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THE INDUSTRIAL INVESTMENT DIVISION OF UNIDO  
AND ITS WORK IN  
THE MEMBER STATES OF THE OIC

Industrial Investment Division

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## i. INTRODUCTION

The mandate of the United Nations Industrial Development Organization (UNIDO) is to "promote and accelerate industrial development in developing countries with a view to assisting in the establishment of a new international economic order."<sup>1</sup> It fulfils this mandate by helping to establish new industrial plants and expand the productive capacity of existing ones, by enhancing the skills of the local workforce, by determining priority industrial subsectors in the context of a given country's resource endowment and by strengthening the ability of developing countries to formulate policies which will encourage investment in industry by local and foreign entrepreneurs.

UNIDO has long recognized that by inducing industrialists from more advanced countries to set up production facilities jointly with entrepreneurs in developing countries it can mobilize resources far in excess of the technical assistance funds available from its own budget or from the budgets of financing agencies with which it co-operates. The organization will therefore continue to devote itself to the encouragement of direct foreign investment and to seeking innovative mechanisms to promote it, e.g. through the sale of technology under buy-back arrangements, debt equity swaps, etc.

This policy has been encouraged in recent years by the trend in many developing countries away from state involvement in industry and towards greater support for the private sector. In the words of the International Finance Corporation, an affiliate of the World Bank, "Now, after several decades of experience with a variety of state intervention and regulations, many governments have begun to look to the private sector to play a more prominent role in their countries' development... The causes of this shift include the recognition of the above-average growth rates that have been achieved by those developing countries that did encourage the private sector. The shift reflects an increasing concern for efficiency in a period of heightened scarcity of resources."<sup>2</sup>

The Industrial Investment Division (IID)<sup>3</sup> of UNIDO is thus the arm of the organization which aims to accelerate the flow of private and public sector resources for industrial expansion from countries at a more advanced stage of development to those that are less developed. Located within UNIDO's Department for Industrial Promotion, Consultation and Technology, the Division is concerned with:

- i. Identifying and formulating industrial investment projects suitable for implementation in developing countries;
- ii. Designing and using promotional tools to bring about business partnerships between entrepreneurs in countries at differing stages of industrial development.

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<sup>1</sup>UNIDO constitution, Article 1.

<sup>2</sup>International Finance Corporation, 1986 annual report, p.9

<sup>3</sup>IID was established in 1986; prior to this its functions were carried out by the Investment Co-operative Programme Branch within the Division of Industrial Operations.

## 2. INDUSTRIAL INVESTMENT PROJECT IDENTIFICATION AND FORMULATION

### 2.1 The Industrial Investment Project Cycle

The development of an investment project may be perceived as a cycle with five phases: identification, formulation, preparation, appraisal and implementation. An investment project may require inputs or produce outputs which result in the identification of further projects, thereby initiating a new project cycle.

"Identification" means perceiving opportunities for processing and manufacturing activities which fits the resource endowment and/or comparative advantage of a given country, e.g. canning of juice and pulp in a country with an abundance of tropical fruit. A project may be identified by a local entrepreneur but could also emerge from an opportunity study prepared by consultants or by a government department, e.g. a country's ministry of planning.

"Formulation" means defining a project idea in enough detail to decide whether spending money on further preparation studies is justified, and to reveal the issues that must be resolved before the project can be implemented.

"Preparation" refers to the completion of feasibility studies on which financing institutions may base their appraisal of a project - and their decision to participate in its financing. The objective of project preparation is to demonstrate with a high degree of confidence that the project:

- Accords with the country's development objectives and immediate priorities;
- Is technically sound and represents the best of the available options within existing constraints; and
- Is economically and financially viable, and politically and socially acceptable.

Feasibility studies should also provide sufficiently accurate estimates of costs and revenues to enable decisions to be taken on project financing. In addition the description of the project should be detailed enough to permit the implementing agencies to use the study as an aid to implementation.

"Appraisal" is a prerogative of the financing institutions and entails a critical review of the feasibility or other pre-investment study to test the validity of the assumptions on which its conclusions are based. The ultimate aim of appraisal is to determine whether the benefits that a project will yield justify investing the resources required for its implementation. It should be stressed that an appraisal of the potential benefits of a given investment project may depend, at least in part, on the viewpoint of the individual who is performing it. Thus a project which relies largely on imported machinery and raw materials might appear financially attractive to a local sponsor who is interested solely in the profits it will earn, but much less so to a government official who perceives that it will burden the country's balance of payments without producing much local value added.

"Implementation" covers all activities from the moment the decision to proceed with a project is taken until it is producing goods for the market. Thus it includes constructing or adapting factory buildings, purchasing, installing and testing machinery, hiring and training the workforce, making arrangements for marketing and distribution of products, and trial production runs to ensure that volume and quality of output are as planned. Although the main implementation phase only starts after the go-ahead has been given by the financing institutions, certain activities such as the completion of final designs and preparation of tender documents frequently commence immediately after the project has received positive appraisal.

## 2.2 Identification of Investment Projects and Local Sponsors

### 2.21 Project Identification Missions to Developing Countries

IID has developed a number of techniques for identifying investment projects - new ones, expansions and rehabilitations - and contacting local project sponsors in developing countries. One of them, which might be called the "across the board" approach, consists of sending staff members and international consultants on project identification missions to developing countries. During such missions contact is sought with potential local sponsors of investment projects through the good offices of industry associations, chambers of commerce, official investment promotion bureaux, national planning commissions, development banks and technical co-operation agencies.

In the case of China, the government perceived the need to create a core of specialists able to identify and formulate investment projects that could be implemented in the form of joint ventures and other forms of business partnership with firms in industrialized countries. It therefore requested UNIDO's help in organizing a "Workshop on Investment Project Identification and preparation and Promotion". This event, held in Fujiang, China in November 1986, lasted for two weeks and was attended by 74 officials of the central and provincial governments with responsibilities for investment promotion activities.

The Workshop covered such topics as investment project identification and selection, estimation of production costs, break-even analysis, interpretation of financial appraisal. As a result of the Workshop, some 80 industrial investment projects were formulated and subsequently promoted through UNIDO's IPS in Cologne, FR Germany.

In order for a project idea to be capable of interesting a potential foreign partner, it must be set out in a coherent manner and provide evidence that the basic assumptions concerning the level of initial investment, operating costs, estimated sales, marketing arrangements, cash flow and return on investment are realistic. In addition, it is essential that a competent and reliable local sponsor can be identified who is prepared to invest some of his own money in the project and accept full responsibility for those aspects of implementation which a national of the country is best qualified to undertake, e.g. locating suitable premises, obtaining the necessary operating licences and permits from the authorities, recruiting local staff and identifying suitable distribution channels for products to be sold on the domestic market.

The local sponsor must also have considered the type of contribution he expects from the foreign partner. Such contributions are commonly a combination of the following:

- participation in the venture's equity capital;
- loans in convertible currency;
- licencing and know-how;
- advice and assistance on the markets and distribution arrangements most suited to the project;
- training of local workers, technicians and managers which will often require that employees of the foreign spend time at the project location to set it up and run it until local staff can take over.

In addition, the local sponsor should have formed an idea of the local currency resources needed and whether, in addition to the capital to be contributed by himself and the foreign partner, he counts on obtaining loan and/or equity from a development or other financial institution, and on what terms. The question of control must also be resolved: does the local sponsor intend to be the majority partner, or will he be satisfied with less than 50% of the equity? Information on the sponsor himself, his business experience and the scale of his existing operations, if any, is of particular concern to future partners, so that full details must be supplied.

Project sponsors - even those who are already in business - do not always have the technical knowledge required for project formulation, and IID has therefore prepared a questionnaire to assist in carrying out this task and ensuring that no essential information has been omitted (see Annex 9). The questionnaire requests information on the type of products to be manufactured, on the target markets, the total initial investment required, the projected return on investment and details of any pre-investment studies already prepared. Such questionnaires are subsequently evaluated by UNIDO headquarters and details of the projects entered into IID's computerized data bank INPRIS (q.v. Section 3.2) Details are then also disseminated to the IPS's for promotion and to firms in industrialized countries which are known to be interested in the region and subsector concerned.

In other cases project opportunities are identified and formulated by the local sponsors based on their own observations and commercial activities without outside assistance.

## 2.22 The Subsectoral Approach to Investment Project Identification

In order to help developing countries expand their industries in line with their national priorities and also to improve the standard of investment projects available for promotion, IID has designed a programme approach which looks at a specific priority industrial subsector in one or more developing countries where small and medium-scale industries predominate. The Programme enables developing countries to convert sectoral development plans into specific industrial investment opportunities leading to new plants or to the rehabilitation or expansion of existing ones, and at the same time to identify the resources needed to implement such projects in terms of technical assistance and programme lending. The unique feature of the Programme is that it brings industrialists from countries where the subsector is at a relatively

advanced stage of development into personal contact with project sponsors from developing countries who are already operating a manufacturing plant in the selected subsector or are interested in setting one up, perhaps in a country where this type of industrial activity is entirely new. This means that investment projects can be designed and their prospects evaluated jointly with engineers and managers having years of practical experience in manufacturing and selling the products envisaged. Furthermore, implementation of the programme requires the full participation of nationals from developing countries, who thereby receive valuable on-the-job experience.

A special contribution from the Japanese government enabled IID to implement the first Programme in 1983. It concerned the electronics industry and involved co-operation between firms in Japan and project sponsors in China, Sri-Lanka, the Philippines and Senegal. In 1986 the second Programme, also financed by Japan, dealt with the iron and steel industry and brought about co-operation between Japanese steel companies and counterpart firms in Indonesia, Thailand, Egypt and China. Thanks to a contribution from the Italian government a second Programme for the manufacture of equipment utilizing or generating energy from new or renewable sources is currently under implementation with the participation of Italian firms.

The subsectoral programme approach includes the preparation of a report on the characteristics of the selected industrial subsector, a questionnaire for the compilation of pre-investment data covering the subsector selected, and manufacturing plant profiles to help sponsors in developing countries with project identification and formulation. The documentation is of course available for use by other developing countries in later programmes covering the same subsector.

IID's involvement often commences at the level of project identification, i.e. helping determine what type of manufacturing facilities would make sense in the context of a given developing country's resource endowment and market opportunities. For this purpose the Division has prepared a series of plant profiles entitled "How to Start Manufacturing Industries" which give a brief description of some 300 manufacturing processes.

Each Profile lists the pre-requisites for a particular process: raw materials, machinery and equipment, labour, investment and production costs, and is intended to help project sponsors in developing countries identify products suited to local manufacture on a small to medium scale. The selection of appropriate technologies and the ultimate feasibility of any manufacturing idea generated through use of the series must of course be ascertained by more exhaustive study.

The profiles are intended for development finance institutions, importers who wish to exploit import substitution opportunities by manufacturing the goods they trade in, and any other individuals who perceive an opportunity of manufacturing for the domestic market or for export and wish to learn more about the technology and processes available, the main inputs required and their approximate cost.

Examples of the "How to Start Manufacturing Industries" series and a list of those available are attached as Annex 2.



2.4 Screening and Pre-appraisal of Industrial Investment Projects

A pre-investment study making projections on the first years in the life of an industrial project will contain many hundreds of figures reflecting the various aspects of implementation and operation that are largely interdependent. Exploring the effects of changes in one set of parameters on the project's outcome, e.g. a reduction in sales or an increase in manufacturing costs on net profit (so-called sensitivity analysis), is an essential part of project preparation but, done manually, time-consuming and prone to error.

In order to simplify this procedure, IID has developed an application software package known as PROPSPIN - "Project Profile Screening and Pre-appraisal Information System". The chief merit of PROPSPIN is that, once entered into the system, any item of data can be changed at will, the effect on the project as a whole being recalculated by the programme in a few seconds. Since PROPSPIN is based on commercially available spreadsheet systems (currently Multiplan<sup>TM</sup> and Lotus 1-2-3<sup>TM</sup>) the user can adapt it where necessary to suit the specific structure of his project. Specimen PROPSPIN print-outs are shown in Annex 4.

### 3. PROMOTION OF INDUSTRIAL INVESTMENT PROJECTS

"Project promotion" comprises all the efforts undertaken by project sponsors, or by persons acting on their behalf, to secure the inputs needed to implement a specific industrial investment project, whether in the private or public sector. Such inputs include money, plant and equipment and the knowledge to operate it effectively, technical know-how in the form of licences, patents, or simply manufacturing experience, experience of selling and distribution in the target markets, whether domestic or export, managerial skills, with particular emphasis on financial planning and reporting and on handling the cash flow resulting from business operations. In developing countries there is the additional requirement of imparting skills at all levels to locally recruited staff - the training input.

