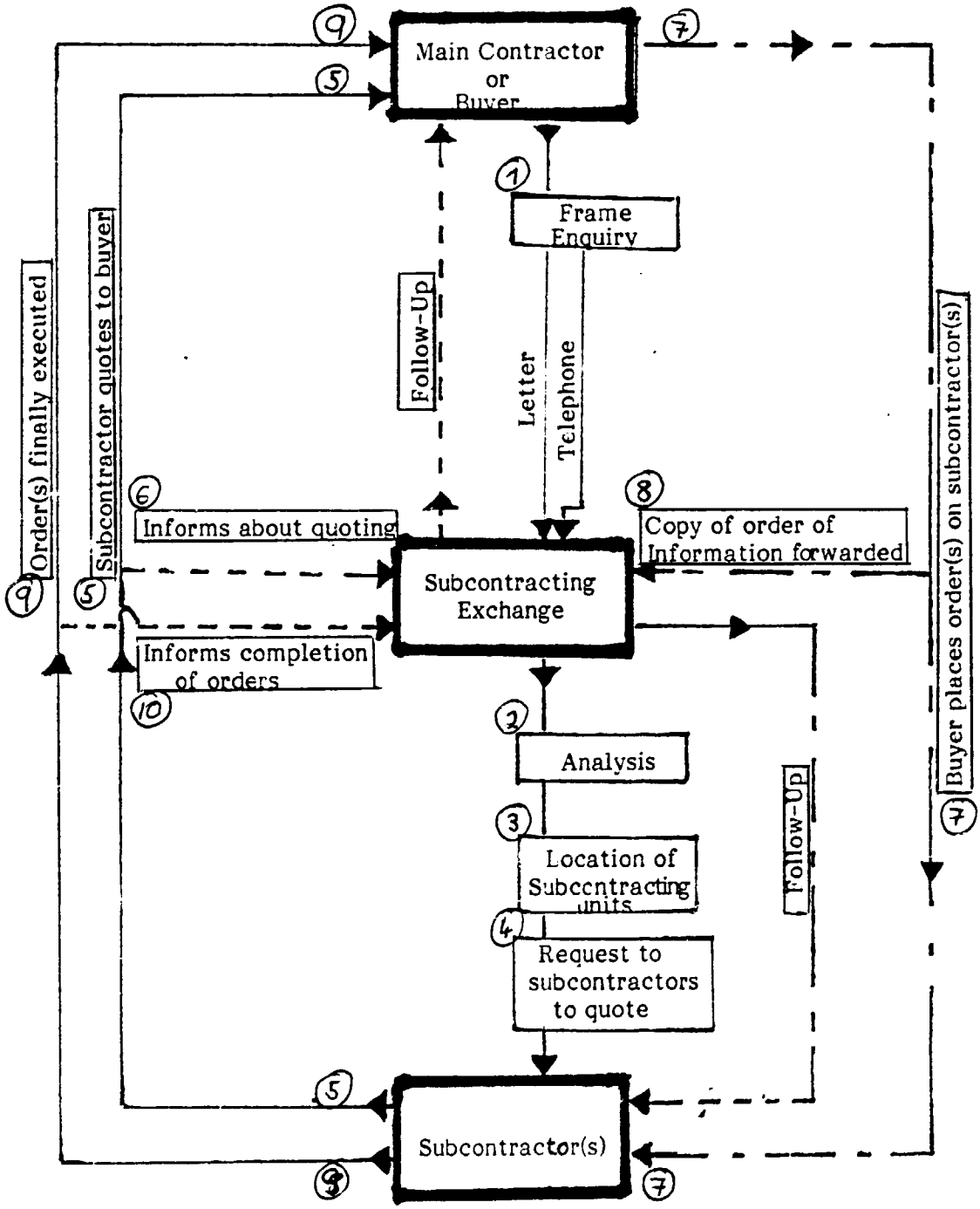


3.6 The Information Triangle



Action flow chard of three parties involved in the information triangle.

3.7 FLOW CHART OF AN ENQUIRY PROCESSED IN A SUBCONTRACT EXCHANGE



4.0 HOW TO FILL IN THE QUESTIONNAIRE FOR COLLECTING INFORMATION FROM THE ENTERPRISES AND CODES TO BE USED

The proforma questionnaire, or enrolement form, has been designed to collect information from main-contractors and subcontractors and to store it in a micro-computer. The information will be retrieved as required from the computer.

As a result of an analysis of the industrial nomenclature or classification to be referred to in the field of industrial subcontracting in the Arab region, it was recommended to apply the industrial nomenclature in use in the 12 countries of the European Economic Community (EEC) for a number of reasons, but basically because:

(i) of its specific application to subcontracting operations/products
(ii) of its homogeneousness or internal logic
(iii) it is the nomenclature of the main trading partner of the Arab countries (the EEC).

This analysis and its conclusions are contained in a separate report. The EEC Nomenclature "Subcontracting Terminology", which is here referred to, is divided into 3 main Nomenclatures:

A. Nomenclature of Subcontract Products. This nomenclature was specifically designed by the EEC for subcontracted products. It refers basically to the:
   (- NIPRO = Common Nomenclature of Industrial Products of the EEC
   or - NIMEXE = (Imports/Exports of the EEC)
   = Same as the Brussels Trade Nomenclature or BTN
   Therefore, Sections XV, XVI and XVII of the NIMEXE Nomenclature (which is extremely detailed and largely known) will be used as much as possible instead of the Subcontracting Nomenclature A to codify subcontracted products.

B. Nomenclature of Operations and Production Machinery. This nomenclature was also specifically designed by the EEC to cover subcontracting operations or processes, as well as machines. This Nomenclature B should be used here as such.

C. Nomenclature of the Sectors of Activity of the Main-Contractors (also misleadingly called "Main Contractors' products"). This nomenclature basically refers to the
   NACE = General Nomenclature of economic Activities in use in the European Community (the metal subsector starts with digit 3)
   which should be used here to codify industrial activities.

A. FIRST PAGE OF THE FORM

1. - Sector of Activity:

This is a two digit code for the activities identified in the summary table of the NACE Nomenclature (see code C of the EEC Nomenclature.) The metal sector starts with the digit 3.

- Region:

This is a two digit code identifying different regions of the country or areas of industrial concentrations. The list of regions with code numbers will be prepared by the Subcontract Exchange.

- Serial Number:

This is a three digit code, identifying each individual enterprise by chronological order of registration.

- Based on the above, the code number of the unit will be

Sector of Activity/Region/Serial Number
00/00/000

2. - Abrg. Name (Abridged Name)

If the unit has any short name which is either registered or is being used normally, the same abbreviated name may be used. Example - IDDC for Industrial Design Development Centre. If no such name is available, the initials of the full name of the company may be recorded here.

- Type:

Here the type of organisation will be recorded. These may be indicated as given:

Public Sector	-	PS
Joint Venture	-	JV
Proprietorship	-	Prop.
Partnership	-	Part.

- Cap - Capital invested (total) in local currency (thousands)

- AT - Annual Turnover in local currency (thousands)

- Est: - Year of Establishment of the unit

- Contact Person - Should be the person responsible for subcontracting.

3. - Address:

Both Headquarter address and Plant address should be recorded if separate addresses exist. If they are same, a tickmark (✓) may be made within the bracket shown after Plant Address.

- B.P (Post Box Number if any)

4. - Staff:

Quantity of all types of employees should be recorded. Total may be verified later.

- Complimentary Data on Unit:

Land area should include all land covered or uncovered. Covered area in multi-storey building should include work area in all the floors.

- Plant Shutdown:

Annual Shutdown period or holidays if any should be noted here.

5. Sub-sector of Activity

This will be denoted by the one digit subdivisions of Code B of the EEC Nomenclature. As products could be of various sectors like metal, plastic, electric/electronic all having B Codes, these subsectors will be particularly identified. Thus the EEC B/1 digit code will be prefixed by

1 - for metal subsector
2 - for plastic subsector
3 - for electrical/electronic subsector

Hence the Code will be

1/ - EEC B (one digit) Code - for metals
2/ - EEC B (one digit) Code - for plastics
3/ - EEC B (one digit) Code - for electricals/electronics

Description, quantity and unit of these sub-sectors of activity should also be recorded. Six sub-sectors of production could be recorded here. If more than six subsectors are involved, the most prominent six sectors must be recorded.

