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REGIONAL ARAB PROGRAMME FOR THE DEVELOPMENT OF SUB-CONTRACTING

DP/RAB/86/001

Terminal report*

**Prepared for the Governments of Algeria, Morocco and Tunisia
by the United Nations Industrial Development Organization,
acting as executing agency for the United Nations Development Programme**

**Based on the study by Claude Cuny, expert on the rational
organization of sub-contracting**

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* This document has been translated from an unedited original.

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SUMMARY

Countries: The People's Democratic Republic of Algeria
Kingdom of Morocco
Republic of Tunisia

Title: Arab Regional Programme for the Development of Sub-contracting
DP/RAB/86/001

Purpose: To study, design, propose and bring into use the technical, economic, commercial, legal and computer tools necessary for the development of an integrated Arab system of industrial sub-contracting exchanges

Recommendations received:

Project documents:

- * DP/RAB/84/008 - Preparatory project at regional level
- * DP/RAB/86/001/A/01/37 - Arab Regional programme
- * TUN/86/008/A/01/37 - Tunisian programme, pilot project

Duration: Five months in various missions from 1 July 1986 to 31 May 1988

Duty stations: Tunis, Rabat, Algiers and Vienna (UNIDO)

Principal conclusions and recommendations:

Conclusions:

- The project was very favourably received and effectively supported by the government departments, professional organizations and enterprises in the three countries, which indicates that it meets undisputed needs for the encouragement, in particular, of:

- (1) Investments;
- (2) The development of small and medium industries (SMIs);
- (3) Import substitution;
- (4) Savings in foreign exchange, especially as regards spare parts;
- (5) Productivity with regard to all lines of products.

- The project was strictly implemented and supported by the counterparts designated in each of the three countries, in their own special fields.
- Project work was implemented in accordance with the appropriate country time-frames, corresponding to the duties outlined in the job description.
- The national project DP/TUN/86/008 effectively played its pilot role in the present regional project. The latter will be able to realize its true potential only in so far as it is based on a permanent and efficient organization in each country.

Recommendations:

1. To implement the Moroccan and Algerian national projects pending their ratification;
2. To support the regional project by indispensable national projects which are essential because of their resources and duration;
3. To ensure the sustainability of the machinery by continuing and intensifying the practical training of the staff concerned;

- Staff entrusted with the internal operation of the sub-contracting exchanges;
 - Senior staff of the government departments and professional organizations concerned;
 - Heads of all sizes of enterprises;
4. To extend the machinery to cover the entire territory of each country;
 5. To expand the scope of the machinery to include other potentially concerned industrial sectors;
 6. To utilize and develop the data gathered in surveys and in work on specific cases;
 7. For that purpose, to promote the continuity of the project by extending its duration and by appropriate developments, country by country.

I. INTRODUCTION

In conformity with the provisions fixed by the initial project document DP/RAB/86/001/A, the regional project benefited from the activities and results of the Tunisian national project TUN/86/008, which efficiently played the pilot role that had been assigned to it.

However, implementation extended over a longer period of time than had been envisaged initially and actual conditions in the field led to a number of adjustments, taking into account the special characteristics of each of the countries concerned in the field in question.

As the work proceeded, technical reports were prepared and recommendations formulated country by country. The annexes of these reports present the different "tools" created.

- The objective of studying, surveying and developing the tools necessary for the start-up of an integrated Arab sub-contracting system has been satisfactorily achieved for the three Maghreb countries concerned, namely, Algeria, Morocco and Tunisia.
- The objective of carrying out preparatory work for the establishment of national sub-contracting exchanges has been fully realized:
 - Tunisia has set up its own exchange, which is operating efficiently;
 - Algeria can move on from the preparatory to the establishment phase;
 - Morocco can do the same.
- The objective of setting up an Arab network of sub-contracting exchanges depends on the actual creation of sub-contracting exchanges in each country and on their permanent and smooth operation.

II. RECOMMENDATIONS

Algeria

To implement the Algerian national project that is in course of ratification in order to continue in the field with the establishment of a permanent service, first at Algiers and later with three branch units, in the east at Constantine, in the west at Oran, and one in the south, in order to take into account the geographical extent of the country and the need for efficient economic implementation.

Also, to set up a specialized unit, probably in the form of an association of enterprises, enlisting the essential financial support from three possible sources:

- State subsidies;
- Contributions from professional organizations;
- Contributions from enterprises.

The Algerian national project could provide the best solution for the country and for its effective membership of the regional programme in its later phase, facilitating co-operation among Arab countries and with the exterior.

Morocco

To implement the Moroccan national project that is in course of ratification in order to continue in the field with the establishment and operation of a permanent service, first at Casablanca and then in branch units at focal points in the regions, in conformity with the national decentralization plan and on the basis of the network of Chambers of Commerce and Industry.

The latter are the most suitable counterpart agencies for the mission to be carried out; decrees (Dahir) have granted them financing facilities through the allocation of tenth parts of the professional taxes levied by the State, in the framework of the new fiscal system (VAT) recently set up in Morocco.

These recent provisions will take time to produce tangible results. In view of the length of budget years and periods for the collection of taxes and for the distribution of tax revenue, it will probably be 18 months to 2 years before this happens; this factor determines the start-up of the Moroccan national sub-contracting exchange and the integration of Morocco in the future regional operations.

Tunisia

The recommendations of the terminal report on the Tunisian national project have already been favourably received by the Tunisian Government, the Agency for the Promotion of Industry (API), the national executing agency, UNDP and UNIDO, leading to a two-year extension of project TUN/86/008 to implement the following complementary objectives:

- * To ensure, particularly by continuing the training of personnel, the sustainability of the machinery successfully created in the framework of project TUN/86/008, which was signed on 22 April 1986 and under which field work commenced in September 1986 and ended in October 1987;
- * To extend the machinery to cover the whole of the territory, in order to achieve the targets fixed for the development of the country under the VIIth Plan (1986-1991), by applying it to the six decentralized regions, in particular by setting up five regional branch units around the central pole at Tunis;
- * To extend the coverage of the machinery to other industrial sectors that are potentially concerned (textiles, leather, ceramics, glass, wood, chemicals, agro-food products, miscellaneous);
- * To utilize, by processing and development, data obtained both from surveys and case work;
- * To continue the pilot role of the Tunisian national project in the regional project.

General considerations

It is necessary to support the regional project by means of efficient national projects that are essential in terms of both their resources and duration, as, without them, the regional project would unfortunately have no justification.

Consequently, it is important to ensure continuation of the action begun, in order to obtain the following outputs:

1. To ensure the sustainability of the machinery by continuing and intensifying practical training for the rational organization of sub-contracting
 - (a) Creating awareness among heads of enterprises

An important key to the success of the project is based on a change of attitude among heads of enterprises and on their openness to the exterior, in order to induce them to sub-contract work outside rather than do everything themselves under poor conditions. For that purpose, awareness-creation, information and initiation meetings must be organized to the widest possible extent in the field in order to contact the greatest possible number of heads of enterprises and decision-makers.

(b) Dissemination and popularization of the sub-contracting charter

Parallel to the creation of awareness among heads of enterprises, it is necessary to undertake all kinds of initiatives in order to give information and background documentary material to senior staff in industry, who are also concerned (engineers, technicians, procurement chiefs, etc.) so as to acquaint them with the rules that govern sub-contracting relationships: each of them may be in turn an ordering party or a tenderer for services.

(c) Staff training and further training for senior staff of the exchange

The rational organization of sub-contracting has been in hand in Europe for some 30 years. As far as the Arab region is concerned, it is at the start-up stage. It is therefore necessary to give personnel the permanent and most intensive training possible, in order to reduce the existing gap. This training must be at the same level as that of the European counterparts, but it must also enable the trainees to carry out the task of contacting heads of enterprises in order to pass on what they have learned.

2. To maintain, during the operations, the potential of a team of permanent organizers who are:

- * Qualified and therefore competent;
- * Trained and therefore experienced;
- * Equipped and therefore in possession of the proper tools;
- * Permanent and therefore available;
- * Dynamic and therefore mobile;
- * Convincing and therefore motivated.

The success of such work, which must be reflected in an increase in the number of cases handled, depends essentially on the performance of the staff assigned to the operation of the exchange.

Very particular attention will have to be given to the management of the staff in order to strengthen it and, if appropriate, supplement it as and when any vacancies arise by recruiting fully qualified candidates.

3. Extension of the sub-contracting database to cover the whole territory of each country

The aim of the project is to set up machinery covering the whole of the territory and to leave no region isolated, since that would be contrary to the Government's objectives. For that purpose it is necessary that the database and the system for the rational organization of sub-contracting should be decentralized, with a focal point as headquarters and with regional branch units designed and organized accordingly.

4. Extension to other sectors concerned in the organization of sub-contracting

While the mechanical engineering, electrical and plastics industries constitute important industrial poles, all the other industrial sectors are potentially just as interesting as regards the rational organization of sub-contracting. The organization of Partnership Days from 10 to 12 June 1987 in Tunisia demonstrated the necessity for this.

In this context, moreover, the maintenance and capital equipment operations that are in hand in all the industrial and agricultural sectors should be integrated in the machinery envisaged for metal-working.

5. Utilization of the industrial data gathered

The processing of sub-contracting requests and tenders and partnership operations provides valuable information that must be utilized. The detection of shortcomings should lead to the development of solutions at the level of the

enterprises or of the institutions. A "development" cell should be set up for that purpose within the exchange. It will use external integrated services and the specialized agencies such as the development banks, etc. and will establish contacts between industrialists and those agencies according to the nature of the problems encountered.

6. Utilization of customs nomenclatures for the purpose of import substitution

To supplement sources for the identification of cases in the activity of exchanges, it is necessary to ascertain what imports can be eliminated by the creation of national units or the adaptation of existing units, particularly in the field of sub-contracting. An organic and technical link must be established on a permanent basis between the customs administration and the exchange in each country.