The need to involve the suppliers of these inputs from the very early stages of project preparation is especially true of the financial input. Potential financiers should be able to review, modify and approve all project preparation activities as they unfold in order that their concerns regarding such topics as source and quality of raw materials, appropriateness of proposed level of technology or size of plant, realism of assumptions on market penetration, to name but a few, may be fully incorporated into the feasibility study. This is why the expression "investment promotion" is often used to describe project promotion activities.

In order to identify a suitable foreign partner, IID must also obtain information regarding the type of co-operation desired. The type of input most frequently sought is finance for the convertible currency portion of the initial investment in the form of a medium to long-term loan or equity participation. But the local sponsor may also seek assistance in choosing the most appropriate technology for the planned facility. He may need training for local staff, expatriate managers to run the project in its initial years, and assistance in gaining access to overseas markets. All this information must be included in the project profile so that prospective foreign partners can know what is expected of them.

After all necessary information has been collected, IID can endeavour to identify firms (and financing institutions) in industrially more advanced countries interested in supplying the inputs required to bring about the implementation of investment projects. The principal tools it has for this purpose are:

- Its investment Promotion Services;
- Its Investment Promotion Resources Information System, INPRIS.

#### 3.1 Investment Promotion Services

Many companies that are interested in grasping opportunities for direct investment in developing countries often fail to follow through, either because they are unaware of the opportunities that exist or because they are unable to evaluate the quality of projects that come their way and doubt the competence of the local sponsors who are promoting them. There are sometimes also misgivings about operating in a part of the world that is for them remote and has an unfamiliar language, culture, and political system.

As a result, direct investment in developing countries may be regarded as a high risk undertaking, with a possibility of the investment being lost through expropriation or adverse political events, or at least owing to foreign exchange shortages, being affected by delays in obtaining spare parts and other essential items and in repatriating earnings and capital.

In order to correct such misconceptions by alerting firms in industrialized countries to the many profitable business opportunities in developing countries - and also to assist local project sponsors in their search for a suitable partner - UNIDO has established offices in major cities of nine of its members States. These "Investment Promotion Services" (IPS), as they are generally known, exist by agreement with the relevant host country government, which also meets their staff, office accommodation and travel outlays. As previously mentioned, such activities exist in Cologne FRG, Milan Italy, Paris France, Seoul Korea, Tokyo Japan, Vienna Austria, Warsaw Poland, Washington DC USA and Zurich Switzerland. In 1986 the Services concluded the promotion of 64 industrial investment projects in developing countries with a total investment value of some US \$265 million.

The mandate of the IPS's vis-a-vis potential investors in industrial countries is to:

- inform industrial firms in their respective host countries, and particularly those in the small to medium-scale bracket, of opportunities for industrial co-operation in developing countries, and provide them with details of suitable project proposals;
- advise such firms on how to bring about such co-operation in the form of joint ventures, leasing, sub-contracting, licensing, buy-back arrangements and any other legitimate form of resource transfer;
- provide these firms with details of banks and other financing institutions willing to participate in the funding of industrial projects in developing countries;
- supply information on the investment climate in developing countries - legal and fiscal regulations, incentives available to foreign investors and the arrangements regarding profit remittances and repatriation of capital.

The activities of IPS's specifically directed towards developing countries are to:

- help project sponsors in developing countries to identify partners in IPS host countries, bring the prospective partners into contact and support them in their negotiations;
- alert sponsors to source of technical assistance funding for the preparation of pre-investment studies on industrial project proposals;
- organize visits to their host countries by representatives of government and industry in developing countries and visits by host country industrialists to specific developing countries;
- build up data banks of information on government and other institutions in IPS host countries concerned with the transfer of industrial resources to developing countries.

In order to improve their services to the numerous industrial firms interested in industrial co-operation with developing countries, the IPSs are proceeding to install their own automated data banks. The Cologne FRG IPS for example, already has a computerized roster of some 8,000 German firms, the aim of which is to simplify and accelerate the matching of potential partners in the Federal Republic with suitable projects and sponsors in developing countries. The IPSs are also starting to make arrangements for on-line access to INPRIS - "Investment Promotion Resources Information System" - so that the files at UNIDO's Headquarters can be searched for project details in response to enquiries from host country companies. This adds a fresh dimension to the help the IPS's can give local sponsors and potential partners.

The Paris office has pioneered a network of regional counterpart organizations which help to give its work greater impact in other regions of the country. These organizations arrange missions by local industrialists to selected developing countries and play host to representatives of industry and government from developing countries. They also organize workshops on topics relevant to industrial co-operation with the Third World.

The IPS's also aim to establish links with the business press, which can help publicize industrial co-operation between industrialized and developing countries in general and the Services' investment promotion activities in particular. In recent years the UNIDO IPS's have devoted much effort to promoting projects in the OIC member countries and have achieved noteworthy results which can be summarized as follows:

Cologne, FRG	(1980-84)	14
Paris, France	(1982-85)	14
Vienna, Austria	(1982-83)	3
Brussels, Belgium	(1980-83)	20
Zurich, Switzerland	(1979-85)	14
Tokoyo, Japan	(1982-85)	8
New York, USA	(1980-83)	16
	(1985-87)	<u>61</u>
		<u>150</u>

### 3.11 Country Presentation Meetings (CPM)

Country Presentations Meetings are arranged to enable representatives of industry and government from developing countries to visit the IPS's and discuss investment opportunities with potential partners, while at the same time providing first-hand information on the investment climate and explaining the advantages their countries can offer foreign investors.

On the industrialized countries' side, the IPS's invite attendance by senior staff of banks, manufacturers' associations and federations of industry as well as individual entrepreneurs. The presentations are supported by a portfolio of industrial investment project proposals which include many sectors of industry. CPMs, by giving the participants an opportunity of generating new project ideas, often pave the way for investment promotion activities in the countries which are being presented and help them elicit a stronger response from potential foreign partners.

To ensure maximum impact of CPMs the Services use their links to individual industrialists and industry associations as well as public and private information media. A large number of presentation meetings have been held for the OIC member countries: Sudan, Tunisia (1985); Bangladesh, Indonesia, Senegal (1986); Bangladesh, Maldives, Uganda, Indonesia (1987); Malaysia, Jordan, Indonesia, Tunisia, Egypt (1988).

12 Orientation Programme for Delegates from Developing Countries

In addition to their role as intermediary, the IPS's assist developing countries to improve their own project promotion capability through the "learning by doing" on-the-job orientation programme for investment promotion officials from developing countries. The objectives of the programme are to:

- familiarize the participants with all aspects of project identification, formulation, evaluation and promotion; and
- acquaint them with the institutions and mechanisms available for the encouragement of overseas investment in their host country.

Initiated in 1978, these programmes have to date provided 253 participants from 64 developing countries with an opportunity of acquiring project preparation and promotion skills at first hand. Details of delegates coming from the OIC member states are shown in Annex 7. The participants usually bring with them priority industrial investment projects from their home country authorities and use the resources of the IPS to promote them.

Many participants take up responsible posts in government or in development institutions on returning home and are often able to exercise a beneficial influence on the country's foreign investment climate. IID endeavours to maintain the links established by using orientation programme alumni as focal points for subsequent investment project identification and promoted activities. They may also help in keeping IID informed on the progress of negotiations between local sponsor and foreign partner on a project that has already been successfully promoted.

3.2 Investment Promotion Information System (INPRIS)

INPRIS is a computerized data bank maintained by IID at UNIDO's Vienna Headquarters. While the service is available to project sponsors and potential investors anywhere, it is particularly useful to firms in industrialized countries where there is as yet no IPS who wish to learn of opportunities for joint ventures and other forms of business co-operation in a specific developing country, region or industrial subsector. INPRIS offers the user four separate files (see Annex 5 for specimens):

i. Investor File

The investor file containing details of over 3,000 public and private firms that have expressed a desire to participate in industrial projects in developing countries. The information stored includes the firms' names and addresses, the person to be contacted, and the products and countries or regions preferred.

Firms entered in the investor file regularly receive details of investment projects identified by IID. Their names also appear in searches of the database when enquiries are received from developing countries concerning potential partners for a particular venture. The system allows multi-criterion questions to be answered, e.g. which potential partners in Italy would be interested in a textile project in Indonesia.

ii. Project File

The INPRIS project file contains some 2,700 entries describing industrial investment opportunities in developing countries that require foreign co-operation, which may be in the form of joint venture partnerships, transfer of technology, management expertise and marketing know-how (or any combination thereof). Each entry contains basic information on the project extracted from the relevant questionnaire: whether it concerns a new plant or the expansion or rehabilitation of an existing one, the products to be manufactured, the plant's rated capacity and planned annual output, energy, raw material and labour requirements, the proposed marketing arrangements, the total initial cost of the project and with what combination of equity and loans and from what sources it is to be financed. The existence or otherwise of a pre-investment study and a local sponsor is also indicated.

Once a project is entered in the project file it can be promoted in three ways:

a. Publishing lists of projects under promotion

INPRIS entries referring to projects under promotion are published in booklet form two to three times per year and distributed to potential partners, development banks and institutions, and to bilateral and multilateral aid agencies. IID responds to the resulting enquiries by sending a copy of the project questionnaire and any supporting information available, including the name and address of the local sponsor, who can then be contacted direct.

b. Matching requested from prospective partners

Entrepreneurs in developed countries seeking project opportunities in specific subsector, countries or regions, or seeking a particular form of co-operation, receive a print-out of the corresponding entries in the Projects file. Here again INPRIS's multi-criterion search capability makes it possible to combine any desired parameters, e.g. projects in the furniture industry of Ghana for which access to foreign markets is sought. As in the case of the project booklets, project questionnaires and details of local sponsors are available for each project.

c. Affording remote access to the INPRIS data files

IID supplies project information in machine readable form to institutions and companies that provide this type of data as a service. Subscribers to such services are thus able to learn from sources outside UNIDO of projects under promotion. However, more detailed information on such projects can only be obtained from UNIDO itself.

iii. Bank File

UNIDO as a technical assistance agency cannot itself provide funds for industrial investment projects except as regards their technical assistance components - pre-investment studies to determine their feasibility, evaluation of appropriate technologies, training and related matters. UNIDO is however able to bring project proposals to the attention of development finance institutions (DFIs) and can also provide information on such institutions to project sponsors & potential partners for

which purpose a bank file has been set up within INPRIS containing some 600 entries covering international, regional and national DFIs, including ones operating along Islamic lines, i.e. not granting interest-bearing loans. This file can generate print-outs of DFIs that are willing to finance projects in a particular country or region, together with details of the type of finance that can be supplied, the conditions under which loans can be made, the maximum participation in a given project, whether the institution will finance pre-investment studies and other relevant details. Here again it is possible to perform multi-criterion searches, e.g. a list of all development finance institutions that will take equity in private sector projects in Thailand.

iv. Institution File

Information on industrial investment project proposals reach IID from a variety of sources, including ministries of industry, investment promotion agencies, national and regional development corporations and manufactures' associations. In order to ensure that the project generation resources of all such bodies can be fully utilized, about 1,200 of them were gathered in a single data bank which can be used by IID staff members and consultants carrying out project identification missions to a given developing country or region. Institutions entered in the data bank also receive details of current investment promotion activities such as Industrial Project Promotion Forums (IPPF).

Who can use INPRIS?

The INPRIS data banks are available to manufacturers, development institutions, industry associations and private and public sector enterprises in both industrialized and developing countries and requests for information are welcomed.

Applications are also welcomed for data to be entered in the appropriate data bank. In the case of industrial investment projects, the local sponsor should complete a copy of the appropriate Industrial Investment Project Questionnaire, specimen attached as Annex 9. Firms wishing to be included in the investor file should complete the form attached as Annex 10 and return it to IID. Entrepreneurs in developing countries interested in learning about possibilities of redeploying plant and equipment from industrialized to developing countries should also write to the Division.

#### 4. FOLLOWING UP THE PROMOTION OF INDUSTRIAL INVESTMENT PROJECTS

##### 4.1 Investment Project Promotion Forums

IID attaches great importance to personal contacts between project sponsors in developing countries and potential partners in industrialized countries. One of the ways of achieving this goal is the holding of "investment Project Promotion Forums" (IPPF), sometimes also referred to as "Investor' : Forums", in developing countries or region. The forums provide an opportunity for project sponsors from developing countries and potential partners from industrially more advanced countries to sit together and discuss specific investment projects. these face-to-face discussions often result in agreement being reached on modifications to the projects and may also lead to the identification of further investment opportunities.