6. Technical References (with reference to works received from the main contractors)

Here the names of companies for which the unit has been working should be recorded. The "city" and region where such units are located should also be recorded. "Country" will be recorded only if the unit is located in a foreign country.

7. Sectoral Competency (with reference to work received from main contractors)

This will be the sector for which the unit has been working. The sectors are given in Code C of the EEC Nomenclature, NACE, in a 4 digit code. (These codes also will be prefixed by 1, 2 or 3 according to the subsectors for which they are working).

B. PAGE TWO (2) OF FORM (PRODUCTION INFORMATION)

1. Unit code and abridged name from previous page should be recorded.

2. The code followed will be the Brussels Trade Nomenclature (BTN) also called NIMEXE.

3. "Products made as catalogued items" and "products made as subcontractor" should be noted along with their installed capacity and actual production.

4. The BTN code will also be followed for recording the imports of components and materials along with their country of import, quantity and units used; as well as the components and materials which are required.

C. PAGE THREE (3) OF FORM (INFORMATION ON SUBCONTRACTING)

1. Begins with unit code and abridged name.

2. Works subcontracted out:

The type of works which this unit has given to other units for getting parts or components made are to be noted here.

The code will be subsector code (1 for metal, 2 for plastic, 3 for electric sectors) and then the B code of the EEC Nomenclature. "Country" should be filled in if the job was sent outside the country. Otherwise "region" should be mentioned.

3. Works received as Subcontractor:

Works done as Subcontractors for others should be recorded here. The coding methods should be as above.

4. Works for Subcontracting:

Subcontracting works proposed to be given out to others. Technical specification in short should be recorded. If more informations are availabale the same may also be obtained and kept in file tor consultations. Two digit EEC B code preceeded by subsector code (1,2,3) will be used.

5. Subcontracting Work Desired:

Subcontracting work desired from other units. The coding system will be the same as above.

D. PAGE FOUR (4) OF FORM (COMPLIMENTARY INFORMATION ON THE UNIT)

1. Begin with unit code and abridged name.

2. Tick mark (✓) the material used by the unit, or add any others not listed.

Extra Information

10/ Standards:
Any specific standards for produciton items - such as ASA, ISO, BSS, DIN etc., followed or not.

20/ Special Transportation:
Any special facilities for transportation like trucks, trollies etc., availabale or not.

30/ Qualification:
Whether the unit has any particular approv l either from the Government or from private organisations/companies.

40/ Specialised works:
Whether any special arrangements or provisions for particular types of works exist which make the unit distinct from others.

50/ Other Sectors of Activity:
Other than metal, plastic, electrical

60/ Exceptional Handling Facilities:
Special railway sliding, overhead crane, forklift trucks, or any such facility.

70/ Foreign Collabaoration:
Name, nationality and percentage of the share capital in possession, of a foreign partner.

80/ Banker:
Name and address of the enterprise's banker

90/ Any other Information:
Following information among others may be noted:

(i) Whether any quality control or testing facilities exist at the plant: for the raw materials, or in process, or for final products manufactured, and general conditions of such facilities;
(ii) Problem of skilled labour if any
(iii) Use of computers if any

Informations which have not been collected in the proforma but are important and useful may be recorded.

4. Visiting Officer's Particular Observations:

Observations should be recorded on the functions listed with a gradation between 1 and 5.

1 - Bad
2 - Fair
3 - Good
4 - Very Good
5 - Excellent

Performance Index will be calculated by the computer.

5. Visiting officer will date and sign the paper.

E. PAGE FIVE (5) OF FORM (DETAILS OF EQUIPMENT AND OPERATIONS)

1. Start with unit code and Abridged name.

2. - "Machines and operations". The code B of the EEC Nomenclature is to be used. This is to be prefixed by 1/2/3 if the operations are in metal/plastic/electrical sectors.

   - Description, make, type/model, year of manufacture or of purchase, origin, condition with a rating from 0 (bad) to 4 (excellent), number of shifts, rate of utilization in percentage, should be recorded.

3. In "complimentary details", particulars about column V of the EEC B code should be recorded. Paraticulars of (a) should be recorded only in "a". Similarly for others.

4. "Technical Characteristics" - the details of col VII of the EEC B code should be entered. This will be related to either the machine or the operation.

5. "Accessories" will be separately listed down and coded (two digits). The code will look like this

   1/9 (two digit), where 1 represents the metal,
   2 plastic, 3 electrical subsector.

   9 is a standard after which two digit code for a
   specific accessory will be used.

5.0 Informations Desirable From the Computer

The informations once stored should be retrievable as per the requirements. The main requirement will be to locate enterprises which are capable of manufacturing a catalogued product or a subcontract item or are having certain facilities in operations and machines. Some of the needs that may arise are enumerated below.

1. With the code number of a unit, the name of the unit should be traceable. Similarily with the name of a unit the code number should be available. A list of units (enterprises) should be available with address and telephone number along with the code number of the unit as a print-out for record
2. Code number of units for a sector of activity region wise
3. Code number of units for subsector of activity region wise
4. Code number of units producing one catalogued item
5. Same plus region wise
6. Code number of units producing one subcontract item
7. Same region wise
8. Code numbers of units producing one item as specialised item
9. Code numbers of units producing any given number of items
10. Code numbers of units having one specified facility
11. Same above for any given facility codes more than one
12. The above facilities 10 and 11 region wise
13. The facilities 10 and 11 may be further selected with reference to a given rate of utilisation of machines or given condition of machines
14. Code number of units, region wise or total, using a particular raw material
15. Out of a given code number of units, selection of units having specified testing and quality control arrangements i.e. either 02 or 03 or 04 or their combinations
16. Out of a given code number of units, selection of units having performance index A, B or C

If more information is required from the computer at a future date, the programme can be suitably modified to obtain such information.

Annexe "I$_1$"

SUBCONTRACTING EXCHANGE

Documentation System

A	-	Yellow	Circular letter soliciting participation in subcontract Exchange.
B	-	White	Enrolment form or Questionnaire for main - contractors and subcontractors
C	-	Blue	Aknowledgement Card
D	-	Pink	Form to register enquiries from buyers/ main-contractors
E	-	Green	Enquiry Communication letter

Registers

I - Register of main-and subcontractors and allocating serial numbers and code numbers.

II - Register of incoming enquiried from buying organizations or main-contractors

Annexe "M 2"

EQUIPMENT FOR SUBCONTRACT EXCHANGE

1.	IBM P.C. or its compatible having a typical configuration of a computer terminal with Central processing unit, Input Ouput processor, a 20 MB har disk, one floppy drive and DOT Matrix Printer	- one set
2.	Lateral filing cabinites (one with shelves and another with rails and 500 pockets,500 files etc)	- 2 nos.
3.	Photocopying machine - Xerox type plain paper copier	- 1 no.
4.	Standard Telex machine with paper tape transmitter and perforator and table.	- 1 no.
5.	Direct dialling telephones, one for receiving calls, one for placing calls	- 2 no.
6.	Visible Index stand 33 panels type with suitable standard strip	- 2 nos.
7.	Electric typewriter	- 1 or 2 no.
8.	Furnitures for the Subcontract Exchange office and the visitors room	- Lot
9.	Usual standard office equipment like stapler, paper-punch, metal trays, waste paper baskets. prestrgraph boards (48" x 36") and plastic letter sets	- Lot
10.	Vehicles	- 2 nos.
10.		-

Annexe "M_3"
Circular Letter "A"

IDDC Subcontract Exchange
203, Pyramids Road
Giza, Cairo

Telephone -
Telex -
Date -

To:

M/S _____

_____

Sub-Participation In The Subcontract Exchange

Sir:

You are perhaps aware that a Subcontract Exchange has been established at this office for organising linkages between large buyers (main contractors) and Small units (Subcontractors). A brochure is enclosed which will explain the purpose and function of the subcontract exchange.