7. Integration in the project of the parameters generated by the application in Europe of the Harmonized System Nomenclature (HSN) on 1 January 1988

The nomenclatures chosen in 1986 must develop in order to take into account the provisions introduced in the framework of the EEC, which is an important partner for the countries of the Arab region. Consequently, it will be necessary to provide for appropriate machinery to ensure that the coding used is adapted, in order to facilitate trade between these two regions, which are geographically and economically close to one another.

8. Setting up a basic stock of technical documentation

In order to enable it to provide industrialists rapidly with precise information, the exchange will have to create within it a basic stock of technical documentation consisting of a number of specialized journals and also catalogues, notices, etc. from suppliers to industry in order to be able to reply to the following queries:

- Who makes what? - Who represents whom? - What does ... mean?, etc.

It is clear that each SMI can have only one such service and that it would therefore be necessary to create one common service shared by them all that is easily accessible and can reply with dynamism and precision.

9. Establishment of a database and a catalogue of industry

The studies and work carried out in the context of the project have revealed the absence of a source of practical information concerning the background of sub-contracting activities and documentation on SMIs. It is therefore necessary to create, parallel with the sub-contracting database, a list that is expanded to cover the other sectors of industrial and services activities, on the principle of the sub-contracting questionnaire, but simplified.

10. Computerization of the sub-contracting exchanges' operating procedure

Computer facilities (software) must be developed for the automatic and systematic drafting of all the forms necessary for handling sub-contracting cases.

- Job sheets (receipt of the request from the ordering party);
- Selection of potential tenderers for services;
- Consultation of enterprises in writing;
- Reports on replies from tenderers of services contacted;
- Forms for the establishment of contacts;
- Follow-up and monitoring circular;

- Recapitulatory statement of contacts by enterprises; *
 - Statistics;
 - Recording of shortcomings so as to encourage problem-solving by the exchange's development service.
- * (This document must constitute the exchange's "conscience" and can confirm at any time its complete impartiality in the identification of industrialists and in establishing contacts between them).

11. Computer links between the branch units and the central sub-contracting exchange

Development of a computer system, identification and acquisition of equipment. Design and testing of operating mode.

12. International computer links of the sub-contracting exchanges

Development of a computer system, identification and acquisition of equipment. Design and testing of operating mode. It is necessary to establish a permanent link between the sub-contracting exchange, the industrial data banks, the other sub-contracting exchanges of the Arab regional programme and sub-contracting exchanges in Europe and abroad and all other sources capable of promoting the development of sub-contracting.

III. BODY OF THE REPORT

A. Activities and results

Under the aegis of the UNIDO Institutional Infrastructure Branch, Department of Industrial Operations, the following activities were carried out in conformity with the job description:

1. Preparatory and supplementary assistance for the effective establishment of sub-contracting exchanges in Algeria, Morocco and Tunisia (negotiations with the national authorities, diagnosis of the situation, institutional and operational framework of the exchanges envisaged, establishment of teams of organizers, preparation of survey questionnaires, processing of files, etc.) as well as ad hoc trouble-shooting missions;
2. Programmes for information on and dissemination of the methodology proposed in the three countries (presentation to the competent authorities and to the bodies that will make up the management committees of the proposed exchanges as well as to the professional circles interested);
3. Activities for information on and dissemination of the industrial nomenclature adopted and of the proposed terminological glossary on sub-contracting;
4. Activities for information on and implementation of the common computer software;
5. Participation in the work and meetings of the "Arab Regional Committee for the Co-ordination of Sub-contracting", set up in order to monitor the development of the project and regional integration;
6. Participation and promotional activities in regional sub-contracting fairs and salons;
7. Preparation of technical reports, country by country.

(a) Algeria

The output expected was achieved in the context of work carried out in the Ministry of Heavy Industry (MILD), using its direct resources and the assistance that it obtained either by the seconding of personnel from national enterprises or by contracts for the hiring of services for survey and inventory work.

Complete machinery was set up for the manual operation of a sub-contracting exchange at Algiers.

Recommendations were formulated and distributed for the ratification of the national project, the essential aim of which will be to set up and operate on a permanent basis a system for the rational organization of sub-contracting within the country, which is the indispensable adjunct of efficient operation of the network envisaged under the regional programme. The necessary project document was drawn up with that in mind and is being submitted through official channels in Algeria.

(b) Morocco

A diagnosis of the situation made it possible to redefine which national executing agency was most suitable for this purpose, taking into account the development that had occurred in the country between projects DP/RAB/84/008 (preparatory assistance) and DP/RAB/86/001 (phase 1).

The authorities concerned approved the choice of the network of Chambers of Commerce and Industry (CCI) as a basis for the rational organization of sub-contracting in the country, with the Casablanca CCI as a pilot agency. The latter

has the necessary facilities in the form of premises and equipment as well as financing potential through the allocation to it by Moroccan Government decree (dahir) of tenth parts of the professional tax.

However, owing to the necessary time-lag between government decisions on this subject and the actual receipt of funds, it was not possible to obtain quantified assurances to cover the expected operating expenses of the pilot sub-contracting exchange that were identified in the course of the present project. As far as the national project is concerned, the document drafted is being ratified, with assistance from UNDP Rabat and the Ministry of Industry, which has verbally approved the recommendations that have been presented to it on this subject.

As the Minister of Industry of Morocco was the promoter of the idea of the rational organization of sub-contracting within the Casablanca CCI, of which he was the President before being appointed to high office by His Majesty the King of Morocco, he is quite naturally favourable.

The concrete implementation of a permanent system for the rational organization of sub-contracting still depends on the successful conclusion of the national project.

(c) Tunisia

The expected output was obtained in a very satisfactory manner, thanks to the efficiency of the Tunisian counterpart organization, the Investment Promotion Agency (API), which was converted into the Agency for the Promotion of Industry through a law of 2 August 1987

The Tunisian national project played an extremely dynamic and effective role in all respects and carried out to the full its pilot mission within the regional project, which benefited not only from the theoretical results expected but also from their adaptation to field realities.

It made it possible to formulate new recommendations capable of expanding and intensifying the outputs for the economies of the countries participating in the regional project.

However, it should be noted that the planned pilot study on flows in Tunisia was deferred. As described in the note on the analysis of flows contained in annex 3, it will appear later and naturally in exploiting the work carried out in operating the exchange.

Its position in the project schedule would have meant undertaking work that would have mobilized resources, particularly survey resources, which would have been an additional burden on personnel and vehicle costs, overlapping the specific survey of equipment and other parameters envisaged for the establishment of the intended rationalization body; moreover, the proliferation of surveys might have generated ill-will among industrialists.

(d) General remarks

After the interim technical reports had described activities and formulated conclusions and recommendations as the work progressed, the machinery was set up in three phases by:

* Establishment of an institutional framework

- Creation of a national sub-contracting committee: (Composition, operation, objectives);

- Creation of a specific body for the rational organization of sub-contracting (the name varying from country to country), the range of whose services would comprise:
 - National sub-contracting (capacity, specialities);
 - International sub-contracting;
 - Industrial database (sectors other than metals or plastics, electricity);
 - Technical Inquiry Service (information and documentation);
 - Development (industrial promotion, exploitation of data).
- Decentralization of the national machinery through regional branch units. (Not originally envisaged, these are so to speak in a period of gestation, having been approved by the national authorities).
- * Establishment of a structural framework
- Personnel: Definition, selection, assignment, training, evaluation of the necessary personnel. (Definition of the organizational chart of operation, definition of tasks).
- Equipment: Identification of equipment needs (premises, telephone, incoming and outgoing calls, telex, vehicles, photocopying and office automation);
- Tooling: Creation, installation and testing of the working "tools": Coding, nomenclatures, survey forms and instructions for use, methodology of contacts with heads of enterprises, arguments, leaflets, presentation notes, circulars, standard information letters, methodology for the handling of cases, with check-lists, job sheets, etc.; Tests of software and of the various processing documents, etc.; Specimens attached in the annexes to the interim reports.

* Establishment of the operational framework

This framework is summarized in an organizational chart in annex 2 (example of the Tunis sub-contracting exchange).

The scale of the survey varies from country to country according to the resources used. Each enterprise visit led to the identification of several opportunities for sub-contracting or development.

Concrete cases were dealt with in the range of activities decided on:

- National sub-contracting;
- International sub-contracting;
- Technical inquiry service;
- Developments.

The work was carried out in three phases:

- Studies specific to each country;
- The creation of tools and the training of staff, awareness-creation among senior staff, institutions and industrialists;
- Practical operation.

If the regional project is in fact implemented, its sustainability must also be ensured for three essential reasons.

1. It has no raison d'être unless the member countries each have an efficient national body. While Tunisia has such a service thanks to its national programme, Algeria and Morocco have not yet concretely implemented their own projects. The necessary recommendations have been formulated. Without national programmes, there can be no regional programme.

2. The nature of the economies of the countries concerned makes it essential to consider their entire potential and consequently to ensure that the rational organization of sub-contracting covers the whole of their territories and to extend it rapidly to other industrial sectors in which sub-contracting is important (textiles, leather, ceramics, etc.).

3. The body for the rationalization of sub-contracting must act as a driving force in economic development by exploiting the parameters generated by its activities. As a detector of shortcomings, it must solve problems either directly or by calling on the assistance of national bodies that have specialized responsibilities with regard to the problems encountered.

B. Study and utilization of results

Algeria

Everything is ready and all that remains to be done is to implement the national project. That should lead to the actual establishment of a unit specializing in the rational organization of sub-contracting, as specified in the national project document that was prepared following the work carried out in the context of the present regional project, which is shortly to be ratified. Otherwise, the regional project could not include Algeria in the future.

Morocco

Everything is ready and all that remains to be done is to implement the national project. That should lead to the actual establishment of a sub-contracting service within the Casablanca Chamber of Commerce and Industry, as specified in the national project document that was prepared as a result of the work undertaken in the context of the present regional project, which is shortly to be ratified. Otherwise, the regional project could not include Morocco in the future.