The planning phase of such meetings may last 9 to 12 months from the date of receipt of the government request. This period is required to enable UNIDO/IID identify, formulate and promote tyhe investment projects which will be discussed at the forum. Consultants are appointed and sent to the field to identify and formulate a portfolio of projects that will arouse the interest of foreign investors; in some cases projects will be put forward by a serious local sponsor; in other cases it may be necessary to find a local businessman to undertake this role.

The IPS's play an important role in ensuring that details of these projects are disseminated to potential investors in their host countries, while IID at UNIDO Headquarters undertakes the task of publicizing the meeting in industrialized countries which have as yet no IPS.

The preparations for the meeting include scheduling hundreds of individual appointments for discussions between project sponsors and potential foreign partners, providing suitable premises and equipment - text processors, photocopiers, etc. IID staff travel to the location of the meeting to provide secretariat services while it is on. depending on the country or coutries participating the number of projects scheduled for disussion can vary between 50 and 150.

These IPPFs, which usually last for 5 working days, focus almost entirely on the practical aspects of project promotion. After a brief opening session at which the participants are welcomed by the sponsors and by members of the host government, the remaining days are devoted to individual meetings between project sponsors and potential partners interested in a given porject, the latter having previously had an opportunity of acquainting themselves with the projects and of obtaining more detail about those that interest them. The first step towards implementation of a project is the signing of a "declaration of intent" which bears witness to the parties' ultimate intencion of jointly implementing the project. At this point IID ceases its involvement, unless specifically requested by the parties who may desire assistance iun identifying sources of finance or in drafting an appropriate joint venture agreement, or in completing preparation of the project.

Even after a project has been successfully promoted it continues to be held on IID's files until the parties reach full agreement on the details of its implementation. When these matters have been settled, for IID the project's promotion is provisionally concluded and no further activities are undertaken - unless some unforeseen obstacles arise, the foreign partner withdraws and the local sponsor requests help in finding a substitute.



IID has by tradition devoted considerable effort and resources to organizing IPPFs in the Arab countries. To date forums have been held in Morocco (1980); for the Arab countries in the gulf region (1981); in Egypt (1985) and (1987); in Senegal for West African countries (1986); and Indonesia (1987).

#### 4.2 Completing the Preparation of Industrial Investment Projects

The commissioning of pre-investment studies from consultants is a costly affair and an outlay few project sponsors are willing to undertake since, if the conclusions are unfavourable, the expenditure will have to be written off. However, IID has access to technical assistance funds for pre-investment studies, which are provided on the understanding that the cost need be reimbursed only if the project concerned is implemented.

However, IID can only respond to a request for assistance in completing the preparation of investment projects, which may include market studies, raw materials sourcing investigations, selection of technology and equipment, financial and economic analysis, etc. with a view to facilitating conclusion of their promotion if the following conditions are met:

- i. The request should be submitted by a serious local sponsor, who should preferably be willing to make some financial contribution towards the cost of completing the preparation of his project.
- ii. The potential sources of financing for the ultimate implementation of the project should be clearly indicated.
- iii. The prior identification of a potential foreign joint venture or technical partner would considerably strengthen the case for requesting UNIDO financing for the additional work to be undertaken.
- iv. The terms of reference defining the additional preparatory work to be undertaken should be as clear and as detailed as possible. It is preferable that such terms of reference be cleared and agreed to by the interested sources of financing and foreign partners.

#### 4.3 IID's Links with International Financing Agencies

In most cases the local sponsor and prospective foreign partner will not raise the entire initial cash requirement for an investment from their own resources, but will seek a financial partner to provide loans or equity. IID has traditionally maintained close links with international and regional development finance agencies which seek to invest in financially and economically attractive industrial ventures in developing countries.

IID's role is to select industrial projects which meet the investment criteria of a given financing agency and assess, by a process of pre-screening and pre-appraisal, the chances of such projects being implemented as viable production units that will provide an adequate return to the investors.

In fulfilment of this role, IID has recently embarked on a joint business programme with the International Finance Corporation (IFC), a World Bank affiliate, under which projects deemed suitable for IFC participation will be submitted for appraisal by this financing agency.

If the IFC is interested in a given project but requires preparation, IID may be able to draw on the resources to which it has access for this purpose (see section 4.2). Similar business programmes are under discussion with the bilateral financing institutions of a number of industrialized countries.

#### 4.4 IID's Foreign Investment Advisory Services

##### 4.41 Special Aspects of Investment Promotion

In addition to its project identification and promotion activities, IID prepares papers on topics relevant to this work with the aim of disseminating new developments in the field. Many of these papers are of interest to project sponsors and potential partners since they concern the problems faced by industry in developing countries in attracting the foreign inputs it needs.

Recent topics concern the impact of tax and other incentives on the level of foreign investment in selected countries of south-east Asia; the prospects for an international repair and maintenance agency to correct the under-utilization of plant in developing countries; countertrading and buy-back as innovative sources of funding for industrial development; examples of how Islamic bank use risk capital as an alternative to loan finance.

Such papers are prepared by both IID staff members and outside consultants chosen for their expertise in a given field. The resulting work is used by the Division to guide and focus its work so as to maximize the benefits to its clients in both industrialized and developing countries.

##### 4.42 Seminars and Workshops on Topics related to Investment Promotion

IID attaches considerable importance to arranging or contributing to meetings at which it can share its expertise in the field of identifying, preparing and promoting industrial investment projects with interested institutions and individuals, and can exchange with them views and experience in this field.

From time to time, therefore, workshops and seminars are arranged in co-sponsorship with organizations whose aims and objects, like those of IID, concern the overall topic of financing industrial development in developing countries. Events of this type are:

- the Expert Group Meeting on Industrial Joint Ventures and compensation Agreements, held in Vienna in March 1982;
- the Workshop on Financial Markets and Project Financing, held in Aden, Democratic Yemen, in December of 1984 sponsored by the Arab Industrial Development Organization;
- the Workshop on Investment Project Identification and Preparation, held in Fujiang, China in November 1986;
- the Workshop co-sponsored with the Islamic Development Bank on the Industrial Financing Activities of Islamic Banks held in Vienna in June 1986.

4.43 Improving the Investment Climate in Developing Countries

Developing countries often need help in selecting the correct "mix" of measures to attract foreign direct investment in productive facilities while ensuring that the benefits of such investment are equitably shared between the investor and the host country. Within the scope of UNIDO's technical assistance resources, IID can give such help. Examples are the modification of laws regulating foreign investment, the preparation of foreign investment guides and help in setting up official foreign investment promotion offices to ensure that their place within the framework of government will enable them to contribute to an attractive foreign investment climate.

IID has particularly broad experience in designing investment guides to developing countries and regions, such as the Investors Guide to the Fujian province of China, prepared for the 1985 IPPF held there.

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1/ Interim numbers until further notice

COMPLETE LIST OF MANUFACTURING PROFILESAS AT 31 OCTOBER 1987In Volume I:

A1	3117	Baking Plant
A2	3117	Biscuit Making Plant
A3	3115	Vegetable Oil Milling Plant
A4	3116	Rice Milling Plant
A5	3117	Instant Noodle Making Plant
A6	3114	Fish Meal Making Plant
A7	3121	Ice Making and Refrigeration Plant
A8	3121	Cassava Starch Making Plant
A9	3121	Starch Syrup Making Plant
A10	3116	Flour Milling Plant
A11	3112	Fresh Milk Making Plant
A12	3113	Concentrated Fruit Juice Making Plant
A13	3115	Margarine Making Plant
A14	3121	Soy Sauce Brewing Plant
A15	3113	Tomato Ketchup Making Plant
A16	3122	Assorted Animal Feed Making Plant
A17	3119	Candy Making Plant

In Volume II:

+	A18	3118	Mini White Sugar Mill
+	A19	3118	Cube Sugar
+	A20	3113	Gari Production
+	A21	3116	Decoration of Groundnuts and Millet/Sorghum
+	A22	3117	Pasta Production
+	A23	3113	Fruit Processing and Soft Drinks
+	A24	3116	Flour Milling Plant
+	A25	3116	Dry Milling of Maize

In Volume III:

A26	3113	Cashew Juice and Kernel Processing Plant
A27	3115	Castor Oil and Pomace Plant
A28	3118	Cane Sugar Processing Plant
A29	3113	Aseptic Banana Puree Processing Plant
A30	3113	Tropical Fruit Nectar Processing Plant
A31	3116	Meals from Pregelatinized flour
A32	3115	Milk Processing Plant
A33	3121	Cassava Flour and Starch Processing Plant
A34	3116	Soy Flour Processing Plant
A35	3111	Poultry Processing Plant
A36	3111	Cattle Slaughter House

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- \* International Standard Industrial Classification number
  - + Addition to Volume II

Part B : Textiles ISIC 321\*

In Volume I:

B1	3212	Woven Bag Making Plant
B2	3215	Plastic Filament Twine and Rope Making Plant
B3	3215	Polypropylene Soft Rope and String Making Plant
B4	3213	Socks Making Plant
B5	3212	Terry Towel Plant

In Volume II:

* B6	3212	PP Woven Bag Making Plant
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In Volume III:

B7	3211	Polyester Fabrics Making Plant
B8	3211	Cotton Yarn and Fabric Plant
B9	3211	Nylon Tyre Cord Fabric Plant
B10	3213	Socks Knitting
B11	3215	Twine and Rope Making Plant
B12	3219	Manufacture of Shoulder Pads for Garment

Part C : Textile, Wearing Apparel and Leather Industries ISIC 321, 322, 323, 324\*

In Volume I:

C1	3220	Working Clothes Sewing Plant
C2	3220	Men's Dress Shirt Sewing Plant
C3	3220	Underwear Making Plant
C4	3220	Outerwear Knitting Plant

In Volume II:

C5	3231	Leather Production
C6	3231	Wet-blue Leather
C7	3231	Crust Leather
C8	3231	Finished Leather
C9	3240	Footwear Production
C10	3233	Leather Goods Production
* C11	3240	Shoe Making Plant

In Volume III:

C12	3220	Men's Shirts Making Plant
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Part D : Wood and Wood Products ISIC 331\*

In Volume I:

D1	3311	Plywood Making Plant
D2	3311	Sawmill
D3	3319	Woodscrew Making Plant

In Volume II:

* D4	3310	Production of Parquet Flooring
* D5	3310	Joinery Plant
* D6	3310	Plywood Making Plant
* D7	3310	Chalkboard Making Plant

\* International Standard Industrial Classification number  
\* Additions to Volume II

Part E : Paper and Paper Products ISIC 341\*

In Volume I:

E1	3411	Toilet Paper Making Plant
E2	3412	Corrugated Board Box Making Plant
E3	3411	Straw Pulp and Yellow Board Making Plant
E4	3412	Kraft Bag Making Plant

Part F : Printing and Publishing ISIC 342\*

In Volume I:

F1	3420	Printing Plant
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Part G : Industrial Chemicals ISIC 351\* and other Chemical Products ISIC 352\*

In Volume I:

G1	3513	Urea Resin Adhesive Making Plant
G2	3511	Packaged Type Oxygen Plant
G3	3512	Mosquito Coils Making Plant
G4	3512	Aerosol Insecticide Making Plant

In Volume II:

G5	3511	Fatty Acids
G6	3511	Fractionation of Fatty Acids
G7	3511	Furfuryl Alcohol
G8	3513	Furfurylic Resins from Organic Wastes
G9	3511	Sulphation of Higher Alcohols
G10	3511	Synthesis of Higher Alcohols
G11	3511	Sulphuric Acid
G12	3511	Phenol
G13	3523	Glycerine from Natural Products
G14	3523	Soap
G15	3511	Sulphonation of Alkylbenzene
G16	3511	Alkylation of Benzene

(NOTE: for Files G17 to G76, see also the Background Notes - Basis of Calculations  
- in Volume II, pages xi-xv)

G17	3513	ABS Resins
G18	3511	Acetic Acid via Acetaldehyde Oxidation
G19	3511	Acetic Acid from Methanol and CO
G20	3511	Acetaldehyde
G21	3511	Acetic Anhydride
G22	3511	Acetone from Propylene
G23	3511	Acrylic Esters
G24	3511	Acrylonitrile
G25	3511	Adipic Acid
G26	3511	Ammonia
G27	3511	Aniline
G28	3511	Aromatics Extraction - BTX from Reformate
G29	3511	Caprolactam
G30	3511	Caustic-Chlorine (Diaphragm Cell)
G31	3511	Cumene
G32	3511	Cyclohexane
G33	3511	Dimethyl Terephthalate (DMT)
G34	3511	Ethanol

\* International Standard Industrial Classification number  
• Additions to Volume II