You will also find enclosed a questionnaire for enrolment with our Subtract Exchange. Our officer will be visiting your wor within a period of 3 weeks and will assist you in filling up the form. If you are a main contractor, we would appreciate detailed informations on the additional pages whereas if you consider yourself basically as a potential subcontractor we would like to have details on pages 2 and 3. You are therefore requested to keep all informations ready with you so that our officers can obtain relevant details on your unit and organise linkages with other units.

Your willing cooperation in the matter will be highly appreciated.

Thank you.

Yours faithfully,

Director
Subcontract Exchange
IDDC

ENROLMENT FORM: ANNEX 4

I.D.D.C.

D.S-C.X.

GENERAL INFORMATION ON A UNIT

Sector of Activity: ___/_____	Region: __	Serial No.: _____

Abrg. Name: _____ Type: _____ Cap.: _____ m A.T.: _____ m
Full Name: _____ Est.: 19__
Contact Person: _____ Tel.: (__)_____

Headquarters Address	Plant Address ( )
Director: _____	Director: _____
St.: _____ No.: _____	St.: _____ No.: _____
City: _____ P.B.: _____	City: _____ P.B.: _____
Governorate: _____	Governorate: _____
Tel.: (__)_____ Tlx.: _____	Tel.: (__)_____ Tlx.: _____

Staff	Complimentary Data on Unit
Workers: _____ Managerial: _____	Land Area: _____ m2 Covered: _____ m2
Clerical: _____ Apprent.: _____	Proprietory: _____ Annual Rent: _____
Supervisory: ___	Installed Power: ____ Kw
Total:	Plant Shutdown from ___/___ to ___/___

(EEC B/1 digit) Sub-Sector of Activity

Code	Description	Qnty	Unt	Code	Description	Qnty	Unt
_/__				_/__			
_/__				_/__			
_/__				_/__			

Technical References (wrt Work received)

Name	City	Ctry/Region
		__/
		__/
		__/

(EEC C/4 digits) Sectoral Competancy (wrt Work received)

Code	Description

I.D.D.C.

D.S-C.X.

PRODUCTION INFORMATION

Unit Code: ___/____/_____ | Abrg. Name: _____

Products (Catalogued Items)

Code (BTN)	Description	Inst.Cap	Produced	Unt
____/___/___				
____/___/___				
____/___/___				
____/___/___				
____/___/___				
____/___/___				
____/___/___				

Products Made as Sub-Contractor

Code (BTN)	Description	Inst.Cap	Produced	Unt
____/___/___				
____/___/___				
____/___/___				
____/___/___				
____/___/___				
____/___/___				
____/___/___				

Imports of Components and Materials

Code (BTN)	Description	Origin	Quantity	Unt
____/___/___				
____/___/___				
____/___/___				
____/___/___				

Components and Materials Required (nes)

Code (BTN)	Description	Quantity	Unt
____/___/___			
____/___/___			
____/___/___			
____/___/___			

I.D.D.C.

INFORMATION ON SUB-CONTRACTING

D.S-C.X.

Unit Code : ___/____/____ | Abrg. Name: _____

Works Sub-Contracted Out (Flows)

Code (EEC B)	Description	Ctry/Region	Quantity	Unt
__/_____				
__/_____				
__/_____				
__/_____				
__/_____				

Works Received as Sub-Contractor (Flows)

Code (EEC B)	Description	Ctry/Region	Quantity	Unt
__/_____				
__/_____				
__/_____				
__/_____				
__/_____				
__/_____				

Works For Sub-Contracting (Giver)

(2 digits)

Code (EEC B)	Description	Quantity	Unt
__/_____			
__/_____			
__/_____			
__/_____			
__/_____			

Sub-Contracting Works Desired (Receiver)

(2 digits)

Code (EEC B)	Description	Quantity	Unt
__/_____			
__/_____			
__/_____			
__/_____			
__/_____			
__/_____			

I.D.D.C.

D.S-C.X.

COMPLIMENTARY INFORMATION ON THE UNIT

Unit Code: ___/____/____ | Abrg. Name: _____

Materials Worked

Cast Iron ( )	Cu & Cu All.( )	Pb & Pb All.( )	Al & Al All.( )	Nylon ( )
Stain.Steel( )	Bronze(s) ( )	Zn & Zn All.( )	Mg & Mg All.( )	Celoron ( )
Alloy.Steel( )	_____ ( )	St & St All.( )	_____ ( )	Teflon ( )
_____ ( )	_____ ( )	_____ ( )	_____ ( )	_____( )

Extra Information

10/Standards: _____
20/Special Transportation: _____
30/Qualifications: _____
40/Specialized Works: _____
50/Other Sectors of Activity: _____
60/Except. Handling Facilities: _____
70/Foreign Collaboration (Name): _____
71/Foreign Collaboration (Nationality): _____
72/Foreign Collaboration (Share): _____
80/Banker: _____
90/Other Information: _____

Visiting Officer's Particular Observations

Management : __	Layout : __	Materials : __	Document.: __
Tech. Comp.: __	Mat. Handl : __	Maint-ce : __	_____: __
Marketing : __	Storage : __	_____: __	Catalogue: __
Orgn & Meth: __	Supervision: __	_____: __	Qlty Cont: __

Performance Index : ___

Visiting Officer: ___/_____ Date : ___/___/___

I.D.D.C.

DETAILS OF EQUIPMENT AND OPERATIONS

D.S-C.X.

Unit Code: ___/____/_____	Abrg. Name: _____

Machines and Operations

SA/Code EEC B	__/_____	__/_____	__/_____	__/_____
Description				
Make				
Type/Model				
Year Mfg/Purch				
Origin				
Condition(0-4)				
Shifts/Utiliz.	___/_____%	___/_____%	___/_____%	___/_____%

Complimentary Details

a) Code (1-?)				
b) (col v)				
c)				
d)				
e)				

Technical Characteristics

1) Data				
2) (col vii)				
3)				
4)				
5)				
6)				
7)				
8)				
9)				

Accessories

SA/Code (01-?)	__/9_____	__/9_____	__/9_____	__/9_____
Description				
Make				
Type				
Number				

Annexe " M 5"
Acknowledgement Letter "C"

IDDC SUBCONTRACT EXCHANGE
203 Pyramids Road
Giza, Cairo

Telephone -
Telex -
Date -

M/S _____

_____

SUB-ENROLMENT WITH SUBCONTRACT EXCHANGE

Dear Sirs:

With reference to our visit to your unit on _____ in connection with the above subject, we are pleased / regret to inform you that your unit has/has not been enroled with the IDDC Subcontract Exchange. Your code number is _____.

You are requested to quote the above code number in all future correspondence with the exchange.

Yours faithfully,

Director
IDDC Subcontract Exchange

Annexe "M 6"

Enquiry Form "D"

IDDC SUBCONTRACT EXCHANGE

Enquiry No. _____ Date _____

1. Name and Address of Buyer / Main-contractor — Code No. of Buyer

2. Person to be contacted — Tel. No. — Telex No.

3. Brief specification of items/processes required:

4. Drawing Nos. — Total Quantity — Monthly rate / Weekly — In batches off

5. Mode of inspection
   1) at buyers premises
   II) at suppliers premises

6. Terms of payment

7. Tools if available

8. Special packaging instruction

9. Sketch of the item

Annexe "M 6_2"

PROGRESS SHEET

NAME & CODE OF SUBCONTRACTOR	DATE OF REFERENCE	PROGRESS

Final Outcome

Date

Annexe "M 7"

Enquiry Communication Letter "E"

IDDC SUBCONTRACT EXCHANGE
203 Pyramids Road
Giza, Cairo

To M/S _____ Code No. Telephone
Address Telex
Date

Sir:

We are glad to inform you that an enquiry has been received by us through letter No. _/ telephone, dated _____, from M/S _____ Address _____, asking for suitable subcontractor for the following items/processes.

1.
2.
3.

You name has been recommended to the buyer as a probable subcontractor vide our letter no. _____ dated __. You are requested to quote the same and offer your rates to the buyer under instruction to this exchange. Details of the order are as under.