Tunisia

Everything is in operation and has to be consolidated and developed according to the recommendations outlined above (p. 5). The Tunisian project is a pilot component but is also a driving force in the regional project.

C. Conclusions

It has been formally confirmed in each country, Algeria, Morocco and Tunisia, that sub-contracting is a fundamental strategic choice. Consequently, it is vital to have available for that purpose the most rational organization possible. The establishment of national sub-contracting exchanges corresponds to indisputable needs in each country and for all industrial enterprises in all sectors of production. The principles, the bases, services rendered and operating methods are described in annex 1.

The result of each enterprise visit was that several opportunities were identified. The manufacture of spare parts, which is among other things an important source of savings in foreign exchange, is a factor conducive to the establishment of specialized small and medium industries.

The basic training of the technical staff contacted is of an excellent level, but the staff lack the essential extra qualification of experience. Since the role of sub-contracting exchanges is so specific in nature (versatility, import substitution, complementarity, research) it is important that the officers assigned to the relevant tasks should receive support in the form of supplementary on-the-job training provided by agencies with experience in the technical, legal, economic, computer and financial fields, etc., so that they

can identify opportunities that the industrialists concerned would not have mentioned.

The establishment of a coherent, organized and efficient network in the Arab region is based on the same principles in each country. It is very important to settle the essential question of the future of the project, the great benefit of which is unanimously recognized by national senior staff in all fields for the countries' development, and in particular for the establishment, promotion and encouragement of small and medium industries. Such industries provide a large number of solutions by producing substitutes for imports which often weigh heavily on the economy and greatly handicap development.

To do this, it is necessary to provide not only resources in the form of "tools" and skills but also time, so as to take into account the special characteristics of each country and also, and above all, to train people.

The rational organization of sub-contracting was popularized in Europe from the 1960s in highly evolutive and competitive economies and on the basis of several generations of industrialization. The success and effectiveness of the project will certainly depend on the resources and skills applied, but also and above all on the factor of time, which cannot be ignored.

THE RATIONAL ORGANIZATION OF SUB-CONTRACTING

- I. THE DEFINITION OF SUB-CONTRACTING**

- II. JUSTIFICATION OF AND PROSPECTS FOR THE RATIONAL ORGANIZATION OF SUB-CONTRACTING**

- III. HOW TO ACHIEVE IT**

- IV. WHAT A SUB-CONTRACTING EXCHANGE IS**

1. SUB-CONTRACTING

At the present juncture, although the principle applies to all economic sectors, some are more directly concerned, such as metal-working, construction, plastics, electronics, textiles, etc.

Definition

Attempts have time and time again been made to define sub-contracting. In fact, sub-contracting in its general aspect is an extremely tangled web, but fundamentally there is now no need to demonstrate its raison d'être. The term covers such a wide range of relationships at the industrial level that it is not possible to define it succinctly. Even a lengthy enumeration would probably not suffice.

At the very most one can attempt to define it in a very compressed manner: sub-contracting is getting things done rather than doing them oneself, with the aim of achieving the best economic performance (the latter being a function of costs, technical level, quality, delivery periods, etc.). On the other hand, it is much easier to define what a sub-contracting enterprise is not. It is not an enterprise that devotes all its design and manufacturing resources exclusively to its own products, which are sold to consumers through its own commercial channels. Such firms are the "constructors".

Moreover, to dispel any ambiguity, it must be added that in this case no single customer should account for more than 50 per cent of the constructor's sales, otherwise the latter would assume the position of a production shop that is virtually integrated with its customer and would become in fact ... a sub-contractor.

In practice, one can see that everybody is more or less the sub-contractor of everybody else. However, three great families of sub-contracting problems can be distinguished, in which one always finds craftsmen and small, medium and large enterprises.

This classification is of necessity only a rough one. It overlaps with many other classifications. Its sole purpose is to try to make a systematic presentation of the problem.

1. Sub-contracting operations that consist in selling particular operations or techniques

Examples:

- Heat treatment;
- Surface coatings;
- Grinding;
- Hobbing;
- Broaching, etc, etc.
- And all sorts of operations using more or less specialized machines or machines with a varied range of dimensional capacity.

In this case sub-contractors are practically never supplied with raw materials.

2. Sub-contracting operations that consist in manufacturing spare parts

The characteristics of these products are:

- Sometimes they are usable as such:
 - Mechanical spare parts;
 - Spare parts machined from bar stock;
 - Tools, etc., etc.

- Sometimes they require further machining:
 - Castings;
 - Forgings;
 - Stampings;
 - Cut-out parts;
 - Deep drawn parts, etc., etc.
- 3. Sub-contracting operations that consist in making sub-assemblies or assemblies intended for other companies that will carry out the marketing
- Non-stock products:
 - Structural framework;
 - Boiler-making;
 - General mechanical engineering assemblies, etc., etc.
- Shelf products:
 - Components;
 - Machine accessories;
 - Whole machines, etc., etc.

In these two cases, the sub-contractors work from the customers' general drawings and specifications.

Note

We have made a distinction between machining services provided by the use of special machines or special installations and the delivery of entire spare parts, for the following reason:

- In the first case, as emphasized, it is sufficient to carry out an operation with machines or installations of one type;
- In the second case, it is necessary to carry out operations with a whole set of machines.

Example

If one is looking for a company capable of supplying broached collars, in the first case it will merely carry out the broaching operation and in the second case it must have other production facilities, that is to say: cutting-off machines, lathes, etc. Thus a company which may have available capacity in the first instance may not have such capacity for all of the operations needed in the second case.

Sub-contractors

One and the same company may be interested in all or part of the three families of problems mentioned above.

But, depending on its category, it is possible to define the "profile" of this company and to ascertain more clearly the nature of the specific problems with which it is confronted.

There is no reason why certain "constructors" (or assemblers) should not diversify and devote part of their production facilities to sub-contracting for the account of other constructors and other sub-contractors.

Therefore, every company is a competitor of every other company and every company does everything.

In practice, the craftsman competes to some extent with a large enterprise and the small and medium specialized production shop competes with the integrated production shop of a major group, etc.

Sub-contractors therefore fall into two types:

- The regular sub-contractor who offers his production facilities for the services of other enterprises on a permanent basis; that often represents specialized, or structural sub-contracting.
- The occasional sub-contractor, who is prepared, depending on the general or particular economic situation (seasonal activity, for example), to place part of his production facilities at the disposal of associated or competing manufacturers. This correspond to capacity or cyclical sub-contracting.

Each of these may have at its command more or less advanced techniques, but the two types are fundamentally different and the problems arising out of their activities must be studied separately.

In the modern economy in which we are living, which is based partly on the permanent search for higher productivity, it can readily be imagined that one of the most efficient methods to be used for this purpose is the rational organization of sub-contracting.

II. JUSTIFICATION FOR AND PROSPECTS OF THE RATIONAL ORGANIZATION OF SUB-CONTRACTING

The above definition gives some idea how much waste is and will be caused by existing uncoordinated relationships. The need to be competitive in a modern economy, that is to say, one that is wide open to penetration from abroad and reciprocally has access to external markets, will more and more compel industrialists to improve their productivity and competitiveness in all fields. To reach that stage, it is necessary to bring into play all instruments capable of contributing to improvement. The rational organization of sub-contracting is an entirely new tool for that purpose.

Let us briefly sum up the fundamental reasons for promoting the rational organization of sub-contracting. They are:

- (1) The identification and evaluation of the losses caused by the present situation, which cannot continue with impunity;
- (2) The development of techniques which enable the enterprises to tackle problems calling for intellectual, financial and technical resources that are more and more difficult to acquire; it is clear that, without running the risk of rapid asphyxiation, we cannot continue exactly as in the past. It follows that there is a need for specialization, with the inevitable corollary of sub-contracting all operations that lie outside of such specialization;
- (3) It becomes clear, in theory and in practice, that it is distinctly more economic to use external resources than carry out work oneself, when neither the equipment nor the personnel are suited for manufacturing operations that increasingly face keener and keener competition;
- (4) Each enterprise can then devote its financial, technical and human resources to the fields in which it excels rather than dissipate its energies in those in which others specialize and are therefore much more skilled;
- (5) Thus the enterprise invests where it stands to gain and is considerably strengthened by using the assistance of others, which considerably expands its potential in all respects.

This special skill, this knowledge of external possibilities, cannot be acquired all at once and without rational organization in this field.

Though it is indeed for each enterprise to take appropriate commercial action on its own in order to utilize its production equipment to the full, it is also expedient, in the context of such changes in approach, to make arrangements to create suitable links for dealing with this new type of problem.

This new approach of enterprises leads them to make profound changes in their internal structures and in their view of the market and it is beyond doubt that the interlinkages between all these activities cannot be left merely to the inspiration of the moment. It is necessary to popularize the idea of sub-contracting agreements, which are very rare at the moment. The only contracts used are in fact the order forms sent by the ordering party and accepted by the sub-contractor. It is clear that a sub-contractor will be able to improve his service to an ordering party only to the extent that he obtains a minimum of guarantees from the latter and vice versa. Such machinery is desirable in the interests of both parties. The establishment of what today seems to be no less than an institution calls for the mobilization of all parties concerned. As there are many such parties, this question cannot be solved solely by mutual agreement in each individual case and it is essential that the appropriate solution should be found through the rational organization of sub-contracting.

Manufacturing equipment is becoming more and more expensive and therefore rare; paradoxically, it can very often be noted that much equipment is not fully used. Frequently, and simply owing to lack of information, industrialists go far afield to seek manufacturing services that they could have found closer at hand (quite apart from any considerations of price).

There is not always a causal relationship between available capacity in an enterprise and haphazard investment or bad commercial management. The cause may be operational setbacks that produce bottlenecks in some sections and shortages in others.