G35	3511	Ethylbenzene
G36	3511	Ethylene from Ethane
G37	3511	Ethylene from LPG/Propane
G38	3511	Ethylene from Naphta
G39	3511	Ethylene from Gas Oil
G40	3511	Ethylene Dichloride - Balanced Oxychlorination
G41	3511	Ethylene Oxide
G42	3511	Ethylene Glycol
G43	3511	Formaldehyde
G44	3511	Hydrogen from Natural Gas
G45	3511	Isopropanol
G46	3511	Methanol from Natural Gas
G47	3511	Methyl Methacrylate via Acetone Cyanohydrin
G48	3511	Nitric Acid - Weak
G49	3511	Nitric Acid - Concentrated
G50	3513	Nylon-6
G51	3511	Paraffins Recovery
G52	3511	Phenol
G53	3511	Phthalic Anhydride (Xylene Oxidation)
G54	3513	Polybutadiene Rubber (BR)
G55	3513	Polyethylene Low Density (LDPE) - Tubular Reactor
G56	3513	Polyethylene Low Density (LDPE) - Autoclave Reactor
G57	3513	Polyethylene High Density (HDPE) - Slurry Process
G58	3513	Polyethylene High Density (HDPE) - Gas Phase Process
G59	3513	Polypropylene - Liquid Phase Process
G60	3513	Polyprcpylene - Vapour Phase Polymerisation (BASF)
G61	3513	Polystyrene
G62	3513	PVC - Suspension Polymerisation
G63	3511	Propylene Oxide - Chlorohydrin Process
G64	3511	Propylene Oxide (Co-product Styrene)
G65	3511	Propylene Oxid - Co-product TBA
G66	3511	Propylene Glycol by Oxide Hydration
G67	3513	Styrene
G68	3513	SBR - Cold Emulsion Process
G69	3511	Sulphuric Acid (Single Absorption Process)
G70	3511	Synthesis Gas from Partial Oxidation of Fuel Oil
G71	3511	Terephthalic Acid (TPA) - Fibre Grade
G72	3513	Unsaturated Polyesters
G73	3511	Urea
G74	3511	Vinyl Acetate - Ethylene Vapour Phase Oxidation
G75	3511	Vinyl Chloride
G76	3511	p-Xylene - Recovery by Adsorption
* G77	3511	Oxalic Acid
* G78	3513	Polystyrene Resin Making Plant
* G79	3511	Nitrobenzene Making Plant
* G80	3511	Pentaerythritol Making Plant
* G81	3512	EPN Making Plant
* G82	3511	Titanium Dioxide Making Plant
* G83	3511	Formaldehyde Making Plant
* G84	3513	Unsaturated Polyester Resin Plant
* G85	3511	Calcium Carbonate Making Plant
* G86	3513	CMC Making Plant
* G87	3510	Starch Hydrolysis Products Plant

\* International Standard Industrial Classification number  
 - Additions to Volume II

•	G88	3511	Lauryl Sulphate Making Plant
•	G89	3511	Caustic Soda Making Plant
•	G90	3511	Sulfuric Acid Making Plant
•	G91	3511	Trichloroethane Making Plant
•	G92	3512	TAM Synthesis Technology
•	G93	3512	DEP Synthesis Technology
•	G94	3512	DDVP Synthesis Technology
•	G95	3511	Azodicarbonamide Making Plant

In Volume III:

G96	3513	PVC Paste Resin Making Plant
G97	3511	Sodium Chlorite Making Plant
G98	3512	Phosphate Fertilizer Plant
G99	3511	Mixed Xylene Separation Plant
G100	3511	Calcium Carbide Making Plant
G101	3513	Epoxy Resin Making Plant
G102	3511	Hexane/Cyclohexane Solvent Plant
G103	3512	Complex Fertilizer Making Plant
G104	3512	KAP Insecticides Making Plant
G105	3512	Liquid Pesticides Manufacturing Plant
G106	3512	Production of Powdered Pesticides
G107	3512	BPMC and MIPC Insecticides Making Plant
G108	3511	Linear Alkylbenzene Plant
G109	3512	MTX Insecticides Making Plant
G110	3511	Tricalcium Phosphate Plant

Part H : Other Chemical Products ISIC 352\*/Petroleum Refineries ISIC 353\*/  
 Manufacture of Miscellaneous Products of Petroleum and Coal ISIC 354\*

In Volume I:

H1	3529	Match Making Plant
H2	3523	Toilet Soap Making Plant
H3	3523	Detergent Making Plant

In Volume II:

•	H4	3522	Plasma Fractions Making Plant
•	H5	3529	Dynamite Making Plant
•	H6	3529	Carbon Black Making Plant
•	H7	3521	Paint Making Plant
•	H8	3529	Sensitizing Paper Making Plant
•	H9	3529	Adhesive Making Plant
•	H10	3529	Self-adhesive Tape Making Plant
•	H11	3522	Ursodesoxycholic Acid Synthesis
•	H12	3522	Riboflavin Tetrabutyrate Synthesis
•	H13	3522	Rifampicin Synthesis Technology
•	H14	3522	Saccharin Making Plant
•	H15	3522	Amoxicillin Synthesis Technology
•	H16	3522	Cephalothin Synthesis technology
•	H17	3522	Pyrantel Pamoate Synthesis Technology
•	H18	3529	Match Making Plant
•	H19	3530	Used Oil Regeneration
•	H20	3530	Transformer Oil Making Plant

\*International Standard Industrial Classification number

• Additions to Volume II

In Volume III:

H21	3530	Petroleum Solvent Making Plant
H22	3521	Paint and Varnish Manufacturing Plant
H23	3529	Production of Light-Sensitive Paper
H24	3529	Footwear Glue Manufacture
H25	3521	PVAC (Polyvinyl-Acetate) Wall Coating
H26	3540	Coal Tar Distillation Plant

Part J : Rubber Products ISIC 355\*

In Volume I:

J1	3559	V-Belt Making Plant
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In Volume III:

J2	3551	Tire Making Plant
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Part K : Plastic Products ISIC 356\*

In Volume I:

K1	3560	Polyethylene Bag Making Plant
K2	3560	Agricultural Use PVC Film Making Plant
K3	3560	Unplasticized PVC Pipe Making Plant
K4	3560	Plastic Container Making Plant
K5	3560	Polyester Button Making Plant
K6	3560	PVC-Asbestos Tile Making Plant
K7	3560	PVC Wall Covering Making Plant
K8	3560	PVC Flexible Tube Making Plant
K9	3560	Fastener Equipped Polyethylene Bag Making Plant
K10	3560	Plastic Container Making by Blow Moulding
K11	3560	Rigid Polyvinyl Chloride Corrugated Sheet Making Plant
K12	3560	PVC Plastisol Moulding Plant

In Volume II:

+	K13	3560	Rigid PVC Pipe Making Plant
+	K14	3560	PVC Flooring Making Plant
+	K15	3560	NRP Ballistic Helmet Making Plant

In Volume III:

K16	3560	BOPP (Polypropylene) Film Making Plant
K17	3560	Rotary Thermoforming of Plastomers
K18	3560	Plastic Bottle Production

Part L : Pottery, China and Earthenware ISIC 361\*/Manufacture of Glass and Glass Products ISIC 362\*

In Volume I:

L1	3610	Wall Tile Making Plant
L2	3610	Ceramic Tableware Making Plant
L3	3610	Sanitary Ware Making Plant
L4	3610	Porcelain Insulator Making Plant

\* International Standard Industrial Classification number  
+ Additions to Volume II

In Volume II:

+	L5	3610	Ceramic Rod for Carbon Film Resistor
+	L6	3620	Insulation Glass Fiber Making Plant

In Volume III:

	L7	3620	Tube and Bulb Glass Making Plant
	L8	3620	Glassware Making Plant
	L9	3620	Sheet Glass Making Plant

Part M : Other Mineral Products ISIC 369\*

In Volume I:

	M1	3699	Grinding Wheel Making Plant
	M2	3699	Concrete Block Making Plant
	M3	3691	Refractories Making Plant
	M4	3699	Concrete Pole and Pile Making Plant
	M5	3699	Gypsum Board Making Plant
	M6	3699	Rune Pipe Making Plant
	M7	3699	Aggregate Plant

In Volume II:

+	M8	3691	Mosaic Tile Making Plant
+	M9	3692	Cement-Based Tile Plant
+	M10	3691	Firebrick Manufacturing Plant
+	M11	3699	Brake Lining Making Plant
+	M12	3699	Coated Abrasives Making Plant
+	M13	3691	Clay Brick Making Plant

In Volume III:

	M14	3691	Brick Factory
	M15	3699	Concrete Block Factory

Part N : Iron and Steel Basic Industries ISIC 371\*/Non-Ferrous Metal Basic Industries ISIC 372\*

In Volume I:

	N1	3710	Foundry
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In Volume II:

+	N2	3710	Spiral Weld Pipe Making Plant
+	N3	3710	Tin Plate Making Plant
+	N4	3720	Zinc Making Plant
+	N5	3720	Atomized Metal Powder Plant

Part O : Fabricated Metal Products ISIC 381\*

In Volume I:

	O1	3819	Wire and Wire Product Making Plant
	O2	3819	Electroplating Plant

\* International Standard Industrial Classification number

+ Additions to Volume II

03	3819	Canning Plant
04	3819	Aluminium Cooking Ware Making Plant
05	3819	Cabion Making Plant
06	3819	Pipe Fitting Making Plant
07	3819	Can Making Plant
08	3819	Crown-Cap Making Plant
09	3819	Coin Making Plant
010	3819	Wire Nail Making Plant

In Volume II:

+	011	3819	Steel Fabrication and Ironwork Factory
+	012	3819	Electroplating Workshop
+	013	3819	Metal Punching Plant
+	014	3819	Leaf Spring Making Plant
+	015	3811	Automatic Key Set Making Plant
+	016	3819	Crow Cap Making Plant
+	017	3819	Can Making Plant
+	018	3819	Vacuum Metallized Film Making Plant
+	019	3819	Copper Covered Steel Wire Plant
+	020	3819	Electroplating Plant
+	021	3819	Pipe Fittings Making Plant
+	022	3819	Dumet Wire Making Plant
+	023	3819	Wire Rope Making Plant

In Volume III:

024	3819	Building Materials Made of Steel
025	3811	Production of Hand Tools
026	3813	Manufacture of Studded Tubes
027	3811	Manufacture of Locks

Part P : Non-electrical Machinery ISIC 382\*

In Volume I:

P1	3829	Pump Assembling Plant
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In Volume II:

+	P2	3824	Machinery Maintenance and Repair Shop
+	P3	3824	Small-Scale Repair Workshop
+	P4	3829	Air Conditioner Making Plant
+	P5	3829	Elevator/Escalator Making Plant
+	P6	3829	Pump Assembling Plant
+	P7	3821	Diesel Engine Assembly Plant
+	P8	3829	Ball Joint Making Plant
+	P9	3829	Carrier and Return Roller Making Plant
+	P10	3823	Rolling Mill Plant
+	P11	3822	Power Duster and Mist Blower Plant

In Volume III:

P12	3829	Washing Machine Making Plant
P13	3829	Refrigerator Assembling Plant
P14	3824	Sieve for Building Materials

\* International Standard Industrial Classification number  
• Additions to Volume II

P15	3829	Assembly of Wheel Tractors
P16	3823	Manufacture of Welding Machines
P17	3823	Spare Parts Making Plant for Machine Tools
P18	3822	Power Tiller Making Plant
P19	3829	Water Pump Making Plant
P20	3823	Engine Lathe Making Plant
P21	3823	CNC Milling Machine Making Plant
P22	3823	Drilling Machine Making Plant
P23	3823	Hydraulic Press Making Plant
P24	3823	Shearing Machine Making Plant
P25	3823	Press Brake Making Plant
P26	3823	Hack Sawing Machine Making Plant
P27	3823	Gas Welding Machine Making Plant
P28	3824	Concrete Mixer Making Plant
P29	3824	Crusher Making Plant
P30	3824	Concrete Batcher Making Plant
P31	3824	Rocker Shovel Loader Making Plant

**Part Q :** Electrical Machinery, Apparatus, Appliances ISIC 383\*/ Supplies,  
Manufacture of Transport Equipment ISIC 384\*

In Volume I:

Q1	3839	Arc Welding Electrode Making Plant
Q2	3839	Dry Cell Making Plant
Q3	3839	Wire and Cable Making Plant

In Volume II:

Q4	3831	Automotive Starter and Generator Rebuild Plant
Q5	3843	Engine Block, Engine Head, Water Pump Rebuilding
Q6	3843	Truck Brake Relining Plant
Q7	3843	Carburator and Fuel Pump Rebuild Plant
+ Q8	3839	Electrical Switches, Sockets and Plugs
+ Q9	3831	Electrical Motor Assembling Plant
+ Q10	3832	Telephone Assembling Plant
+ Q11	3839	Electric Lamp Making Plant
+ Q12	3831	Transformer Assembling Plant
+ Q13	3833	Mixer Making Plant
+ Q14	3833	Electric Fan Assembling Plant
+ Q15	3832	Stereo Phonograph Making Plant
+ Q16	3832	TV Tuner Making Plant
+ Q17	3832	Deflection Yoke Making Plant
+ Q18	3839	Carbon Rod Making Plant
+ Q19	3839	Electronic Ballast for Fluorescent Lamp
+ Q20	3831	V.S. Motor Assembling Plant
+ Q21	3839	Head Lamp Making Plant
+ Q22	3839	Arc Welding Electrode Making Plant
+ Q23	3843	Front and Rear Axle Making Plant
+ Q24	3843	Shock Absorber Making Plant
+ Q25	3843	Brake Cylinder Making Plant
+ Q26	3843	Wheel Disc Making Plant
+ Q27	3843	Radiator Making Plant
+ Q28	3843	Clutch Cover Assembly Making Plant
+ Q29	3843	Transmission and Transfer Making Plant
+ Q30	3844	Two-Wheeler Assembling Plant

\* International Standard Industrial Classification number  
+ Additions to Volume II

In Volume III:

Q31	3832	TV Assembling Plant
Q32	3833	Rice Cooker Assembling Plant
Q33	3839	Dry Cell Making Plant
Q34	3831	AC Generator Assembling Plant
Q35	3832	Condenser Manufacturing Plant
Q36	3839	Communication Cable Making Plant
Q37	3843	Car Heater Making Plant
Q38	3833	Electric Cables and Wires
Q39	3833	Manufacture of Pressing Irons
Q40	3833	Water Heater Manufacturing Plant
Q41	3831	Manufacture of Distribution Transformers
Q42	3831	Manufacture of Switches
Q43	3839	Manufacture of 2 NVO Fuses
Q44	3839	Manufacture of Electrical Fittings
Q45	3839	Manufacture of Plugs
Q46	3843	Car Cooler Making Plant

Part R : Professional, Scientific, Measuring and Controlling Equipment, and Optical Goods ISIC 385\*

In Volume I:

R1	3851	Absorbent Cotton Making Plant
R2	3851	Sanitary Napkin Making Plant
R3	3851	Water Meter Making Plant

In Volume II:

+ R4	3851	Thermometer/Pressure Gauge Plant
+ R5	3851	Watt Hour Meter Assembling Plant

Part S : Other Manufacturing Industries ISIC 390\*

In Volume I:

S1	3909	Cellophane Tape Making Plant
S2	3909	Pencil Making Plant
S3	3909	Sign Pen Making Plant
S4	3909	Chalk Making Plant
S5	3909	Carbon Paper Making Plant
S6	3909	Toothbrush Making Plant

In Volume II:

+ S7	3909	Polyester Zipper Making Plant
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In Volume III:

S8	3909	Manufacture of Plastic Zippers
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Part T : Repair Services ISIC 951\*

In Volume I:

T1	9513	Automobile Repair Plant
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\* International Standard Industrial Classification number  
+ Additions to Volume II

Part U : Forestry and Logging ISIC 121\* and 122\*

In Volume II:

• U1 1210 Small-scale Charcoal Production

Part V : Water Works and Supply ISIC 420\*

In Volume II:

• V1 4200 Solar Desalination Unit

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\* International Standard Industrial Classification number  
• Additions to Volume II



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## How To Start Manufacturing Industries

# Dry Cell Making Plant

Today Japan is the world's second largest producer of dry cells following the U.S.A. and the Japanese-made products are rated first class both in quality and performance.

Today, by far the larger proportion of dry cells in use are manganese dry cells. Where Japan is concerned, for example, some 160 million units are being manufactured monthly for domestic use and for export.

The dry cell is an implement that converts into electric energy, for effective use externally, the free energy decrement caused by a chemical reaction of its constituent elements.

As for the principle of the chemical reaction involved, anodic active material and cathodic active material are mutually isolated and immersed in an electrolytic solution that reacts to generate electricity.

Dry cells meeting international standards for export primarily consist of main three kinds - R20, R14 and R6 which are equivalent to UM-1, UM-2 and UM-3 in Japanese Industrial Standards respectively - designed specifically for the following applications:

### R20 (UM-1)

For lamps, radios, tape recorders, toys etc.

### R14 (UM-2)

For lamps, radios, tape recorders,

clocks and power source for miniature equipments

### R6 (UM-3)

For lamps, radios, cameras, calculators, hearing aids and other miniature equipments.

The demand for dry cells has increased tremendously in recent years with the propagation of tape recorders, players and transistor radios in the wake of the development of the home electrical appliance industry.

While the demand for dry cells will differ widely according to the industrial level of the country concerned, the business of manufacturing dry cells appears as a highly promising industry, with production expected to increase rapidly with the propagation transistor radios, tape recorders and other electronic equipment as the living standard improve, not to mention the demand for dry cells for use in flashlights.

In Japan, the dry cell industry is already regarded as an industry in which maximum returns are directly proportional to scale, so the industry is oriented toward large-scale production. Manufacturing systems are being automated to provide the industry with a high potential for further development.

Roughly two processes are available for the manufacture of dry cells - pasting system and paper lined system. The former, an old manufacturing system, primarily consists of manual operations, while the latter or more recent manufacturing system is either semi-automated or fully automated.

Here, an introduction shall be given of a semi-automatic, paper lined system to produce 1 million units each of R20, R14 and R6 dry cells monthly. It is to be noted that the dry cell manufacturing industry is essentially an industry based on the assembling of constituent parts.

Accordingly, in areas where diverse subcontracting industries proliferate, a comparatively small amount of capital investment will suffice. Otherwise, efforts will have to be directed at procuring the required materials and parts from foreign suppliers or facilities will have to be newly constructed for the manufacture of these materials and parts.

## Process Description

As described earlier, two systems are available for the manufacture of dry cells - pasting system and paper lined system.

Basically, the pasting system involves the use of paste to insulate the internal part from external part. In this case, the thickness of the paste will be 1 mm - 2 mm, with the result that the volume of manganese filling will be reduced.

By contrast, a thin sheet of paper is used in place of paste where the paper lined system is concerned, resulting in the manufacture of dry cells displaying larger capacity and output.

The followings are brief explanation on the manufacturing process of the paper lined dry cells:

### Assembling process

In assembling process of dry cells, it is used various raw materials and component parts such as electrolytic solution, cathode mix, separator, zinc can, metal jacket and other component parts which are prepared in other manufacturing processes.

Firstly, bottom paper which follows separator is inserted into zinc can and this zinc can is fed to cathode mix tamping process where is tamped bobbin is inserted into zinc can.

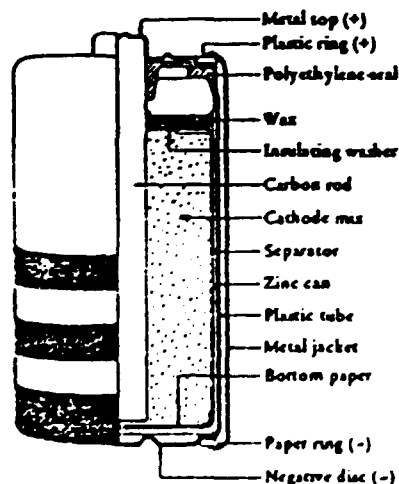
Electrolytic solution is added and poured to tamped bobbin in the zinc can.

After bending of upper part of separator, paper washer is fitted and carbon rod is inserted into center of paper washer.

Moreover, melted wax is filled over paper washer and polyethylene seal is fitted onto upper part of zinc can. And shrinkable vinyl tube is covered around semi-assembled cell. Negative disc and insulating ring for minus side are inserted into this vinyl tube of bottom side and they are fitted to semi-assembled cell after shrinking by heat. Finally carbon zinc battery is assembled after fitting of cylindrical metal jacket which follows metal top and insulating ring for plus side etc.

### Finishing process

This is process of preparation for delivery of aged products. The open and



closed circuit voltages of products are examined. And inspected products are inserted in display case and put on anti-corrosive film on products and covered and sealed.

At this stage all processes are completed.

### Example of Dry Cell Making Plant

We shall concern ourselves here with a model plant capable of turning out 1 million units of R20, R14 and R6 dry cells, respectively, per month, or a plant having a monthly production capacity of 3 million dry cells.

#### Operation schedule:

As the plant is designed for single-shift operation, the 8-hour work system is adopted, based on standard plant operation of:

25 days/month, 300 days/year

Note: Tables 1 - 5 are based on the above scheme.

Table 1: Required Machinery and Equipment

Water purifying equipment
Electrolytic liquid making equipment
Compound agent making equipment
Mix dolly making equipment
Assembling equipment
Finishing equipment
Zinc can making equipment
Metal jacket making equipment
Component parts making equipment
Seal injection press
Inspecting equipment
FOB price of machinery and equipment
..... (approx.) SUS 2,143,000/line

Table 2: Required Raw and Subsidiary Materials

Item	Quantity
Manganese	40 tons/month
Carbon rod	3,000,000 pieces/month
Zinc	39 tons/month

Table 3: Required Utilities

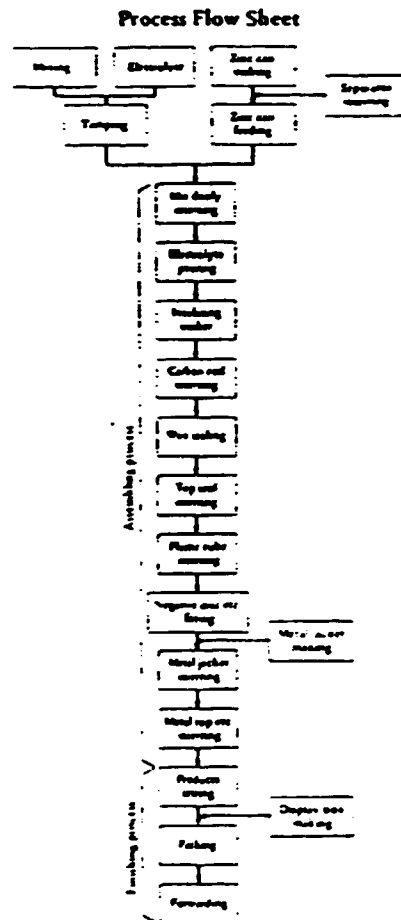
Item	Quantity
Electric power	400 kVA
Water	10 tons/hour
Steam	7 tons/hour
Air conditioning	

Table 4: Required Manpower

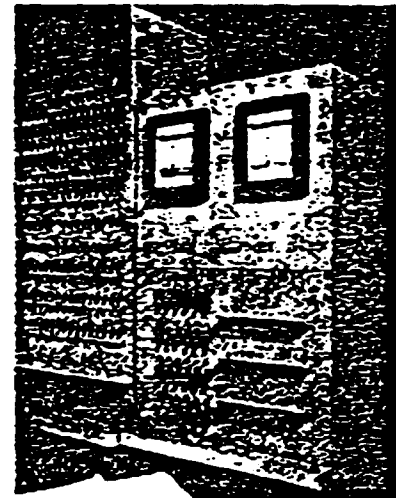
80 direct labours/production line under semi-automatic operation
Total ..... 240 - 250 direct labours/ three lines

Table 5: Required Area for Plant Size

Building	3,000 m <sup>2</sup>
Land	10,000 m <sup>2</sup>



zone is involved. Accordingly, a most careful selection of plant site is recommended first of all when drawing up any plans for the construction of a dry cell manufacturing plant.



#### Locational Condition

Climatic and seasonal influences bear heavily on the manufacture of dry cells. Accordingly, a plant site located in some temperate region of more or less 20°C will be the most ideal.

Especially in regions characterized by high humidity or in countries where the temperature is high, the additional use of air conditioning or cooling facilities will be necessary if the required manufacturing conditions are to be met.

This precaution must be needed particularly in the event the tropical

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## How To Start Manufacturing Industries

# Chalk Making Plant

The plant described here manufactures plaster chalk for educational use and industrial use. The demand is approximately 80% for educational use, 15% for industrial use, and 5% for office use.

At present the two representative types of chalk are:

- (1) Plaster-calcium chalk.
- (2) Carbonic acid calcium chalk.