A)

* Drawings Numbers	Quantity Required	Delivery Schedule

B)

Starting Date	Completion Date	Inspection Method	Delivery To	Quote By

C) Mode of payment

D) Any other information

If you decide not to quote, kindly return the letter and drawings (if enclosed) to us without making any reference to buyer.

Yours faithfully,

Director
IDDC Subcontract Exchange

* Drawings are enclosed/can be consulted our office on any working day.

Annexe "7 A"

A SUBCONTRACT EXCHANGE IN IDDC

For maintaining industrial ecology in an economy, co-existance of industries of different sizes and production capabilities and inter-sectoral cooperation among them, are essential. This intersectoral cooperation is known by different terminologies, viz, subcontracting, vendor-vendee relation, preferred supplier etc., and is now an inescapable part of any large project. Industrial information gap, however, is increasing due to rapid industrialization. To meet the growing needs of both the large undertakings looking for subcontractors and of small units desiring to secure orders from large undertakings or cooperate with other small industries to produce finished goods, a clearing house for providing desired information on subcontracting capabilities is necessary. The IDDC, which has always been playing a prominent role in the development and promotion of SSI units, has therefore arranged for the establishment of a subcontracting exchange with the assistance programme of UNIDO.

The subcontracting system is a form of cooperation which promotes increased specialisation and division of labour. within the industry.

Advantages of Subcontracting:

The system is beneficial to both the parties. For the principal firm or the parent unit, the benefits are:

- reduction in capital investment
- opportunity to concentrate on sophisticated and technologically intricate items.
- reduction on inventories
- availability of components and services at comparatively lower cost.
- ensured supply of quality goods as per specifications.

Similarly for the SSI sector, the subcontracting linakges offer:

- long term marketing channel which otherwise is a major handicap
- benefits of technical assistance and R&D efforts from large scale units.
- opportunity to specialise in specific line of production.
- assistance in the form of other inputs, ie., scarce raw materials, standardisation and testing facilities.
- timely payment which is vital for proper functioning in view of limited resources at their disposal.

Annexe "7 A 2"

Functions of the Subcontract Exchange:

A subcontract exchange is actually an industrial information center. Its main functions are:

- To register the spare capacities for different facilities/machines available with small units in the area.
- To obtain list of items regularly required by large undertakings in the area, which could be manufactured in the small scale sector.
- To match the requirements of the large industries with the available spare capacity in small scale sector.
- To assist in creating additional capacity in the small sector for specific process or facilities or items needed by large units.
- To organise contacts among the buyers and sellers either individually or group wise, as maybe possible.
- To obtain the necessary feedback of the efforts of the contact established.

Registration with the Subcontract Exchange:

Capable and competent SSI units who want to offer their spare facilities for undertaking subcontract work are therefore requested to register themselves with the subcontract exchange.

Large units who are in search of capable subcontractors to supply parts/ components or offer service facilities are also requested to forward their demand to the Subcontract Exchange.

For further details please contact:

General Industrial Extension Services Division
Subcontracting Exchange Department
Industrial Design Development Centre
203, Al Ahram Road, Giza

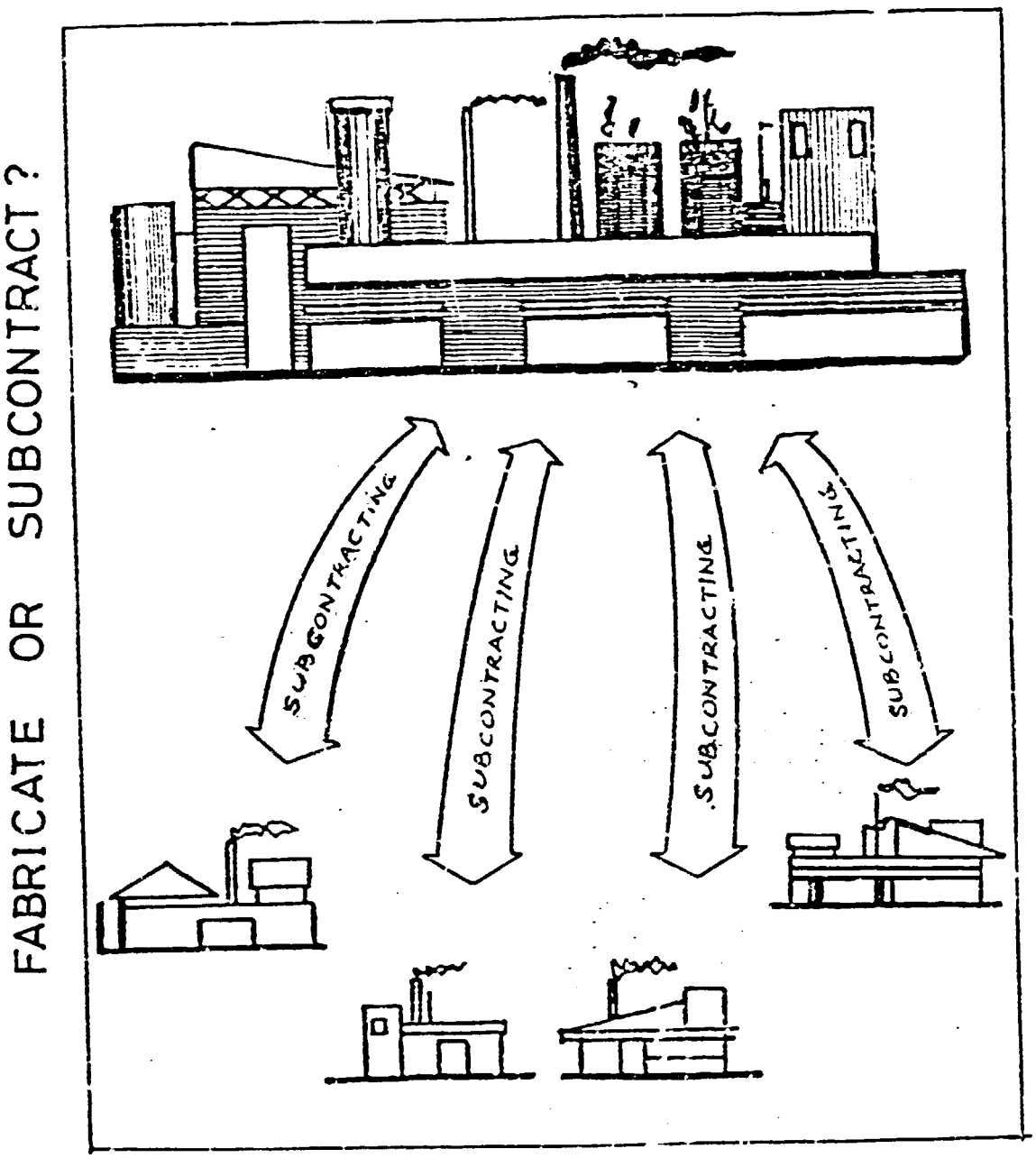
Telephone numbers: 852550 / 853544

Telex Number: 92739 EIDDC UN

Cable: EIDDC, CAIRO
Cairo, Egypt

Annexe "7B$_1$"

INDUSTRIAL DESIGN DEVELOPMENT CENTRE
SUBCONTRACTING EXCHANGE
203 Al Ahram Road, Giza
Cairo, Egypt



FABRICATE OR SUBCONTRACT ?

Annexe "$7B_2$"

WHAT IS SUBCONTRACTING ?

Subcontracting is a form of mutual cooperation between the large units and the small manufacturers. This is an efficient and modern method which enables enterprises to achieve a high rate of efficiency through a rational use of its installed capacity and an improved use of other available resources.

The methodology consists of an agreement between two parties — the main contractor and the subcontractor. The main contractor entrusts one or several enterprises with the production of parts, components or sub-assemblies necessary for the manufacture of its final product. The subcontractor executes the work as per the specifications provided by the main contractor.

There is thus a division of labour within the industrial sector and the subcontractors get increasingly specialised in one or more technological fields.