Or else that situation may be the result of unforeseeable fluctuations in capacity utilization, depending on the season, etc., etc.

Industrialists are alone and isolated in their attempts to smooth out and stabilize all these fluctuations in capacity utilization. At this stage, which transcends the framework of the individual enterprise, it can be seen that for special reasons, certain regions may be in an economic trough, while others on the contrary may experience a period of overheating; it would be advantageous to them to try to balance out their capacity utilization.

In fact there are absolutely no facilities that would enable industrialists within one and the same region, or in different regions, to ascertain what production facilities are available for their possible use (within one and the same country, between two countries, or between continents). 1/

The rational organization of sub-contracting meets undoubted needs for the development of small and medium industries, investments, savings in foreign exchange, import substitution and productivity in all lines.

1/ Incidentally, it should be noted that the rational organization of sub-contracting has no influence on the general economic situation. Indeed, in the trough of the cycle, ordering parties are rare and sub-contractors are numerous; conversely, in a peak period, there is vast demand for sub-contracting and meagre supply.

PROSPECTS

This lack of information has enormous consequences with regard to investment. For example, in cases of absolute necessity, an industrialist may decide to buy a piece of equipment that he knows he will not be able to use full time for his own needs. If there is no machinery for rational organization that with information on the availability of such equipment, what, apart from all non-economic considerations, will prevent an industrialist in the same area from making a similar purchase shortly afterwards? On the other hand, contact between the two before the second investment would perhaps enable them to operate the first item of equipment together and thus increase their competitiveness and that of the country.

People often take pleasure in pointing out the relatively low ranking of research in the scale of values of industries, particularly small and medium industries (apart from any financial considerations, which certainly deserve to be taken into account).

While research is correctly regarded as expensive a priori, its price becomes even higher owing to the involuntary impenetrability of the industrial fabric to the dissemination of research results.

The way to exploit research economically is to disseminate its results.

Efforts to help in this dissemination process would so to speak represent the generation of value added in research.

We consider that research efforts are not complete unless ways and means are provided for placing results within the practical grasp of small and medium industries. Through the organization of sub-contracting, with attention to the resultant imperatives, it will be possible to make good a large part of this deficiency.

In the context of decentralization, by presenting the regions as organized entities at the technical level, the organization of sub-contracting will make it possible, through this greater knowledge of the existing industrial fabric, to contribute to preparatory work for the operations projected.

This brief outline is far from summing up the potential value of this type of activity; but by itself alone it already makes it possible to assess in full the undoubted need to work towards setting up machinery for the rational organization of sub-contracting.

Since the principal aim of such machinery is to contribute to the most complete 2/ and rational 3/ possible utilization of existing working capacity, the exploitation of all the potential of this newly created instrument will lead to the provision of a range of novel services that are made possible solely by its very existence. It is not premature to predict that, in essentials, these services will constitute the basis for the genuine industrial and technical promotion of the enterprises that take an interest in them.

2/ More complete utilization means to us the capacity utilization in terms of man-hours that makes possible better amortization.

3/ Rational utilization means to us specialization (for example, not making a practice of machining parts 500 mm long on a parallel lathe of 6.000 mm between centres, etc.

IMPORTANT NOTE

When a sub-contracting firm is very highly specialized, as is the case with one engaging in the hobbing of gear wheels, heat treatment, surface coatings, etc., it occupies a very special position vis-à-vis the constructor and the sub-contractor with a very low degree of specialization or none at all, that is to say, vis-à-vis the cyclical sub-contractor.

An enterprise's possible concern for capacity utilization is not to any great extent related to the rational organization of sub-contracting as we see it, but is simply one of the normal concerns that any industrial enterprise must have, particularly with regard to its commercial function.

Since these firms are very close to one another, they must combine in a dynamic and active professional organization, the aim of which will be to help them to solve their special problems (for example, the definition of a contract). But nobody is competent to take their place or ensure utilization of their production equipment, since that responsibility, that latter function, depends above all on the dynamism and commercial competence of the firm.

III. How should such machinery be established?

- By the industrialists themselves

They provide the "material". in the case in point, the orders and tenders. They are the first beneficiaries of the operation and it is for them to make the minimum effort to take an interest in this initiative.

In particular, they must facilitate the work of surveying and acquire the automatic habit of using the services thus offered.

- By the professional organization (existing or to be set up) covering the activity of the sub-contractor or the ordering party

- (a) In the case of a permanent sub-contractor, the proper purpose of the professional organization that he joins is naturally to improve conditions for its members and therefore to guide and help them in studying and overcoming sub-contracting problems;
- (b) As far as the occasional sub-contractor is concerned, the professional organization that he joins should have a working group focusing on the sub-contracting questions that are of more particular interest to its members.

In both cases, the role of the professional organization in question is very often limited:

- To the members;
- To the particular occupation;
- To general questions.

On the other hand, the rational organization of sub-contracting concerns the entire industrial potential without exception.

- The rational organization of sub-contracting concerns:

- Ordering parties (or parties requesting services)
- Tenderers of services (or sub-contractors) both permanent and occasional, specialized and multi-purpose.

and is of interest to:

The public authorities concerned with:

- Industry (Ministry);
- Productivity (Ministries of Planning and Productivity);
- Physical planning;
- Economic affairs (greater competitiveness, increased exports, more judicious imports, contracts carried out by State enterprises as compared with other more competent and less expensive suppliers, etc.).

The first requirement - inventories

The first requirement is to make a systematic inventory of all the existing production resources and capacities and later an inventory of the existing available capacity of all these machines and installations, by means of surveys of the enterprises concerned.

Taking into account what is known regarding the activities of the enterprises, it is clear that, for the sake of efficiency, these two inventories must be kept permanently up to date because the stock of equipment varies from day to day, as does available capacity.

It is clear that these inventories, which are essentially technical, must be interpreted, processed and presented in terms of needs expressed. The staff assigned to that work must be particularly skilled.

The rational organization of sub-contracting proceeds via the most complete possible knowledge of the enterprises at the technical level. This knowledge necessitates in fact more than a simple descriptive and quantitative inventory. Indeed, two similar enterprises equipped in exactly the same manner may nevertheless be totally unlike one another at the technical level, even if only as a result of the nature of the work that they do (specialities).

Moreover, their problems are often urgent and specific.

Geographical proximity plays a great part in this respect (in certain cases it is necessary to ascertain the situation on the spot). Finally, and it is important to note this, problems are not always correctly formulated by the requesting party, and the assistance of technicians whom he knows will greatly facilitate all the action desired.

The imperative necessity of knowledge in its widest sense calls for permanent and direct links (other than by correspondence).

That is the reason why the rational organization of sub-contracting must be based on a division of the territory into units that are neither too large nor too small.

The present structures are of such a nature and the problem raised is so specific that one is prompted to advocate the establishment of an operational unit that is specially suited to this work: that is what has already been referred to as the sub-contracting exchange.

Thus, the rational organization of sub-contracting is achieved by means of a network of sub-contracting exchanges covering the entire national territory and all operating on the same principles with the same methods (procedures,

databases, coding, etc.) so as to facilitate as far as possible relations between them. 4/

The principle can obviously be adapted to a network covering several countries.

The justification for regional sub-contracting bodies or machinery

Since the objectives are clearly specialized and the methods are entirely new, it is unlikely that one will find an existing organization that deals very specifically with this work and that has the desired and necessary geographical zone of action. There are fundamental differences in spirit and methods.

Regional enterprises are particularly isolated. The successful experience of several regional sub-contracting exchanges shows that, with structures as they are at present, enterprises in one and the same region have had absolutely no knowledge of each other at the technical level and that countless possibilities for co-operation and collaboration have been lost owing to the absence of a new and complementary working tool, now represented by a specialized sub-contracting agency or appropriate machinery.

These regional sub-contracting agencies can work at the technical level equally well with industrialists from such entirely different sectors as iron and steel, metal structures, foundry, forging, etc., whether they are crafts, small, medium or large enterprises. At the regional level they can constitute an interesting pole of attraction for dealing with the various situations that may arise, identifying problems, taking the regional "temperature" and, operating in the reverse direction, helping to popularize certain new processes and certain techniques that can be used by industrialists in the various sectors.

It becomes clear that the professional organizations and the regional sub-contracting agencies are complementary and must thus co-operate closely in order to bring about a rational organization of sub-contracting.

IV. WHAT IS A SUB-CONTRACTING EXCHANGE?

PRINCIPLES

The exchange must be an entirely impartial and objective body, it must confine itself exclusively to matching supply and demand, merely according to the technical characteristics that are in demand on the one hand and the content of the database on the other, to which will be added the parameter of delivery dates in relation to available capacity.

• First principle

The exchange cannot claim to justify its existence by making it possible for the available capacity of its members to be systematically absorbed.

In fact, the exchange is not a refuge for the incompetent, it is not a commercial service, it does not promise that it will provide a proportional sales turnover in exchange for membership.

4/ In this respect, modern office automation equipment makes it possible to establish reliable links for the rapid and precise exchange of information.

- Second principle

The sub-contracting exchange is not a supply service. it never supplants the specialized services of the enterprises; on the contrary, it is at their disposal to help them in their search for suppliers who are suitable from the technical and time points of view.

- Third principle

The exchange is not a regional planning body. It does not interfere with the manufacturing programmes of its members.

- Fourth principle

The exchange does not suppress free competition.

- Fifth principle

As far as prices are concerned, the exchange never intervenes in the commercial dialogue in the strict sense and is not an additional intermediary. It takes no commission for its services, either from the requesting or from the tendering party. It intervenes to give technical, legal, economic or other advice only at the express request of the two parties.

ITS ROLE

The fundamental idea of making the best use of the production facilities and capacities of industrialists in a given region emerged out of the observed fact that in a given sector, industrialists are unfamiliar with one another and have no means of being accurately informed of the technical resources of their colleagues, whose services they could use to carry out part of their own manufacturing programmes.