Because of the simplicity of the manufacturing facilities and because of the mass production possible, 80% of chalk manufacturing is done by plaster-calcium chalk plants. Therefore, a plaster-calcium chalk plant has been given as a model here.

Twenty-five employees or less are sufficient as required operational workers of this plant, and, viewing from the standpoint of efficiency of production and sales, the plant is economically feasible as an industry.

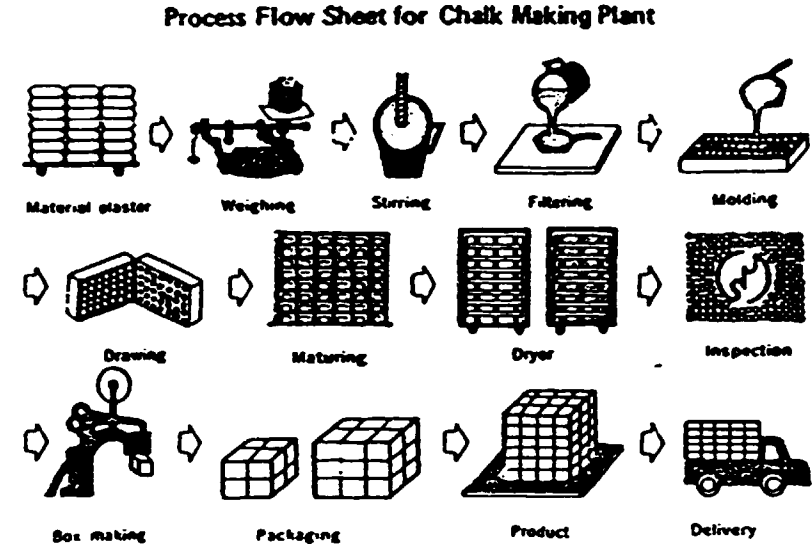
### Raw Material

The main raw material which is to be used in the plant is JIS (Japanese Industrial Standard) grade B calcined plaster for moulding. This raw material is high grade, and is used extensively; however, the plaster is for chalk use and it is not for building use. The use of good quality raw material is very important chalk manufacturing.

### Process Description

Although a portion of the drying equipment is automatic, automation of the entire process has not been accomplished yet. Automation is in progress and is expected to go into operation in near future; the cost of automation facilities, however, will be high.

- 1) Measuring of water and calcined plaster  
3,300 grams of water is correctly measured with a ladle and poured into the stirring tank.  
2,350 grams of raw material calcined plaster is correctly measured on a 5 kg scale and is poured into the stirring tank.  
The above mixture is stirred for 30 - 40 seconds.



The volume of the mixture is sufficient to fill one moulder of 504 pieces of chalk.

### 2) Mould releasing agent

Mixed oil is painted with a brush on the inner side of the mould beforehand. The milky slurry mixture is passed through a 80 mesh filter and filled into the mould. The slurry mixture remaining on the top surface of the mould frame is wiped off with a metal spatula, then the top surface of the mould is rapidly finished off with a finishing spatula. The work from stirring the raw material up to finishing the moulding should be done in 60 - 80 seconds.

In order to minimize the bubble in the mixture which has been poured into the mould, the moulder is given a slight jar to release the air bubbles from the top. Then, a finishing spatula is used for the finishing touch.

The ratio of mixed oil used as mould releasing agent is 200 liters of kerosene to 3 liters of whale oil.

- 3) Drawing the chalk out of the mould  
The time to draw out the chalk is approximately four minutes after moulding; i.e., the best time is when the chalk is hardened to about the hardness of the lobe of the human ear. When the length of time is pro-

longed, drawing out from the mould would become impossible, so precaution is necessary.

When the chalk is ready to be drawn out of the mould, a drawing frame is placed on top of the mould frame; the drawing stopper is set firmly; the mould is inclined 90 degrees toward the operator; the chalk will automatically fall into the drawing frame; the drawn chalks are then taken away and put in a designated place.

A description of the moulding process has been given above, but the various stages of the moulding process are difficult to describe in writing. The technique must be mastered by training.

- 4) The drawn chalks are arranged in a drying frame and put in the drying room for drying.
- 5) The chalks are stored away to await delivery.

### Outline of Plant

- 1) Production Capacity  
2,400 cases/day (100 pieces/case)  
Working hours: 8 hours/day,  
25 days/month
- 2) Required Raw Material and Utilities  
Main raw material: 30 tons/month  
(25 kg/bag x 1,200 bags)

Table 1: Machinery and Equipment

Item	Number of unit	Specification and accessories	FOB price
Moulder	5	504 pieces per unit (cylindrical type) 5 stirring tanks, 10 pipe cleaning brushes, 3 filters, 5 small size oil cans, 5 metal spatulas, 5 finishing spatulas, 3 oil brushes, 3 small ladle, one 5 kg scale, 3 stirring rods	SUS 19,000
Drying room	2	Concrete block construction 4 2HP motors, 4 fans, shutter in two places, 4 hand cart	SUS 48,000
Dryer	2	Kerosene type with accessories	SUS 24,000
Automatic regulating equipment	1	Regulator with thermocouple, etc. for drying, and accessories	SUS 17,000
Other accessories		100ℓ service oil tank: 1 set Gear pump: 2 sets Ignition plug: 2	SUS 24,000
Total			SUS 132,000

Note: Expenses other than the above would be required for establishing the office and workshop.  
If the land, building, and storehouse are ready, installation of the machinery and equipment and trial running can be done in approximately one - two months by dispatching five - six engineers.

(In case of JIS grade B raw material, the price will be FOB SUS 28.6/ton; 1,200 bags for export use would be required per month.)  
Water: 50 m<sup>3</sup>/month  
Electricity: 3,500 kWh/month

3) Required Manpower

The manpower required to run the plant is given below.

Management	3 persons
General affairs section	3 persons
Business section	3 persons
Delivery section	3 persons
Manufacturing section	3 persons
Drying section	2 persons
Finishing section	8 persons
<b>Total</b>	<b>25 persons</b>

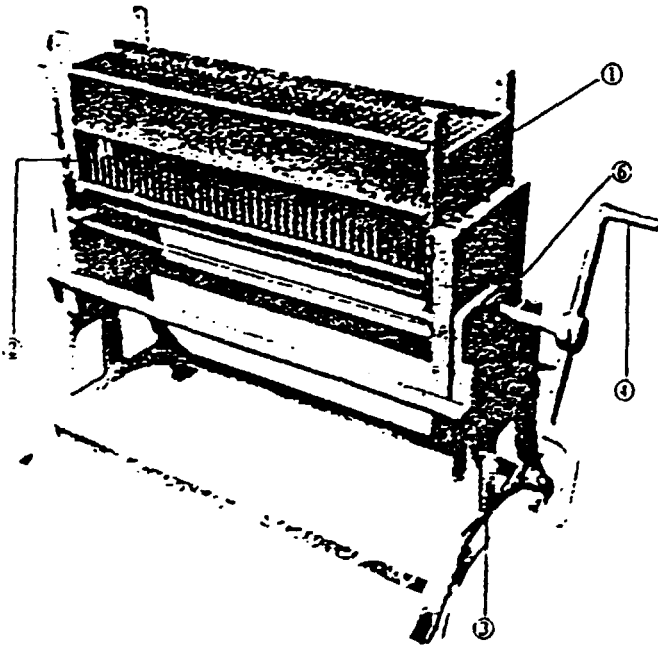
4) The land area required for the site is approximately 1,000 m<sup>2</sup>.

5) Machinery and Equipment

The detail of machinery and equipment for the Plant is as Table 1.

Locational Condition

The plant site should be located near the area of demand of the product, and should be easily accessible to transportation of the product, water, electricity, etc.



Moulder

- ① cylinder      ② Pistons      ③ Base
- ④ Pushing handle      ⑤ Chalk receiving frames
- ⑥ Revolution shaft

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## How To Start Manufacturing Industries

# Ceramic Tableware Making Plant

Ceramic tableware is the most commonly used article in the world, because it is indispensable for man's daily life. Accordingly, domestic manufacture of ceramic tableware definitely contributes to economizing on foreign currency.

The industrialization of tableware is one of the easiest to carry out. However, the prerequisite to successful industrialization is that either the greater part of the raw materials required is available in the country, or can be imported cheaply from a neighbouring country.

Tableware consists of body, which is mainly made of quartzite, feldspar, kaolin and clay, and glaze which constitutes glass on the surface to provide gloss and beautiful touch.

The amount of glaze required is about 10 per cent of body, and the raw materials required include quartzite, feldspar, talc, lime, dolomite, kaolin, etc.

These raw materials are blended in a prescribed ratio, after which they are crushed into a fine powder. After

moulding, they are dried and fired into products. They are then coloured with inorganic pigments.

Generally speaking, it is economical and easy to manufacture more than a dozen shapes in one project.

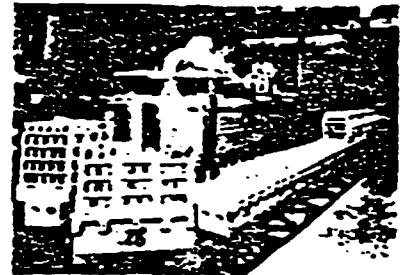
Of course, the larger the variety of shapes, the higher the cost of equipment, and the greater the technical difficulty.

Although much depends upon the condition of the country, and its population as well as whether or not it is possible to export tableware to neighbouring nations, existence of several tableware plants is economically feasible because such plants may develop their individual features in design (shape, colour and decoration).

Operation of the plant becomes comparatively easy when workers become skilled in the manual work.

Tableware is indispensable for daily life. They are generally available in the shape of plates, dishes, bowls, coffee or tea cups and saucers, milk pots, sugar pots and coffee or tea pots, etc.

Tableware is packed in straw bales,



Endless type glass firing kiln

cartons (corrugated paper board), or cases. But it may be shipped in bamboo baskets with pieces wrapped in straw.

### Process Description

The desirable extent of automatic operation depends upon the scale of operation, the amounts of raw materials and output.

However, excessive automation may not be economical, and so in a country where wages are cheap, only partial automation may be recommended.

So far as Japan is concerned, the economical capacity of the plant is 700 - 1,300 tons/year. Here is a description of the plant with a basic capacity of 1,300 tons/year:

- (1) Aim of manufacture is medium-class goods.
- (2) The plant should be laid out with a view to easy expansion and to provide economic feasibility.
- (3) The number of workers is stated later. However, this depends on the state in the country concerned.
- (4) The prices of machinery and equipment are on FOB basis. The prices are approximate, and they may differ from country to country.

The manufacturing process of tableware, for which a flow sheet is attached, may summed up as follows:

#### 1) Washing of stony materials

Such stony materials as feldspar and quartz should be fully washed to remove impurities which may have adhered during mining or transportation, before they are crushed.

#### 2) Crushing process

In the case of the crushing of stony

Table 1: Required Machinery and Equipment

Item	Description
<b>Main Machinery &amp; Equipment</b>	
Crushing & grinding unit	Rotary washer, Jaw crusher, Crushing roll, Table balance, Bucket elevator, Belt conveyor, Hoist cart, Ball mill
Mud preparation unit	Slip tank with agitator, Magnetic separator, Vibrating screen, Diaphragm pump, Filter press, Membrane pump, Vacuum auger machine, Cart
Moulding unit	Automatic jigger, Dryer, Grand conveyor, Finishing jigger, Overhead slip agitator, Casting apparatus
Biscuit firing unit	Biscuit firing tunnel kiln
Glazing unit	Belt conveyor, Service tank, Vibrating screen
Glost firing unit	Glost firing tunnel kiln
Decorating unit	Conveyor for transference, Grand conveyor, Decorating tunnel kiln
<b>Accessory equipment</b>	
Sagger manufacturing unit	Edge runner, Pug mill, De-airing auger machine, Automatic jigger, Dryer, Cart
Gypsum mould unit	Jigger, Cart, Agitator
<b>Auxiliary facilities</b>	
Laboratory equipment	Pot mill, Ball mill, Pilot kiln, Miscellaneous equipment & apparatus
Facilities of electric supply	Emergency power equipment, Transformer
Facilities of water supply	Water service tank
FOB price of machinery and equipment . . . (approx.) \$US 2,950,000	

materials, a jaw crusher should be used for coarse crushing, and, thereafter, a roller crusher for medium crushing.

After the above procedure, the materials should be weighed and batched to the predetermined ratio for fine grinding by a ball mill.

### 3) Moulding process

The throwing of tableware is an important process for the moulding of products. This requires considerable skill. More often than not, therefore, an automatic throwing machine is used without depending on a manual jigger.

### 4) Drying process

Drying is carried out by a continuous system, drawing the heat required for drying from waste heat in the firing kiln so as to economize on heat.