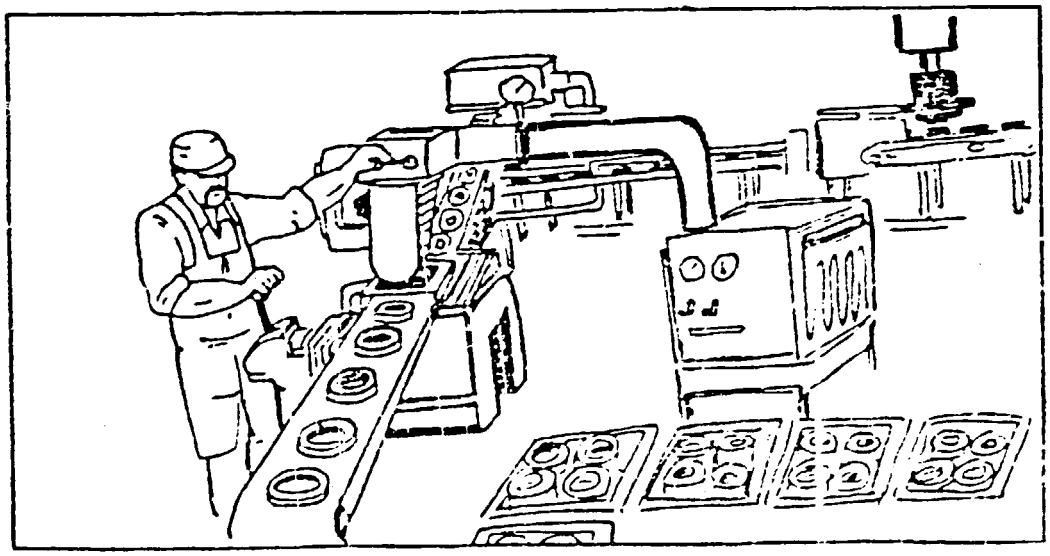
Annexe "$7B_3$"

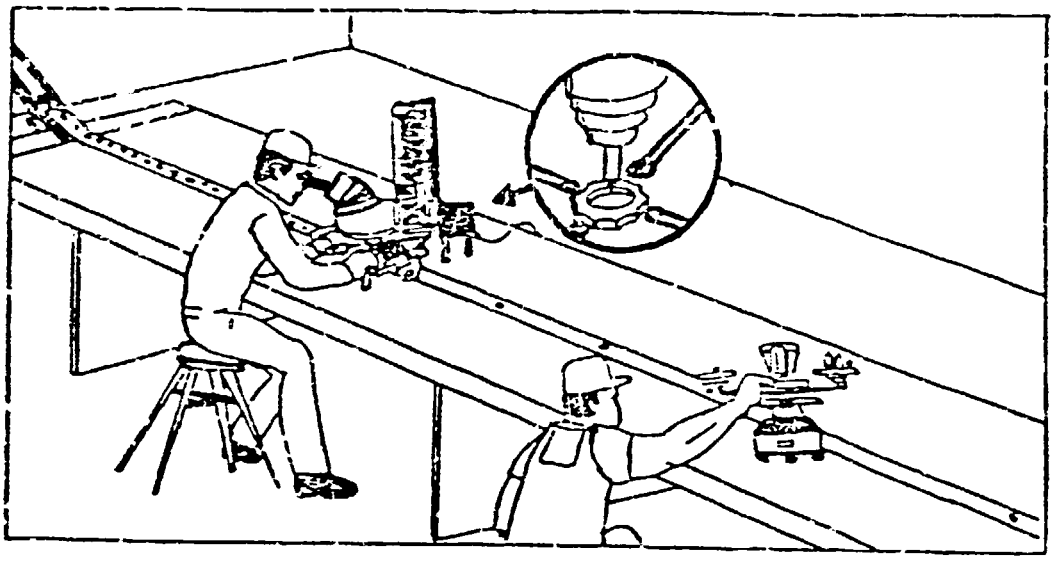
WHAT ARE THE PRINCIPAL FORMS OF SUBCONTRACTING ?

Subcontracting of industrial production is generally based on two important criteria — one based on production capacity and the other on the technical specialisation of the enterprise.

Subcontrating Of Capacity:

When the capacity of production available with a main contractor is not sufficient to cope with the total volume of production necessary to éxecute an order and when further creation of in-house capacity is neither feasible nor desireable, the main contractor has to depend on a subcontractor to manufacture the balance quantity of the order. This form of subcontracting takes place when the quantity of order recieved by a main contractor fluctuates.



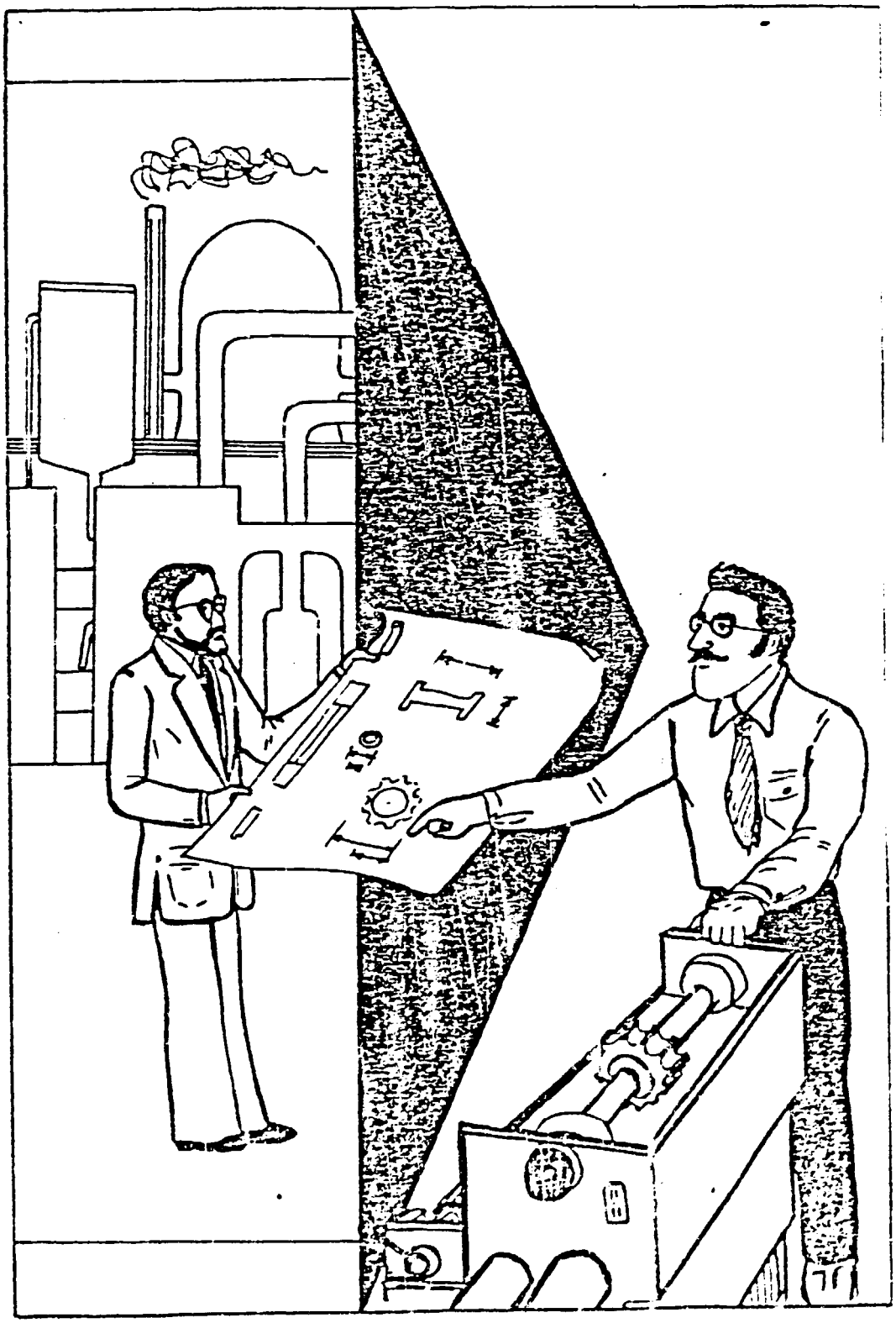


Subcontracting On Specialisation:-

This occurs when the main contractor desires to obtain the services of subcontractors who have specialised equipment and machinery to undertake difficult and precision jobs. Such subcontractors have specialised technical skill/knowhow for specific production processes/items and the main contractors prefer to utilise their services. This relationship is not associated with fluctuation of orders and hence tends to be on a long-term basis.