Conversely, their resources are unknown to other industrialists.

The intervention of the sub-contracting exchange is by no means automatic, and it takes the initiative only at the request of its members. That is the reason why it can be stated that the sub-contracting exchange is above all a "service", an inter-enterprise service for economy and rationalization.

It might be argued that such a body might disturb the relationships existing between certain industrialists and that these relationships might be called in question by tenders from newcomers. It is pointed that, since the exchange should not be used as a supply service, it cannot possibly give rise to such disturbances if the request that is addressed to it is motivated solely by imperatives in the technical field or by considerations of delivery periods. In any case, in a competitive economy, enterprises that might encounter difficulties of that order, which they would in any case have experienced, would thus be warned in time of their weakness and could react accordingly.

Furthermore, and this is important, the procedure adopted, which is set forth in detail in the note describing the operation of the exchange, makes the exchange's position impregnable.

The exchange works at a number of levels:

- At enterprise level;
- At regional level;
- At national level;
- At international level.

The service may adopt a protectionist and defensive approach or an expansive and dynamic approach.

• The protectionist and defensive approach

It could be argued that by the provision of information on available man-hours, the sub-contracting exchange ensures the survival of enterprises that are technically and economically jeopardized.

It would thereby merely retard an inevitable process, be it long or short. In fact, rather than disappear, these enterprises would be prepared to work under ludicrous conditions, which would have the end effect of endangering their future.

The objection would be justified if the exchange systematically absorbed all the available capacity reported. In practice, that is by no means the case, especially because, if companies are technically out of date, they can in fact offer only facilities for which there is little demand.

Moreover, the sub-contracting exchange is not there to act as a commercial service for its members, but simply to respond to requests that are made to it. It must introduce itself to industrialists so that the latter can call on its services.

Consequently, when seen from the "service" angle, these companies are not to be neglected if they can momentarily support and come to the rescue of an expanding company. Moreover, information derived from dealings with the exchanges may to some extent facilitate any restructuring studies they make.

• The expansive and dynamic approach

Thanks to its organization, the sub-contracting exchange has precise knowledge of the overall potential, resources and needs of the regional enterprises. By means of this knowledge and through its relationships with economic and technical agencies, it can help to promote the regional and thus the national economy.

All the data gathered can either be collated and transmitted to interested agencies, where such exist, or may prompt the establishment of new agencies in the event that no such facilities exist.

It can be seen that such an exchange might make it possible to launch a number of other ideas and that its potential is not confined merely to the limits that have been defined by the aim that was pursued initially, namely, to contribute to the most complete and rational organization of the available capacity of its members that can be achieved.

That is verifiable only in bodies that have the capacity to maintain permanent and close contact with industrialists, which supposes an operating structure that makes it possible at one and the same time to keep the database up to date, to visit enterprises frequently and to process the data gathered.

The total shortcomings identified during interviews, the total of the questions raised by the industrialists and the total of the services rendered by the agency bear witness to and indeed prove the indisputable advantage of maintaining and promoting sub-contracting bodies that would be inspired by such a working method and plan.

This new tool, with an expansive and dynamic approach, represents so to speak a powerful leaven for helping to increase productivity and genuine industrial promotion.

SERVICES RENDERED

- At enterprise level

From the point of view of the requesting party: He wants his sub-contractor to supply him with a product that meets his requirements as to:

- Conformity - quantity - quality - delivery dates - price.

In so far as the exchange enables him to satisfy one or other of these requirements, the sub-contracting exchange at least partially answers the question raised.

From the point of view of the supplier: He wants full utilization of his machines and installations, that is to say, in fact, better amortization.

- At this stage, a third notion (apart from supply and demand) naturally emerges, namely, that the sub-contracting exchange can function as an investment advisory service.

It is therefore important that heads of enterprises and senior staff should consider the exchange as a service. We can never insist enough on that point.

- The sub-contracting exchange enables the industrialist:

- To ascertain at any time and with precision the activities and resources of the other enterprises in his region, merely by requesting information, other than confidential information, of course;
- Similarly, to make known his own resources and therefore to facilitate reduction of his idle capacity and ensure the maximum profitability of his investments;
- To solve his sub-contracting problems easily and above all rationally.

These points amount to a re-enunciation of the basic principle of the sub-contracting exchange, namely, matching supply and demand.

- Demand

The requesting party is the one who wishes or is compelled to give work to an outside party either because he cannot do it himself, or does it badly or at too high a cost owing to the nature of the resources at his disposal.

- Supply

The motives of the supplier are different:

- Profitability of investments;
- Rapid amortization of the capital goods he has purchased, that is to say, the search for full-time utilization of his machines and thus of his staff; knowledge of demand in the region will represent a service to him;
- Judicious investment through knowledge of existing needs and resources;
- Membership of an enterprise grouping without any loss of independence, considering the resources of that grouping as an extension of his own;
- Greater output without immediate investment if judiciously organized sub-contracting enables him to absorb an increase in orders;
- The availability of a high-grade public and commercial relations service and representation in contacts outside the region.

Although motivations on the supply and demand side are different, both sides agree in wishing to achieve the maximum potential utilization of personnel, machinery and commercial outlets.

• At regional level

It is certain that the sub-contracting exchange has no legal and commercial personality. Nevertheless, it represents an important industrial potential. It has every facility for:

- Maintaining a certain level of relationships that coincide with the interests of the industrialists and the region. For example, relationships with foreign chambers of commerce, in the search for and study of manufacturing operations under licence that might be of interest to its members;
- Facilitating its relationships with official and quasi-official bodies in regard to questions of an economic nature. In fact, through its precise knowledge of the enterprises, the sub-contracting exchange may constitute a valuable aid for officials responsible for the regional economy and may also put to them the problems of the industrialists on the latter's behalf.

The integrated "technical information" service is in itself a remarkable aid for simplifying and rationalizing the operations of all users and the commercial and procurement services, etc. of the affiliated enterprises. At the technical level, the sub-contracting exchange can present the regional companies as an organized grouping, which has indisputable advantages.

Two phenomena determine the business cycle, namely, recession and expansion. The sub-contracting exchange can scarcely influence these two phenomena, but, if it is judiciously used, it can make it possible to slow down recession and above all help to sustain expansion.

(a) Slowing down recession

Without indulging in regional isolationism, the exchange avoids the loss of work assignments to companies outside the region.

The fact is that ignorance of existing resources is the basis for the large-scale export of regional work assignments, quite apart from other disadvantages such as the increase in transport costs, difficulties of technical liaison in the event of development or modification of designs, etc. and the inevitable loss of human contacts owing to the distances involved.

(b) Helping to sustain expansion

Through its knowledge of regional potential and its level of utilization, the sub-contracting exchange can make a valid response to concerns regarding capital investment and can help to avoid uncoordinated over-equipment of the region.

Of course, it is not for the sub-contracting exchange to take direct action in that field, but it can become a very valuable aid for bodies concerned with expansion and can help considerably in giving guidance regarding specialization.

As regards decentralization, it may provide quite substantial inputs for decisions to establish facilities owing to the knowledge that it makes possible of the potential of existing sub-contractors. In connection with at least partial restructuring, the exchange can also provide valuable data.

• At national level

Within each region there are sub-contracting flows determined by the nature, volume and orientation of work.

By analogy, one can thus determine interregional flows that make it possible to some extent to balance external flows from one region to another, that is to say, by having the excess orders of one party absorbed by the available capacity of the other. In this way, regional recession can be slowed down.

Of course, in the case of a general recession, the sub-contracting exchange is inoperative. It is nevertheless, better, more logical, more rational and more economic to enter into sub-contracting arrangements with enterprises that are relatively close at hand than with enterprises that are geographically very far away.

But if, for imperative technical reasons, sub-contractors must be sought outside the region, it is desirable to use the network of sub-contracting exchanges, whose distribution throughout the territory simplifies and rationalizes the search and facilitates contacts, and possibly to set up compensation arrangements between regions.

• At international level

The machinery described above can be applied in international economic relations. In the same way as there must be a domestic network within each country, it is necessary to create an internal network in the major regions of the globe, particularly in those in which economic development is so to speak at a stage of gestation before entering the industrial stage.

30 June 1988

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WHAT IS DPST?

It is a government department whose purpose is to act as a permanent focal point for all information concerning the activities, technical resources and capital equipment of enterprises in order to make possible the most complete and rational utilization of their working capacity by establishing contact between suppliers and potential customers.

Why ...?

**MAKING THE BEST USE OF
TUNISIAN CAPACITY**

Why establish such a department?

The fundamental idea for making the best use of the production facilities and capacity of industrialists emerged out of the recognition of the fact that, in a given sector, industrialists are unfamiliar with one another and have no means of obtaining accurate information regarding the technical resources of their fellow industrialists, which they could use to carry out part of their own manufacturing programmes.

Conversely, their resources are unknown to other industrialists.

Examination of what actually happens in enterprises shows that:

- In an expanding economy, purchasers are numerous and suppliers of services are rare;
- During a recession, purchasers are rare and suppliers of service are numerous.

The ideal situation is therefore a stable economy in which there is just as much demand as supply, but unfortunately that is practically never the case.

On the other hand, if a company, owing to the nature of its manufacturing programme (seasonal, for example) experiences an expansive phase for six months of the year and a recessive phase for the remaining six months, it is reasonable to consider helping it in the difficult periods (difficult either because of an excess of orders or because of under-utilization).

At a still lower level, it may happen that the nature of a given company's manufacturing programme requires production equipment that is overloaded for some periods or, on the contrary, very incompletely used. In that case, helping to move towards balance by relieving the pressure on overloaded equipment and making known the existence of available capacity renders an appreciable service.

- A permanent service:
- At enterprise level
 - At national level
 - At international level

The Partnership and Sub-contracting Directorate (DPST) has set itself the objective of responding to these needs. In this particular case, it does not intervene systematically: DPST is above all an inter-enterprise service for economy and rationalization.