### 5) Glazing

A conveyor system is used for the

flow drying process.

### 6) Firing process

This is the most important process in the manufacture of tableware. In order to give strength to the green body after moulding, by adding ceramic bonding, biscuit firing is performed. Later, the glazed body is subjected to glaze firing.

Generally speaking, the above firing is provided in a tunnel kiln which is good for heat economization and easy in quality control.

### 7) Decoration

Decoration is applied in order to enhance the value of products as merchandise, adding elegance and beauty. This work needs skilled workers who have a sense for art. However, there is the over glaze decoration system based on an industrially efficient transference process.

## Example of Tableware Manufacturing Plant

Here is an outline of tableware manufacturing plant with an annual production capacity of 1,300 tons.

The machinery and equipment, and raw materials and utilities required for the above projected plant are as shown in the attached tables.

The required plant site area is approximately 30,000 m<sup>2</sup> (120 x 250 m), in which the area for future expansion is included.

The required floor area is about 8,400 m<sup>2</sup>. However, this does not include the site for the living quarters for workers.

### Locational Condition

As for the desirable locational condition, the ground should be firm, because it has to support such heavy structures as the tunnel kiln for firing, which is the heart of the plant. In addition, the level underground water should be low and the draining good.

The ideal site for the plant is one situated near a consumer area, and along a road on which the raw materials, fuel and products may be carried in and shipped out.

Process Flow Sheet for Ceramic Tableware Making Plant

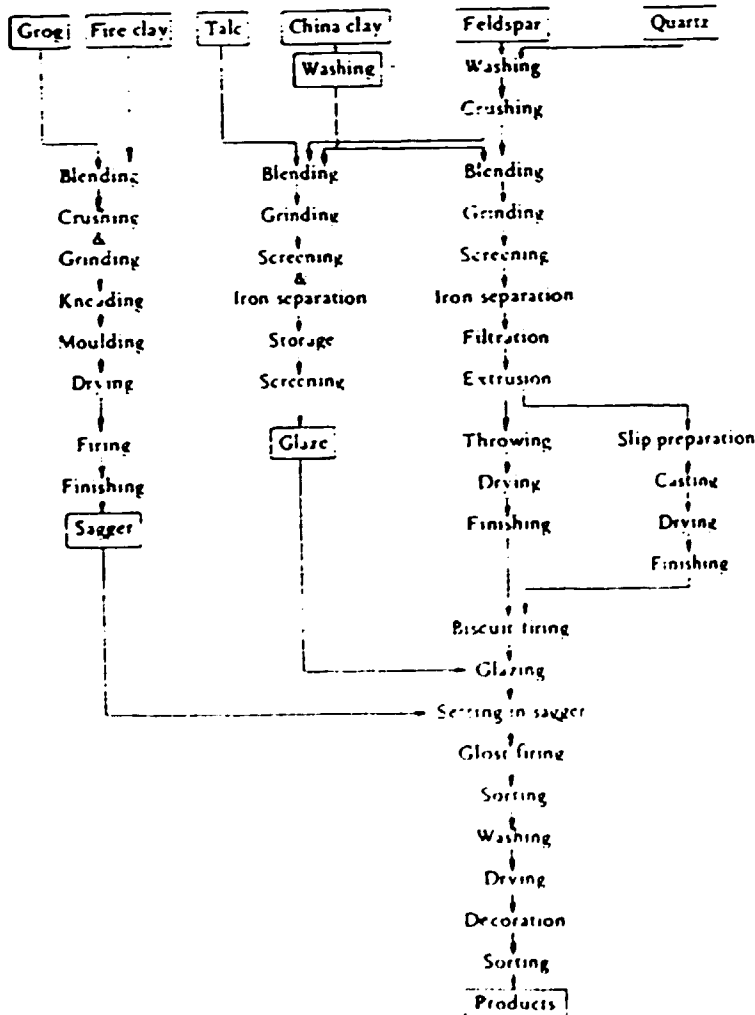


Table 2: Annual Reuirement of Raw Materials and Utilities

Item	Quantity
Raw materials	
China clay & Fire clay	1,554 tons
Feldspar	461 tons
Quartz	348 tons
Talc	15 tons
Sub materials	
Alumina	1,800 kg
Sodium silicate	600 kg
Gypsum plaster	54 tons
Decorating materials	
Utilities	
Fuel oil	1,350 t
Electric power	1,432,000 kWh
Water	32,000 m <sup>3</sup>

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Country: <b>INDIA</b>	*Project No.: IND/026/V/86-01	*ISIC: 3710	Date of submission: 16.1.1986
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Project title:

**"MODERN AUTOMOTIVE FOUNDRY PROJECT"**

Project summary	Total project cost (in SUS million equivalent)	Foreign co-operation sought
<b>Product:</b> Intricate automotive castings like cylinder Heads/Blocks, etc for Cars/LCVs & other Ductile/austempered ductile Iron Castings. <b>Planned capacity/output:</b> 1st Phase : 9000 tpa (By 1988) 2nd Phase : 15000 tpa (By 1991) <b>Location:</b> Warangal (120 km from Hyderabad) Andhra Pradesh State, INDIA. <b>Market:</b> Domestic <u>100</u> % Export <u>NIL</u> %	Land and buildings: 2.22 Machinery and equipment: 6.75 Working capital: 0.42 Other: <u>2.04</u> <b>Total: <u>11.43</u></b> Foreign exchange portion: 3.10	Cash investment <input type="checkbox"/> Equity <input checked="" type="checkbox"/> Loans <input type="checkbox"/> Joint venture <input type="checkbox"/> Subcontracting <input type="checkbox"/> Licensing <input type="checkbox"/> Sale of technology <input checked="" type="checkbox"/> Turnkey project <input type="checkbox"/> Equipment supply <input checked="" type="checkbox"/> Market access <input type="checkbox"/> Expertise Management <input type="checkbox"/> Technical <input checked="" type="checkbox"/> Training <input checked="" type="checkbox"/> Marketing <input type="checkbox"/>
This is <input checked="" type="checkbox"/> a new project <input type="checkbox"/> the expansion/modernization of an existing project We have <input checked="" type="checkbox"/> a feasibility study dated <u>1.1.1985</u> <input checked="" type="checkbox"/> a detailed project description <u>1.1.1985</u> <input type="checkbox"/> other studies:	<b>Ownership structure:</b> <u>15</u> % local private <u>15</u> % local State <u>15</u> % foreign <b>55% Local (Public)</b> There is a local partner: Public sector <input checked="" type="checkbox"/> Private sector <input type="checkbox"/> Not yet identified <input type="checkbox"/>	

Brief description of the project : APCCCL, in joint venture with M/s.APIDC (a state Industrial Development Corporation) is setting up a modern automotive foundry plant, to manufacture highly sophisticated, 100% import substitute engine items like cylinder Heads, Blocks etc.

Today, the country is experiencing an unprecedented boom in the automotive industry as a result of liberalised governmental policies, which have lead to many collaborative ventures with leading international giants for the manufacture of state-of-the-art vehicles. All these plants are importing sophisticated castings as both technology and manufacturing facilities are not indigenously available.

On Govt. of India's special request to strengthen this core sector, UNIDO is providing technical assistance.

Reputed Indian consultants have prepared a feasibility report, envisaging application of many world's latest equipments/processes. Now the reputed British consultants (M/3.BCIRA) are being appointed for consultancy/Engineering.

For further details a brief "Project Profile" is enclosed.

Responsible Officer:

*P. B. Venkatesh*  
 P. B. Venkatesh  
 Managing Director.



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PROJECT PROFILE SCREENING AND PRE-APPRAISAL INFORMATION SYSTEM Schedule 1a  
PROFSPIN - INVESTMENT

Project Title: Cotton Dyeing &amp; Printing

Location: Nepal

Project No.: 32-2

Sponsor: NIBG

Prepared By: John CEO

Date: 010594

Base Year:

Startup:

Inflation: 0

Income Tax

Rate: 0

Income Tax

Defer. Yrs: 0

Schedule 1a INVESTMENT	Local	Foreign	Total	Depr Amt Rate	Annual	
					Maint & Insur. Rate	Maint & Insur. Expense
Land	36,000	0	36,000	0	0	0
Site Preparation	0	0	0	2	0	0
Design & Engineering	0	0	0	0	0	0
Buildings & Civil Works	400,000	120,466	520,466	4	2	10,500
Service Facilities	0	0	0	5	2	0
Transport Equipment	0	0	0	25	5	0
Plant Mach & Equipment	0	1,500,000	1,500,000	0	0	45,200
Infrastructure	0	0	0	3	1	0
Prepaid Capital Exp.	24,267	200,000	224,267	20	0	0
<b>Subtotal</b>	<b>460,267</b>	<b>1,835,333</b>	<b>2,295,600</b>			<b>55,775</b>
Contingencies	0	0	0	5	1	0
Research & Development	0	0	0	20	0	0
Technology	0	0	0	20	0	0
<b>Total Fixed Investment</b>	<b>460,267</b>	<b>1,835,333</b>	<b>2,295,600</b>			<b>55,775</b>
Net Working Capital	350,000	0	350,000			
<b>Total Investment</b>	<b>810,267</b>	<b>1,835,333</b>	<b>2,645,600</b>			

## PROFSPIN - INVESTMENT

Schedule 1b CAPITAL STRUCTURE	Local	Foreign	Total	Rate (%)	Term (Yrs)	Grace (Yrs)
Equity	350,000	345,000	695,000	15	13 of Net Profit	
Long Term Loans	105,267	1,492,333	1,597,600	9.5		0
Short Term Loans	350,000	0	350,000	10		0
Bonds/Debentures	0	0	0	0	0	0
Suppliers Credits	0	0	0	0	0	0
Export Credits	0	0	0	0	"	0
Subsidies	0	0	0			
<b>Total Debt &amp; Equity</b>	<b>810,267</b>	<b>1,835,333</b>	<b>2,645,600</b>			





PROJECT PROFILE SCREENING AND PRE-APPRAISAL INFORMATION SYSTEM  
PROFSPIN - BALANCE SHEET

Schedule 4

Project Title: Cotton Dyeing & Printing  
Project No.: 32-2  
Sponsor: NIDC  
Prepared By: John CG

Date: 01/05/84

Item	Days (Yrs) Capl	1	2	3	4	5	6	7	8	9
<b>ASSETS</b>										
<b>Current Assets</b>										
Cash	5	55,875	45,187	50,813	56,450	56,450	56,450	56,450	56,450	56,450
Accounts Receiv	30	293,250	271,006	304,875	338,750	338,750	338,750	338,750	338,750	338,750
<b>Inventory</b>										
Raw Material	60	355,180	457,280	520,300	579,380	579,380	579,380	579,380	579,380	579,380
In-process	15	94,827	122,852	136,664	150,877	150,877	149,942	149,942	149,942	149,942
Finished Goods	30	201,715	257,765	285,790	313,815	313,815	310,878	310,878	310,878	310,878
Spares	120	6,197	6,197	6,197	6,197	6,197	6,197	6,197	6,197	6,197
<b>Subtotal</b>		<b>995,040</b>	<b>1,170,264</b>	<b>1,507,872</b>	<b>1,445,481</b>	<b>1,445,481</b>	<b>1,440,809</b>	<b>1,440,809</b>	<b>1,440,809</b>	<b>1,440,809</b>
Securities		0	0	0	0	0	0	0	0	300,929
<b>Current Assets</b>		<b>995,040</b>	<b>1,170,264</b>	<b>1,507,872</b>	<b>1,445,481</b>	<b>1,445,481</b>	<b>1,440,809</b>	<b>1,440,809</b>	<b>1,440,809</b>	<b>1,741,738</b>
<b>Fixed Assets</b>										
Cost		2,295,600	2,295,600	2,295,600	2,295,600	2,295,600	2,295,600	2,295,600	2,295,600	2,295,600
Less Dep/Accr		106,541	373,600	559,624	746,166	932,707	1,074,395	1,216,680	1,357,771	1,499,859
<b>Net</b>		<b>2,189,059</b>	<b>1,922,000</b>	<b>1,735,976</b>	<b>1,549,434</b>	<b>1,362,893</b>	<b>1,221,205</b>	<b>1,078,920</b>	<b>937,829</b>	<b>795,741</b>
<b>TOTAL ASSETS</b>		<b>3,004,100</b>	<b>2,892,264</b>	<b>3,043,848</b>	<b>2,994,915</b>	<b>2,808,374</b>	<b>2,662,014</b>	<b>2,519,729</b>	<b>2,378,638</b>	<b>2,537,479</b>
<b>LIABILITIES</b>										
<b>Current Liabilities</b>										
Accounts Payable	45	302,570	276,640	420,605	470,720	470,720	465,116	465,116	465,116	465,116
<b>Loans</b>										
Short-term		809,040	1,040,000	1,387,670	1,680,000	985,000	717,164	529,000	95,210	0
Long-term		1,367,657	1,129,714	911,771	683,629	455,000	227,940	0	0	0
Bonds/Debentures		0	0	0	0	0	0	0	0	0
Export Credit		0	0	0	0	0	0	0	0	0
Supplier Credit		0	0	0	0	0	0	0	0	0
<b>Total</b>		<b>2,176,699</b>	<b>2,406,354</b>	<b>2,720,046</b>	<b>2,727,349</b>	<b>1,931,720</b>	<b>1,409,120</b>	<b>1,024,116</b>	<b>95,210</b>	<b>0</b>
<b>Equity</b>										
Undistributed Profit		700,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000	700,000
		-175,140	-175,140	-180,670	-20,000	20,145	551,701	925,944	1,110,500	1,400,742
<b>TOTAL LIABILITIES</b>		<b>2,001,559</b>	<b>2,031,214</b>	<b>2,040,046</b>	<b>2,094,915</b>	<b>2,000,374</b>	<b>2,062,014</b>	<b>2,520,116</b>	<b>2,376,730</b>	<b>2,575,079</b>
<b>NET INVESTED CAPITAL</b>		<b>1,002,541</b>	<b>861,050</b>	<b>1,003,802</b>	<b>900,000</b>	<b>808,000</b>	<b>600,000</b>	<b>599,613</b>	<b>599,613</b>	<b>599,613</b>
FROM INVEST BALANCE		1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000	1,000,000
		2,541	(149,950)	3,802	(100,000)	(200,000)	(400,000)	(400,387)	(400,387)	(400,387)