In view of its specialised knowledge or production facilities, sometimes these subcontractors may be in a controlling position.

Annexe "7B$_5$"



Annexe "7B$_6$"

WHO ARE THE MAIN CONTRACTORS ?

The main contractors are generally, though not necessarily, large industries engaged in the manufacture of machine tools, instruments and vehicles etc, which require a large amount of parts and components for final assembly. All these parts and components are not generally manufactured in-house in an integrated way either for reasons of economy or for specialisation.

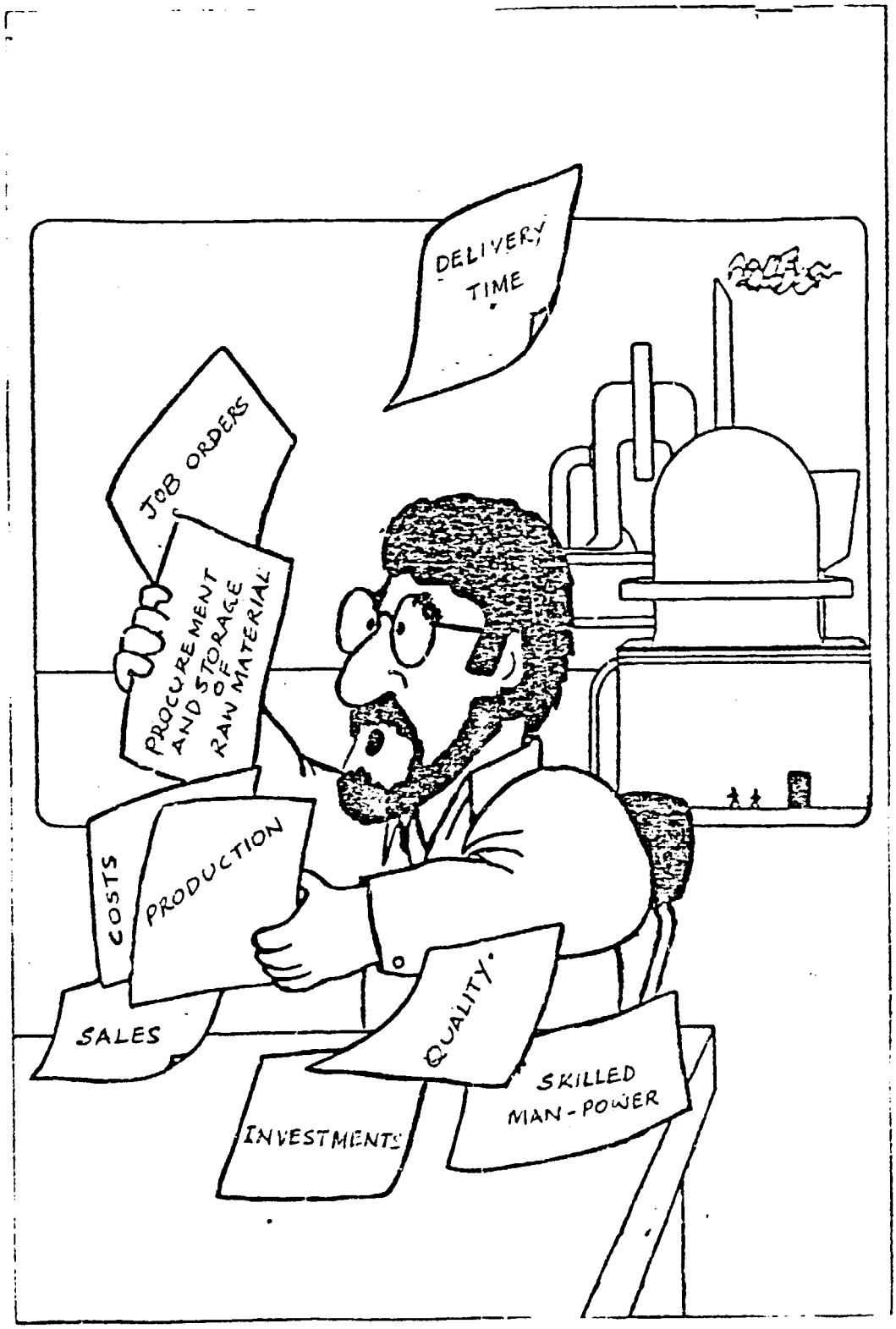
Though subcontracting relationship can exist in various sectors of activity, it is most prominent in the engineering sector in industries like automobiles, railways, electrical and electronics, domestic electrical appliances, precision equipment, metal forming, surface treatment, plastic formations and also in basic metal industries like foundry, forge, general mechanical works, precision mechanical jobs.

WHO ARE THE SUBCONTRACTORS ?

The subcontractors are generally the small and medium industries which, having specialised in certain processes and operations, are capable of supplying quality goods as per specification of the main contractor and at the same time offer advantageous economic terms.

Sometimes large industries having available extra capacity may also act as subcontractors. It may also happen that small and medium industries require the services of other enterprises for the manufacture of parts and components in order to fulfill large orders, thus acting as main contractors.

Annexe "$7B_7$"


DELIVERY TIME
JOB ORDERS
PROCUREMENT AND STORAGE OF RAW MATERIAL
COSTS
PRODUCTION
SALES
QUALITY
SKILLED MAN-POWER
INVESTMENTS

Annexe "7B 8"

WHAT ARE THE ADVANTAGES OF SUBCONTRACTING ?

I. FOR THE MAIN CONTRACTOR

A major advantage of subcontracting for the main contractor is the availability of components and services at comparatively lower cost from small and medium sector units as their overhead cost is low. This ultimately helps in reducing the cost of the final product. The main contractor can get an ensured supply of quality goods as per specifications and thus maintain a very low level of inventories. There is also the scope for reduction in the investment for capital goods, saving of financial resources, limiting the size of the organisaticnal set-up and the labour employed — thus eliminating many problems on the labour front. The main contractor has the opportunity to optimize the use of his resources by concentrating on Technological innovations, sophisticated and technically intricate items of production, new marketing channels etc.

Subcontracting of parts and components to other units enables the main contracting firms to achieve the most effective and efficient organisational structure.

Annexe "7B$_9$"

Annexe "7B$_{10}$"