The Partnership and Sub-contracting Directorate is a permanent service operating:

- At enterprise level;
- At national level;
- At international level.

This service may adopt a protectionist and defensive approach or an expansive and dynamic approach.

Before analysing the service in relation with the three levels defined above, let us examine the various aspects of these two approaches.

EXPANSION AND DYNAMISM

The expansive and dynamic approach

Thanks to its organization, DPST has precise knowledge of the overall potential, resources and needs of the enterprises.

This knowledge enables it to help promote the national economy by collaborating with other economic and technical bodies.

The data gathered can either be collated and transmitted to interested bodies or lead to the establishment of new services or bodies.

DPST may make it possible to launch a number of other ideas. Its potential is not exclusively confined within the limits defined by its initial purpose, namely, to contribute to the most complete and rational utilization of its members' resources.

Activities are directed towards the adoption of this dynamic and expansive approach.

The protectionist and defensive approach

It could be argued that by the provision of information on available man-hours, the Partnership and Sub-contracting Directorate ensures the survival of enterprises that are for technical and economic reasons bound to cease operation in the more or less long term.

That would be true if DPST systematically absorbed the available capacity of such companies. However, the latter should not be neglected from the service

angle, since they may be able in the very short term to come to the rescue of and support companies in which expansion is in full swing.

Moreover, information obtained from dealings with DPST facilitates the restructuring studies of such companies to some extent.

Terminology

PARTNERSHIP AND SUB-CONTRACTING

- Sub-contracting

The term is still regarded as repellent and disparaging. The needs expressed, the potential needs, all make clear the necessity of promoting partnership in order to bring about economic development.

Therefore, why should one not speak plainly, especially if it is beneficial in every respect?

Taking this general approach, nobody dominates anybody else; there are only partners, linked by their joint concern for personal success, which is generated by their common success.

**A NATIONAL COMMISSION
FOR HARMONIZATION AND
CO-ORDINATION**

The Partnership and Sub-contracting Directorate

Set up under Law 72-38 of 27 April 1972 as amended by Law 87-50 of 2 August 1987, the Agency for the Promotion of Industry (API) is a public body of an industrial and commercial character with legal personality and financial autonomy that is placed under the supervision of the Ministry of Industry and Commerce.

Therefore, by virtue of article 2 of Law 87-50, API is among other things responsible for "ensuring the establishment and operation of an industrial data bank and a sub-contracting exchange in order to promote the identification of projects and the optimum utilization of installed production capacity".

On the one hand, API has promoted:

- The creation of a Partnership and Sub-contracting Commission in Tunisia, consisting of:

- The Directorate General for Industry;
- The Ministry of National Defence;
- CETIME;
- UTICA;
- INNORPI;
- CEPEX;
- The Ministry of Higher Education and Scientific Research;
- The Directorate for Crafts and Small Trades (MIC), which is a unit for study and co-ordination and the allocation of tasks and for initiatives for the promotion of sub-contracting in Tunisia.

An autonomous department:

- Sub-contracting
- Technical documentation
- Development

On the other hand:

It has set up within itself an autonomous department specially structured in terms of equipment and personnel, namely, the Partnership and Sub-contracting Directorate (DPST).

Purpose

To permit the most complete and rational utilization possible of the installations, machines and working capacities existing or to be set up in Tunisia, detecting shortcomings and excess capacity and constituting a permanent service at the disposal of enterprises, encouraging partnership between them.

Activities

It deals with several major families of problems:

- Work assignments;
- Sub-contracting: An agency for data on available machine- and man-hours;
- Technical information: Technical documentation and data;
- Development: DPST can intervene in many other fields, either directly or with the aid of establishments that have specialized assistance missions, thus supplementing its specific basic action by means of concrete additional activities so as to serve the interests of industrialists and also of the national economy.

ETHICAL CONSIDERATIONS

Philosophy and ethics

First principle:

The Directorate cannot claim to justify its existence by promising to ensure that the available capacity of its correspondents will be systematically absorbed.

The Directorate is not a refuge for the incompetent. It is not a commercial service.

Second principle:

The Partnership and Sub-contracting Directorate is not a supply service and it never supplants the specialized services of enterprises. On the contrary, it is at their disposal to help them in their search for suppliers who can meet their technical and delivery date requirements.

It rationalizes and economizes and deals only with concrete cases.

Third principle:

The Directorate is not a national planning body; it does not intervene in its members' manufacturing programmes.

- An impartial and objective service
- Surveys of capacities and needs
- Training
- Information
- Guidance
- Confidentiality

Fourth principle:

DPST does not suppress free competition.

As far as prices are concerned, the Directorate does not interfere in the commercial dialogue proper and it is not an additional intermediary.

It takes no commission, either from the requesting or the tendering party.

The Directorate must be an entirely impartial and objective service

It must confine itself exclusively to matching supply and demand, according to the technical characteristics of demand on the one hand and of the content of the database on the other. In addition, there is the factor of delivery dates, related to available capacity.

These basic principles, which are to some extent negative, lead us to a very positive definition of the Directorate's activities.

- Surveying and centralizing information on the capacities and needs of the country's industries;
- Directing customers to technically appropriate enterprises;
- Establishment of partnership in the correct sense of serving mutual interest;
- Technical information based on all its documentation, which constitutes a concrete data bank;
- Confidentiality: Finally, it should be added that DPST, because it must have very complete knowledge of the enterprises with which it is linked, may gain access to confidential information in order to ensure full efficiency. It goes without saying that it undertakes strictly not to divulge such information. In all its transactions, the staff of the Directorate are bound to professional secrecy.

NON-PROFIT-MAKING

By its intervention, the Directorate, which is a non-profit-making body, establishes between itself and its correspondents a climate of special trust, conducive to promoting contacts that could not be made without impartial assistance.

As it is a documentation service, DPST has no call to intervene in commercial transactions. Its role is confined to transmitting the information with which it is supplied both by sub-contractors and by ordering parties. It can therefore take no responsibility for the information that it supplies, or regarding the execution

of any transactions concluded in the light of such information, contacts between enterprises brought together through its good offices, and generally speaking any consequences of its intervention whatsoever, particularly in the financial field.

SIX REGIONS

Geographical scope

DPST covers the entire country and must treat it as a geographically homogeneous entity without leaving aside zones with few industries.

It will thus contribute in some small measure to strengthening policies for industrial decentralization and the development of disadvantaged regions.

The desirability of such decentralization is clear in the context of the development plan for the regions, which presupposes the availability on the spot of units capable of promoting productivity, competitiveness, complementarity and innovation.

That is the reason why DPST has six branch units that are automatically connected with headquarters, each under the leadership of a dynamic staff that is close to the industrialists.

Potential

- At API:
 - * More than 12,000 projects approved;
 - * More than 1,200 enterprises surveyed and active;
 - * Already more than 400 enterprises with experience of subcontracting (participating in foreign salons, MIDEST and others, and in Tunisian salons: SMST, SICAT 85, SITEL 86 and SAPRI 86);
 - * 23 regional offices;
 - * Four agencies and three correspondents abroad;
 - * An integrated specialized service staffed with 1 Director (engineer), 1 economist, 1 mechanical engineer, 1 higher-level technician, 1 secretariat and 1 computer unit;
- Close and permanent relationships with major specialized agencies: CETIME, UTICA, INNORPI, CEPEX, etc.

RESOURCES

SECTORS OF ACTIVITY

- * Metal-working and related activities:
 - Foundry;
 - Forging, cutting;
 - Deep drawing;
 - Stamping;
 - Boilermaking;
 - Mechanical engineering and metal structures;
 - Sheet metal work;
 - Special machining operations;
 - Heat treatment;
 - Surface protection, etc.
- * Automobile components;
- * Bicycle and motorcycle components;
- * Electrical and electronic components;
- * Processing of plastics;
- * Processing of rubber;
- * Any related activity whose rationalization has become necessary.

How does DPST operate?

OPERATIONS

Operation of DPST

DPST is above all a "service". It undertakes, in the light of directives given by requesting parties, to inform tenderers of matters concerning them in the light of their technical resources.

All operations are anonymous and the requesting party (that is to say, the party that triggers the activity of the Directorate) has the initiative. He is informed in the first place of the results of the search and may then refuse all or some of the enterprises identified by the Directorate.

It is preferable for the requesting party to indicate to the Directorate what enterprises he has already contacted directly on his own initiative in trying to solve his problem (so as not to present one and the same problem twice in succession to one and the same enterprise through two different channels).

No action will be taken on requests of a general nature, such as "Which of your members can machine parts from bar-stock?"

If requests are to be taken up, they must be formulated on the following lines: "Who can carry out bar-machining operations for x ... parts in such and such a material (supplied or not by the requesting party), according to such and such a drawing and by such and such a date?", etc.

DPST does everything it can to provide services to enterprises. As it does not co-ordinate its members' manufacturing programmes, it is not responsible for delivery dates, quality or conformity. But the enterprises that it proposes have the advantage that the requesting party can assume them to be serious.

Organization

The activities of DPST are based on the knowledge that it has of the enterprises visited.

- (a) How does it acquire that knowledge?
- (b) How does it use the information in its possession?

ORGANIZATION

How does it gather and disseminate information?

1. Information necessary for the sub-contracting of work

Each enterprise receives printed forms to be returned after completion according to the instructions given.

These printed forms give the following information:

- A list of machine tools working either by chip removal or metal-forming, with an indication of characteristics, age, condition, etc.;
- A list of related equipment, such as welding sets, furnaces, etc., with the same indications;
- A list of control, metrology and testing equipment;
- A list of the work that the enterprise is systematically compelled to sub-contract.

The enterprise also returns an information sheet stating the company name, address, the names of managers, principal activities, related activities, a list of all its catalogues and prospectuses, etc.

On receipt, these documents are studied and a note is made of the points to be clarified during a later visit by the Directorate staff.