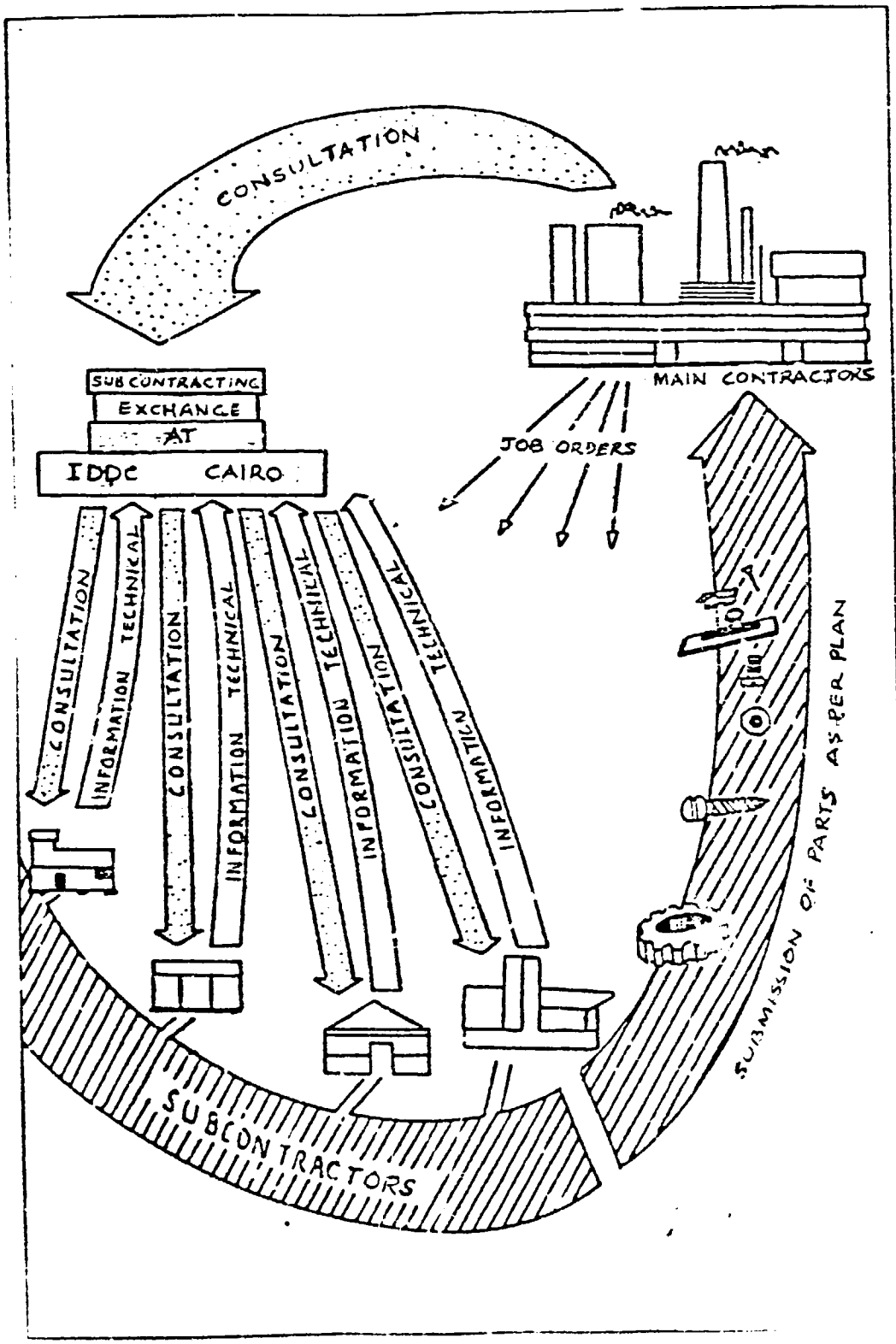
II. FOR THE SUBCONTRACTORS

The subcontractor gets the advantage of utilising his installed capacity on a regular basis, which in turn ensures the security of employment of his work force. As marketing problems are taken care of, the commercial expenses decrease substantially enabling the unit to charge its services at a lower rate. Timely payment from main contractors for the jobs undertaken also helps in smooth functioning of the small subcontracting units who normally have very limited financial resources.

Technology transfer from large industry to small subcontractors is however a major gain for the subcontracting units and the national industrial sector at large. Technical innovations of the main contracting firms get automatically transmitted to subcontracting units who also benefit from the continuous technical assistance received from main contractors. The subcontractors receive complicated tools, jigs and fixtures and assistance in standardisation and quality control from the main contracting firms and thus their level of expertise increases.

The subcontractors have the possibility to act indepedently with several clients, national and international. They also have the opportunity to specialise in specific lines of production and cater to sophisticated customers.

Annexe "7B$_{11}$"


CONSULTATION
MAIN CONTRACTORS
SUB CONTRACTING
EXCHANGE
AT
IDDC CAIRO
JOB ORDERS
CONSULTATION
INFORMATION TECHNICAL
CONSULTATION
INFORMATION TECHNICAL
CONSULTATION
INFORMATION TECHNICAL
CONSULTATION
INFORMATION TECHNICAL
SUBMISSION OF PARTS AS PER PLAN
SUBCONTRACTORS

Annexe "7B 12"

WHAT IS A SUBCONTRACTING EXCHANGE ?

To meet the growing needs of both the large undertakings looking for subcontractors and small units desiring to secure orders from large undertakings or cooperating with other small industries in the production of a finished product, a clearing house for providing desired information on subcontracting capacities is necessary. The subcontracting exchange satisfies this requirement. The mechanism makes the industrial subcontracting possible by gathering and centralising on the one hand the needs of the main contracting enterprises and on the other hand the possibilities offered by the various subcontracting industries.

The subcontracting exchange therefore operates a computerized databank with detailed information on the technical characteristics (including machinery details) and the type of products offered by the subcontractors in order to satisfy the manufacturing needs of main contractors.

Annexe "7B$_{13}$"


MAIN CONTRACTOR
SUBCONTRACTOR
SUBCONTRA TING EXCHANGE
IDDC
CAIRO

Annexe "$7B_{14}$"

HOW DOES A SUBCONTRACT EXCHANGE OPERATE ?

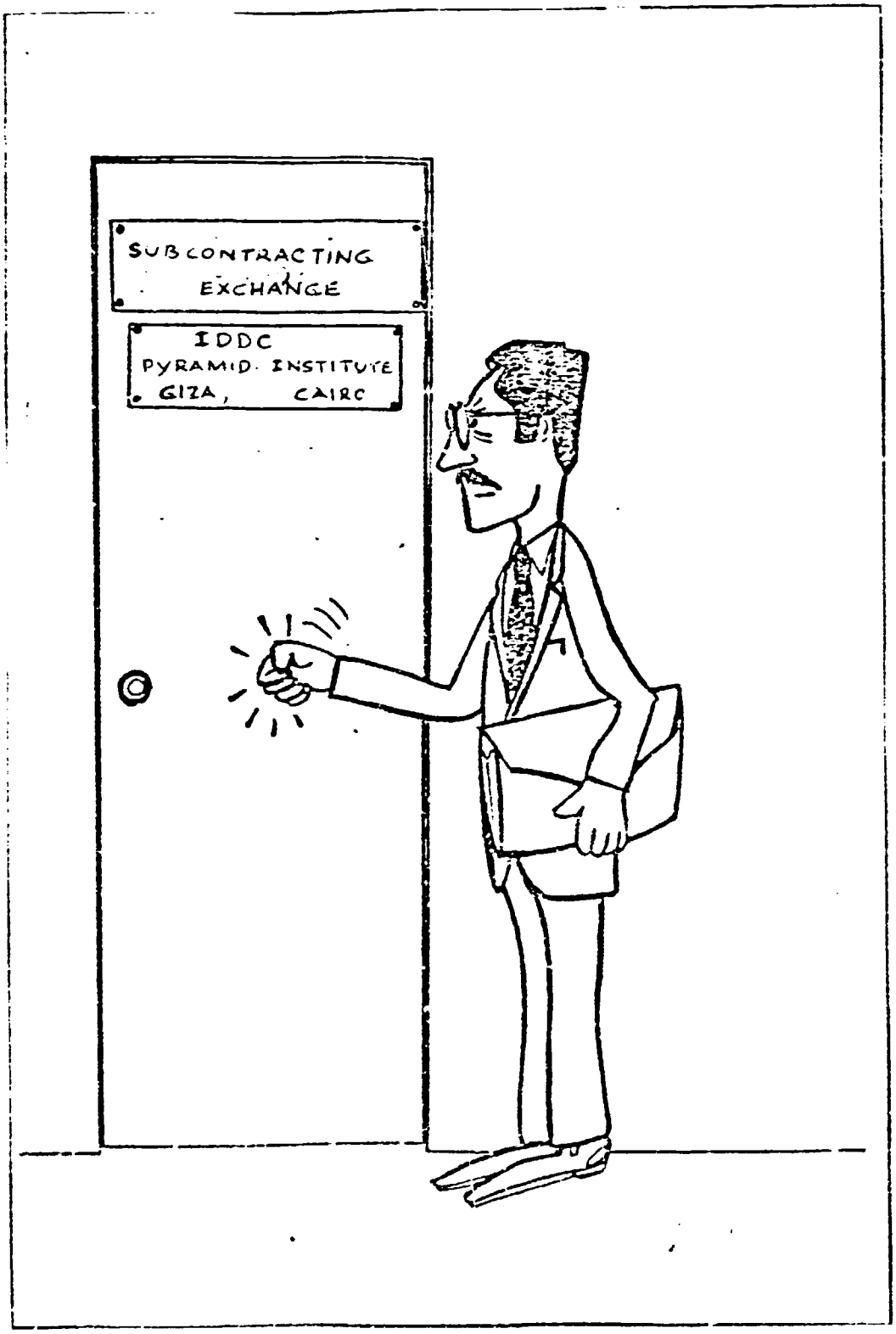
The subcontract exchange is an industrial information centre. It collects and records in a computer detailed informations on subcontracting enterprises regarding their production capacity, technical specialisations, characteristics and specifications of machinery and equipment, quality of production and spare capacities available for subcontracting work. The demands of large industries in regard to parts and components are also collected.