The purpose of the visit is to verify the information entered on the printed forms and, if necessary, to clarify, correct or supplement it; to assess on the spot the character of the enterprise, its sphere of activity, normal manufacturing programmes, the condition of the premises and equipment, including their maintenance, the existence or possible development of services such as the commercial, design, methods and work preparation departments, etc.; finally, the general atmosphere of the enterprise.

DATA ON AVAILABLE MACHINE-HOURS

2. Information necessary for providing data on available machine-hours

To collect the necessary data, a sheet requesting information on available capacity is sent to all companies; such data are collected every two months.

It is certain that knowledge of available capacity is one of the basic essentials for the activity of DPST.

However, in a large group of enterprises, it is practically impossible to obtain precise information on this subject regularly.

Since available capacity fluctuates, it is not possible to make a systematic assessment. Being in permanent contact with the enterprises, the Directorate knows which production shops are really working at full capacity in the short term.

Each particular case is also the subject of a telephone conversation, which makes it possible to confirm definitely whether any assumed or stated available capacity actually exists.

The information gathered therefore constitutes a precise instrument for measurement of the industrial situation in this field.

TECHNICAL INFORMATION

3. Data necessary for technical information

Since it cannot itself afford to have the necessary archives, the Directorate has to be familiar with all means of obtaining rapidly a large mass of information.

Therefore, in order to reply to requests formulated in this field, it has:

- A sample range of specialized technical journals in various industrial sectors;
- A technical library;

- Access to large technical and economic libraries, particularly to the API Documentation Service;
- Links with other agencies such as the technical centres and other professional organizations;
- A wide selection of specialized yearbooks;
- Documentation specially established from suppliers' catalogues and documentation;
- Dossiers on previous operations.

**INFORMATION CLASSIFIED
BY MICROCOMPUTER**

How does it classify information?

1. Sub-contracting of work

This classification is based on the survey and on coding of the material collected, using a computerized database with four entry parameters:

- 1. General information;
- 2. Production categories;
- 3. Stock products or equivalent;
- 4. Machines and installations.

The machine files will include all data on: make, type, category, characteristics, year of manufacture, condition, etc.

Finally, each enterprise will have a dossier containing all the various documents, correspondence, etc.

In all cases, and for each operation dealt with, a dossier will be prepared and filed. It will later be used as a document for other surveys and for the preparation of statistics.

2. Data on available machine-hours

The available capacity shown on the inquiry sheet will be processed by computer and serve for the preparation of lists and an "availability" database for immediate reference in searching for the availability of a given machining facility.

3. Technical information

A multiple entry database has been set up, organized in such a way that it can be supplemented by documentation specially prepared for that purpose. A technician is responsible for keeping it up to date and for a permanent search for new addresses.

OPERATIONAL PROCEDURE

Procedure

Since the correct statement of a problem goes some way towards solving it, it is absolutely necessary to formulate tenders and requests with the maximum technical precision and information (description, drawings, specifications, etc.).

Moreover, it is necessary to quote delivery dates, make an approximate assessment of the number of hours necessary to carry out the work, and indicate the seasonal nature of the demand described, if appropriate, etc.

On arrival, requests are recorded according to their nature. They are dealt with separately and are registered.

For each, a special file is prepared, which serves for recording all the action taken in response to the request.

This file is so designed that it can later be processed and interpreted in relation with various statistics that are stored in the data bank.

Each correspondent of DPST has a file for recording all the activities of the Directorate related to him (requests and offers).

It is established procedure that all telephone conversations are immediately confirmed in writing. This makes possible strict control of the work of DPST and, if necessary, avoids later disputes.

THE ADVANTAGES OF DPST

Advantages to industrialists

DPST enables the industrialist:

- To ascertain precisely at any time the activities and resources of the other enterprises in the country, merely by requesting information, other than confidential information, of course;
- To provide information on his own resources and thus to facilitate the reduction of his unused capacity and ensure maximum profitability of his investments;
- To solve his sub-contracting problems easily and above all rationally.

These three points amount to restating the basic principle of the Directorate, namely, matching sub-contracting supply and demand.

- The ordering party (demand) is forced to assign work to an outside party either because he cannot do it himself or because he does it badly or at too high a cost in view of the facilities at his disposal.
- Sub-contractor (supply). The motives of the supplier are different:
 - Profitability of investments;
 - Rapid amortization of capital equipment acquired, that is to say, the aim of full-time utilization of machines and personnel.

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Advantages to Tunisian industrialists

Knowledge of demand in the country will represent a valuable service to them.

Although motivations on the supply and demand side are different, the two sides agree in wishing to achieve the maximum potential utilization of staff and machinery.

- Making possible judicious investment through knowledge of existing needs and facilities

Let us imagine the case of an industrialist who is considering the acquisition of a new machine, to improve his output. Is there not, close to his enterprise, a production shop that already has such a machine, the utilization of which would be more profitable than the proposed acquisition of such equipment, which the industrialist cannot make profitable on his own?

Moreover, if there is not a single similar machine close to his enterprise, will he later be able to find the sub-contracting assignments that will ensure full utilization of his machine and optimum profitability?

DPST provides him with the elements of a reply, thus acting as an investment counselling agency.

The Directorate also enables the industrialist to become part of an enterprise grouping without any loss of independence, considering the resources of that grouping as an extension of his own.

A considerable increase in output may in fact be envisaged without immediate investment if it can be absorbed through judiciously organized sub-contracting.

The technical information service is in itself a remarkable instrument for simplifying and rationalizing the operations of all users: technical, commercial, procurement services, etc.

**WHAT CONTRIBUTION
DOES IT MAKE?**

- To the ordering party
- To the sub-contractor

What does it offer the sub-contractor?

What does it offer the ordering party?

1. Sub-contracting

(a) Sub-contracting of work

Many bodies and enterprises are looking for sub-contractors to carry out particular work assignments. For them, a twofold question arises:

- * Who is technically suited to doing the work?
- * Who can do it when the need arises and by the desired date?

The Directorate can solve this twofold problem through:

- * Its technical database;
- * Its database on available machine-hours;
- * Its inquiries among "technically interested" members.

It puts the ordering party and suppliers in contact with one another and then steps aside to allow the establishment of a direct commercial dialogue between the parties.

(b) Data on available man-, machine- and installation-hours

Some enterprises with machines and installations that are not working full-time throughout the year face an amortization problem, which could be reflected in the following questions:

- * "What work or operations could I take on by sub-contracting so as to utilize my machines to the full?"
- * "How can I find out who wants to have such work done?"

DPST can respond directly to these questions by:

- * Its scheduling of available machine-hours.

In other cases it can assist:

- * By consulting its technical database; or
- * By making inquiries among technically suitable enterprises.

The Directorate always steps aside as soon as contact has been established between the demand and supply sides.

Establishment and updating of the machine-hours planning schedule

When they wish to offer a precise number of machine-hours or machining operations, industrialists send to the centre an indication of their available capacity in hours per month as well as a precise description of the equipment in question. They obviously indicate any corrections arising out of the later non-availability of equipment.

II. Technical documentation service

This is provides information in three distinct fields:

- Technical information: The service provides any technical information that may be needed by an enterprise that either does not have a documentation service of its own or has one that specializes exclusively in the enterprise's particular needs.
- Second-hand equipment (machines or installations): Finally, requests for and offers of second-hand equipment as well as for the hire of equipment may be communicated to the Directorate through the technical documentation service.
- External relations:
 - Courses;
 - Study tours;
 - Exhibitions, Salons;
 - etc.

ADDITIONAL SERVICES

What else does it offer?

At the technical level, DPST can present national firms as an organized grouping, which has indisputable advantages.

Two phenomena determine the business cycle: recession and expansion.

The Directorate can scarcely influence these two phenomena, but if it is judiciously utilized, it can help to slow down recession and sustain expansion.

• Slowing down recession (a) Slowing down recession

Without indulging in exaggerated nationalism, the Directorate avoids the loss of work to enterprises outside the country.

In fact, ignorance of existing resources is the basis of the large-scale assignment of national work tasks to companies abroad, quite apart from other disadvantages such as the increase in transport costs, difficulties in technical contacts in the event of development of a design, etc., not to mention the necessary reduction in human contacts owing to the distances involved.

• Sustaining expansion (b) Sustaining expansion

Through its knowledge of national potential and its rate of utilization, DPST can make a valid response regarding questions of investment and help to avoid uncoordinated over-equipment of the nation. Such activity favours expansion.

Of course, it is not for the Directorate to take direct action in this field, but it can become a very valuable auxiliary body for API and can give considerable help in guiding specialization.

As far as decentralization is concerned, it can make a substantial contribution to industrial location decisions owing to the knowledge that it makes possible of the potential of existing sub-contractors.

In the case of at least partial restructuring, the Directorate can also give valuable information.

• Detection of flows: (c) Detection and interpretation of flows

- National
- International

Within the country, there are sub-contracting flows that are determined by the nature, volume and orientation of work.

The interpretation of these flows, which is at the moment improvised, must make possible a considerable improvement in development and decentralization strategy.

By analogy, it would be possible to determine international flows, also with considerable benefit to the national economy.

**AN INTERNATIONAL
INTERLOCUTOR**

(d) DPST as an international interlocutor

DPST represents the first phase in the establishment of similar bodies in seven Arab countries, which will thus constitute a major regional grouping.

Moreover, the geographical position of Tunisia makes it a genuine springboard for developing external contacts, alongside domestic development, in order to utilize national capacities and thus attract flows towards them.

The contacts established by DPST will constitute a service whose benefits may often be difficult to perceive at the outset but are nevertheless real.

- The inventories made by DPST are coded according to the nomenclatures used in EEC with regard to sub-contracting, thus permitting and facilitating trade with European countries.

DPST detects services required by enterprises

**DETECTING SHORTCOMINGS
AND NEEDS**

Through its activity of establishing contact between enterprises, DPST detects all sorts of shortcomings and needs.

- * Problems of price = Production, design, studies, management, etc.;
- * Productivity = Organization, training, technology, equipment, etc.;
- * Delivery dates = Planning, procurement methods, etc.;
- * Quality = Technology, control, standardization, etc.;
- * Studies and information on the specific problems of sub-contracting, model contracts, etc.;
- * Search for new lines of manufacturing and new outlets, etc.;
- * National and international legislation, etc.;
- * Preventive maintenance, materials handling, rational location of production shops, etc.;
- * Detection of under- and over-equipment;
- * Provision of information: technological information, promotion of SMTs.

This information constitutes a resource that must be exploited in order to promote sub-contracting, particularly export-oriented sub-contracting, which demands strict precision, quality, punctuality and competitiveness.

DPST is a living data bank. Not only are the data stored for consultation by potential users, that is to say, the enterprises and all bodies responsible for development and economic leadership, but they are exploited immediately by the

specialized staff of the Directorate. The latter also use API in-house data, which constitute a rich database of projects generated by the projects processed on the basis of an appropriate information programme.

Development

On surveying potential needs in the light of the shortcomings found, the Directorate informs heads of enterprises all the resources indicated by its partners, namely:

- API, for feasibility and other studies:
 - * General industrial studies;
 - * Sectoral studies;
 - * Specific studies on industrial projects: prefeasibility, feasibility, market and profitability studies;

- CETIME: Pursuant to Law 82-45 of 25 May 1982:
 - * Assistance to enterprises in solving technical production problems;
 - * Assistance to enterprises in improving the utilization of their technical and human potential by means of consultation regarding the adoption and development of new products and the establishment of investment programmes;
 - * Assistance to enterprises in designing and producing the necessary tools;
 - * Assistance to enterprises in improving productivity and the quality of their products;
 - * Design and possibly repair of tools;
 - * Dissemination of information regarding technical processes, etc.

- UTICA:
 - * Advice on financial management, taxation, company management, training, costs of production, supply quotas, etc.

- INNORPI:
 - * Standardization of products;
 - * Protection of Tunisian innovation, etc.

FINDING SOLUTIONS



DEVELOPMENT

- CEPEX:

* Promotion work abroad.

In parallel, the Directorate informs these bodies of the difficulties and opportunities encountered, so that they can consider them and provide solutions. Of course, conversely, DPST's partners inform it of the sub-contracting problems that they detect in their own work.

The development service within DPST will carry out the ongoing task of comparing imports classified according to customs nomenclatures with the Tunisian capacity that it surveys in order to maximize integration and contribute to savings in foreign exchange.

Conclusion

Potential

Through the sub-contracting procedure described above, the Partnership and Sub-contracting Directorate becomes a genuine industrial promotion service. It helps enterprises to gain time and increase their efficiency by placing at their disposal its specialized services and its particularly qualified staff.

It informs industrialists on the genuine economic situation and on the installations that should be envisaged.

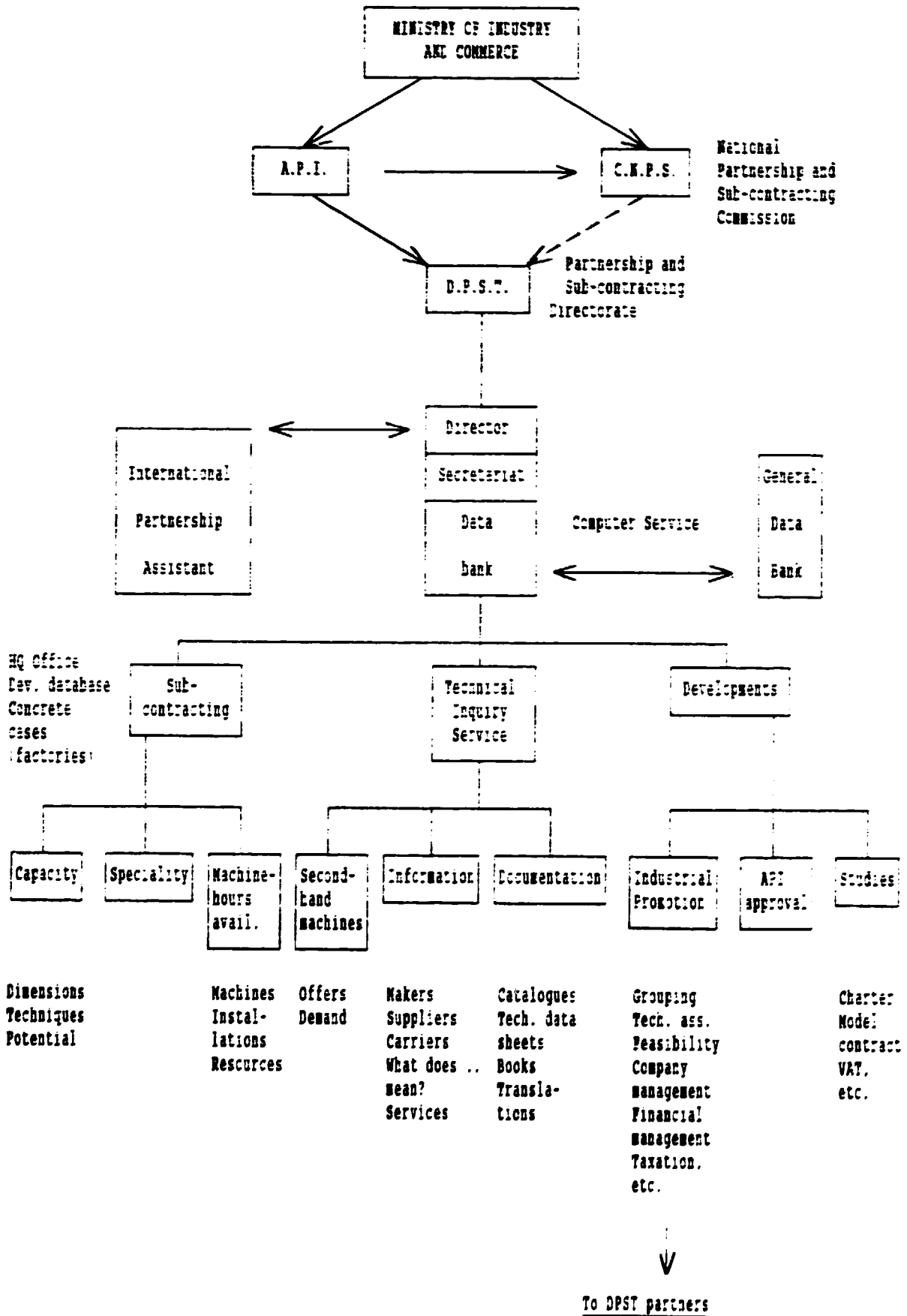
It provides them with the best possible "weapons" to satisfy the Tunisian market and the European markets.

These are the reasons for DPST's existence.

It is ready to visit enterprises, depending on the circumstances of each particular case, in order to give them any explanations desired, help them to fill in forms, advise them on the use of facilities, and train and inform the staff concerned.

Its potential value to Tunisia is beyond doubt.

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MEMORANDUM ON THE ANALYSIS OF SUB-CONTRACTING FLOWS

Project activities

1. Common methodology

As a model that can later be reproduced in the other countries, carrying out a pilot study on sub-contracting flows.

(Work assignments given and accepted on a sub-contracting basis among the enterprises in one and the same industrial region) in the zone of Tunis/Sfax.

Envisaged upstream of and supporting the work for the establishment of the sub-contracting exchange and related tasks.

STUDY OF SUB-CONTRACTING FLOWS BETWEEN SFAX AND TUNIS

Contrary to the provisions of the initial work plan, it was not possible to undertake the study of flows in advance of the work for the establishment of the sub-contracting exchange for reasons of the timetable (initially programmed for April 1986, it was possible to undertake it only as from September 1986.

Thus, at this date, this activity coincided with that envisaged for the establishment of the sub-contracting exchange proper and for its practical operation: it immediately became clear that it would use the same "facilities" that were necessary for the sub-contracting exchange, namely:

- Reference nomenclatures for the sub-contracting assignments.

It was important to avoid carrying out survey work by using nomenclatures with a different base than those that were to be used for the establishment and operation of the sub-contracting exchange. That would have involved duplication and would have been a source of error during later operations.

Consequently, it was necessary in the first place to study and adopt indispensable nomenclatures for:

- Machines and installations;
- Sub-contracting assignments;
- Sub-contracting products;
- General information.

- Survey and inquiry forms

It also became clear that the questions to be asked and the parameters to be surveyed for the establishment of the sub-contracting exchange all included the data necessary for the study of flows, while, on the other hand the latter study would obviously be an inadequate tool for providing the operational and efficiency criteria for the sub-contracting exchange.

Consequently, it was necessary to devise complete forms that did not focus exclusively on the Tunis/Sfax axis, in order to avoid duplication of work for the survey officers and for the enterprises visited.

- Tunis/Sfax survey on the one hand;
- Survey among all the other geographical sectors, which are also important, on the other hand.

- Qualified technical staff

The API services could obviously not scale down the counterpart staff envisaged by setting up a team working on the determination of flows and a team working on the surveys that were indispensable for the establishment of the

sub-contracting exchange. Also, it was necessary to integrate the 1987 Partnership Days in the establishment activities, since the same tools and the same staff were to be used in the preparation and promotion of that event.

- Awareness-creation among industrialists

One of the keys for the success of the sub-contracting exchange consists of the membership of the heads of enterprises, among whom awareness must be created, while avoiding importuning them with tedious visits which they might regard as inquisitory.

In this situation, it is necessary to take into account the psychological aspect, which is of great importance.

Conclusion

For these reasons it was decided to give priority to the establishment of the sub-contracting exchange and to defer the pilot study on flows that was programmed in Tunisia.

It can be carried out later on each geographical "axis" of the country and even of the region, in the context of the normal work done by the sub-contracting exchange and processed for related rationalization purposes.