The main contractors contact the subcontract exchange either by personal visits or through letter, telephone or telex, to find out subcontractors capable of undertaking certain work according to given technical specifications, tolerance, quality standards and quantity.

The Exchange makes a detailed study of the technical information provided and determines the manufacturing processes involved in the job and also the machinery/equipment required for each process. It then refers to its Data Bank (Computer) and selects subcontracting enterprises that have the necessary technical resources and the capability. The main contractor gets a list of enterprises that enables him to contact the subcontractors personally.

The Subcontract Exchange functions only like a middle man and technical advisor and it does not interfere either in the formulation of contracts or in the commercial conditions to be agreed upon between the main and subcontracting enterprises.

Annexe "7B$_{15}$"


SUBCONTRACTING
EXCHANGE
IDDC
PYRAMID INSTITUTE
GIZA, CAIRO

Aneexe "7B$_{16}$"

WHAT ARE THE ACTIVITIES OF THE SUBCONTRACT EXCHANGE ?

a) Linkage between large and small industry: The main activity of the subcontract exchange is to promote industrial linkages or subcontracting. This service can be provided at two levels — national and international.

b) Import Substitution : Enterprises interested in indegenising parts, components or equipment and technology will be assisted with detailed information about the scope and demand in the economy.

c) Expansion or creation of new capacity: Depending on the needs of the economy, the Subcontract exchange will promote the expansion of existing capacities or encourage creation of new capacities.

d) Surveying for scope in subcontracting: Industry wise surveys are conducted to identify the scope of subcontracting, marketing channels and outlets.

e) Buyers-Sellers meets, Seminars and Workshops: Periodical meetings between buyers (main contractors) and sellers (subcontractors) are organised for discussing all issues in subcontracting. Seminars and workshops are also arranged for highlighting the importance of subcontracting in the industrial sector of the economy.

g) Exhibitions and Fairs: Participation of enterprises in national and international fairs will be organised. National or zonal exhibitions and fairs will also be held to highlight the status and scope of subcontracting.

h) Economic Informations: Informations about the raw materials used, import and export made by subcontracting units, rate of utilisation of machinery and equipment and the idle capacilities available will be tabulated for the benefit of prospective users.

i) Techno-Managerial Consultancy: To upgrade the capability of the subcontracting units, the subcontract exchange will have, either on its own strength or from other sources, suitable staff to guide and assist in technical and management-oriented problems.

Annexe "7B$_{17}$"

IDDC AND DEVELOPMENT OF SUBCONTRACTING

. The advantages of subcontracting activities, both for developed and developing economies, are extensive and numerous and pervade all aspects of industrial development.

The development of subcontracting in Egypt can give a boost to the industrialisation programme of the country and can achieve the following:

a) Identification of available capacity in the industrial sector and fuller utilisation of the production equipment within the factory.

b) Increase national participation in production activities.

c) Increase in employment.

d) Decentralisation of industrial activities and in consequence development of regional industrial centres.

e) Flexibility of industrial structure with easy possibility of diversification.

f) Access to international subcontracting, which may start with inter-Arab region cooperation. Export activities will get a boost.

g) Increased specialisation of small and medium industries which will mean improved production equipment and technology.

h) Less fluctuation in employment opportunities with factories.

i) Increase in total industrial production and productivity.

j) Increase in indigenisation of imported products and savings in foreign exchange.

In consideration of above IDDC, with the technical assistance programme of UNIDO, has established a subcontracting exchange at Cairo, which is expressly committed to achieve the above objectives.

The Subcontract exchange will serve all sectors of industry. Initially the attention will be on the metal working and plastic sector of industry. Ultimately it will cover other sectors also like, Leather, Textiles, Electrical, Electronics, etc.

Annexe "7B$_{18}$"

WHY REGISTER WITH THE SUBCONTRACT EXCHANGE ?

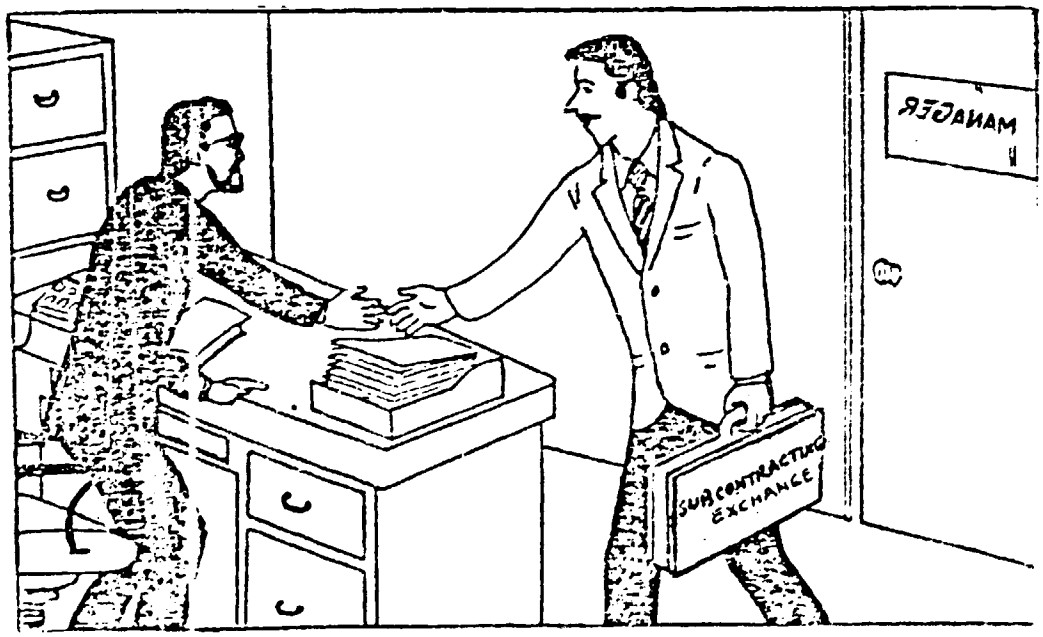
FOR THE MAIN CONTRACTORS:-

This enables them to locate subcontracting enterprises who are techno-managerially competent to undertake the work proposed to be subcontracted and have sufficient capacity, suitable machinery and equipment and willingness to participate in subcontracting activities.

They may also obtain subcontracting work for their underutilised machine and equipment and thus enhance the return on their investment.

FOR THE SUBCONTRACTORS:-

They may obtain new contacts and new markets and increase the workload in their factories. This will mean fuller utilisation of machine and manpower.



Annexe "7B$_{19}$"

HOW AND WHERE TO REGISTER ?

The Industrial Design and Development Centre (IDDC), working under the Ministry of Industry, Government of Egypt, has established a Subcontract Exchange at Cairo, which is organised to promote linkage between large and small industries in Egypt at the national level and all Arab countries on a regional basis. Enterprises interested in subcontracting activities are therefore requested to contact the Subcontract Exchange Division of the IDDC either personally or through a letter or telephone.

Detailed information about the capacity and capability of such enterprises will be collected by officers of IDDC in standard information sheets. The information will be stored in a computer for quick retrieval and a registration number is allotted to the enterprise.

For further information, enquiries may be directed to:

General Industrial Extension
Services Division
Subcontracting Exchange Dept.
Industrial Design Development Centre
203 Al Ahram Road, Giza

Telephone Numbers:
- 852550 - 853544

Telex Number:
92739 EIDDC UN

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