PROJECT FEASIBILITY SCREENING AND PRE-APPRAISAL INFORMATION SYSTEM  
 CONCEPT - CASHFLOW STATEMENT

Project Title: Cotton Dyeing & Printing  
 Project No.: D2-2  
 Sponsor: NIDC  
 Prepared By: John C. Co

Schedule 5

Total fixed  
 Assets: 2,295,000 Date: 01/05/84

Period	Days (Work Cal)	Total fixed Assets: 2,295,000 Date: 01/05/84									
		0	1	2	3	4	5	6	7	8	9
<b>SOURCES OF CASH</b>											
Net Profit			-175,166	889	106,743	212,596	209,253	300,761	322,415	344,070	344,070
Dep. & Amort			186,541	186,541	186,541	186,541	186,541	141,600	141,600	141,600	141,600
Incr in Acc Pay	45	151,206	151,206	84,075	42,037	42,037	0	-5,607	0	0	0
New Equity		700,000									
New Loans		1,094,936	622,570	291,996	162,997	0	0	0	0	0	0
<b>Total</b>		<b>2,746,222</b>	<b>795,251.96</b>	<b>560,501</b>	<b>499,227</b>	<b>441,177</b>	<b>409,794</b>	<b>436,842</b>	<b>464,100</b>	<b>485,750</b>	<b>485,750</b>
<b>USES OF CASH</b>											
Incr in Cash Bal	5	16,938	16,938	11,292	5,646	5,646	0	0	0	0	0
Incr in Acc Receiv	30	191,625	191,625	11,292	33,875	33,875	0	0	0	0	0
Incr in Inventories											
Raw Material	10	177,592	177,592	112,106	56,050	0	0	0	0	0	0
In-Process	15	47,413	47,413	20,025	14,013	14,013	0	-701	5,006	0	0
Finished Goods	30	100,850	100,850	56,050	20,025	20,025	0	-3,750	0	0	0
Spares	120	6,197	6,197	0	0	0	0	0	0	0	0
Fixed Assets		2,295,000									
Repayments			244,010	244,010	244,010	207,943	207,943	207,943	197,943	0	0
Dividends			0	155	16,012	31,020	35,138	45,114	40,262	51,110	51,110
Add Payout-Rainy			0	0	0	99,786	157,713	168,457	162,702	424,147	424,147
<b>Total</b>		<b>2,746,222</b>	<b>795,252</b>	<b>560,501</b>	<b>499,229</b>	<b>441,177</b>	<b>409,794</b>	<b>436,842</b>	<b>464,100</b>	<b>485,750</b>	<b>485,750</b>

PROJECT PROFILE SCREENING AND PRE-APPRAISAL INFORMATION SYSTEM  
 PROPSPIH - RATIO ANALYSIS

Project Title: Cotton Dyeing & Printing

Schedule 6

Project No.: 02-0

Company: NIDC

No. of  
 Employees:

60

Date: 01/80

Prepared By: John CSM

Period	1	2	3	4	5	6	7	8	9
-Return on Tot Invest	-7.6	0.0	4.6	9.5	10.2	13.1	14.0	15.0	15.0
-Return on Equity	-25.0	0.1	15.2	30.4	33.5	40.0	46.1	49.2	49.2
-Return on Sales	-7.2	0.0	2.9	5.2	5.2	7.4	7.9	8.8	8.8
<b>-Payback Period Calc</b>									
Initial Invest.	2,645,000								
Cashflow (HPV) Dep't	204,950	245,350	415,550	405,750	405,750	405,750	405,750	405,750	405,750
Cumulative Cashflow	204,950	550,300	965,850	1,451,600	1,957,350	2,423,100	2,968,850	3,394,600	3,800,350
Lookup period	1	2	3	4	5	6	7	8	9
Payback Period	7								
<b>-Debt Service Coverage</b>									
-Debt Service Coverage	0.4	0.7	0.9	1.5	1.7	1.9	1.9	2.0	2.0
-Investment Turnover	0.9	1.2	1.4	1.5	1.5	1.5	1.5	1.5	1.5
-Debt/Equity Ratio	2.3	1.8	1.5	1.0	0.7	0.5	0.0	0.0	0.0
-Investment/Employee	41.994								
<b>-Internal Rate of Return</b>									
Enter Trial (R):	7.6	HPV:	1,419						
	7.7		-16.004						
<b>-Break-even Point Calculation</b>									
		Year		Year		Diff		Ref	
		2		5					
% Cap Util		60		100		20		100	
Sales:		3,250,000		4,005,000				4,005,000	
Cost of operations		3,090,104		3,715,704		625,600		3,715,704	
Fixed Cost		400,704		400,704				400,704	
Variable Cost		2,689,400		3,315,000		625,600		3,315,000	
BEP (R):	57.4								

## UNIDO INVESTMENT PROMOTION INFORMATION SYSTEM (INPRIS) - PROJECT FILE

CONTROL NUMBER: 002254  
 ISIC: 3624  
 PROJECT NUMBER: INS/188/V/85-05 COUNTRY: Indonesia  
 PROJECT TITLE: Machine Tools  
 PRODUCT & CAPACITY: Universal workshop lathes: 500/year  
 Also possible production of drilling machines, planing  
 machines and milling machines  
 COOPERATION SOUGHT: LIC, SOT, EQS, TEX, TRX  
 TOTAL PROJECT COST: US\$ 2,100,000 PROJECT IS: New  
 STUDY AVAILABLE: No LOCAL SPONSOR: Yes  
 PROJECT STATUS: Active AS ON (DATE): 850812  
 SPONSOR: PROMOTER:  
 P.T. Selama Sejahtera BKPM  
 Jalan Alun-Alun Timur Jalan Gatot Subroto No. 6  
 Bandung Jakarta Selatan  
 West Java Indonesia  
 Indonesia

## ACTIVITY RECORD:

DATE 850805 ACTIVITY: Project summary sent to IPSs  
 ENTERED 850812 REFERENCE: Mr. Klein

DATE 860621 ACTIVITY: Project questionnaire sent to Technolampex, Hungary  
 ENTERED 860909 REFERENCE: Telex request of 860814

DATE 860829 ACTIVITY: Project questionnaire sent to Uniles, Ljubljana,  
 Yugoslavia  
 ENTERED 860905 REFERENCE: Letter from company of 860821

DATE 860908 ACTIVITY: Project questionnaire sent to Joint UNIDO-Yugoslavia  
 Centre, Novi Sad, Yugoslavia  
 ENTERED 860909 REFERENCE: Letter of 860902

DATE 860909 ACTIVITY: Project questionnaire sent to N.V. Mondiale E.I.,  
 Vilvoorde, Belgium  
 ENTERED 860909 REFERENCE: Letter from company of 860829



UNIDO INVESTMENT PROMOTION INFORMATION SYSTEM (INPRIS) - PROJECT FILE

CONTROL NUMBER: 002252  
ISIC: 3823  
PROJECT NUMBER: INS/187/V/85-05 COUNTRY: Indonesia  
PROJECT TITLE: Moulds for Plastic Products  
PRODUCT & CAPACITY: Blow and injection moulding moulds of various sizes and designs: 250 to 300 moulds/year  
COOPERATION SOUGHT: JVE, LIC, EQS, TEX  
TOTAL PROJECT COST: US\$ 2,500,000 PROJECT IS: New  
STUDY AVAILABLE: No LOCAL SPONSOR: Yes  
PROJECT STATUS: Active AS ON (DATE): 850812  
SPONSOR: PROMOTER:  
P.T. Maspion BKPH  
Jalan Kembang Jepun 38-40 Jalan Gatot Subroto No. 6  
Surabaya Jakarta Selatan  
East Java Indonesia  
Indonesia

ACTIVITY RECORD:

DATE 850805 ACTIVITY: Project summary sent to IPSs  
ENTERED 850812 REFERENCE: Mr. Klein  
DATE 860611 ACTIVITY: Project questionnaire sent to Jaydeb Mukherjee,  
Shibpur Howrah, India  
ENTERED 860909 REFERENCE: Letter of 860803  
DATE 860812 ACTIVITY: Project questionnaire sent to BPA srl, Prevalle, Italy  
ENTERED 860909 REFERENCE: Letter from company of 860801  
DATE 860812 ACTIVITY: Project questionnaire sent to Sunebo s.r.l., Torino,  
Italy  
ENTERED 860909 REFERENCE: Letter from company of 860728  
DATE 860821 ACTIVITY: Project questionnaire sent to Joint UNIDO-Yugoslavia  
Centre, Novi Sad, Yugoslavia  
ENTERED 860909 REFERENCE: Letter of 860813

UNIDO INVESTMENT PROMOTION INFORMATION SYSTEM (INPRIS) - INSTITUTION FILE

CONTROL NO.: 000165

CODE NUMBER: CPRO02

NAME OF INSTITUTION:

China Council for the Promotion  
of International Trade - CCPIT

MAIL ADDRESS: Fu Xing Men Wai Street

Beijing

China

TOWN ADDRESS: ...

TITLE OF CEO: ...

CONTACT NAME: Mrs. Shuyun Hao

TITLE: Trade Promotion & Liaison  
Officer

TELEPHONE: 868891, 867504

TELEX: 22315 CCPIT CN

CABLE: ...

TYPE: EXP

DATE: 840911

UNIDO INVESTMENT PROMOTION INFORMATION SYSTEM (INPRIS) - INSTITUTION FILE

CONTROL NO.: 000168

CODE NUMBER: CPRO03

NAME OF INSTITUTION:

Sichuan Foreign Economic  
Relations and Trade Institute

MAIL ADDRESS: 305 Jiefang Zhong Lu

Chengdu

Sichuan

China

TOWN ADDRESS: ...

TITLE OF CEO: ...

CONTACT NAME: Chong Ming Li

TITLE: Researcher

TELEPHONE: 31735

TELEX: 60131 SPTC CN

CABLE: 7559 CHENGDU

TYPE: PLN

DATE: 840911

UNIDO INVESTMENT PROMOTION INFORMATION SYSTEM (INPRIS) - INSTITUTION FILE

CONTROL NO.: 000170

CODE NUMBER: CPRO04

NAME OF INSTITUTION:

China Light Industrial Products  
Imports & Export Corporation

MAIL ADDRESS: 82 Dong An Men Street

Beijing

China

TOWN ADDRESS: ...

TITLE OF CEO: ...

CONTACT NAME: Guoji An

TITLE: Trader

TELEPHONE: 556749

TELEX: 22282LIGHT CN

CABLE: INDUSTRY BEIJING

TYPE: ASM, EXP

DATE: 840911

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ANNEX 6

INDUSTRIAL INVESTMENT PROJECTS PROMOTED AND CONCLUDED THROUGH THE  
INVESTMENT PROMOTION SERVICES (IPS) OF THE  
UNIDO INDUSTRIAL INVESTMENT DIVISION  
1980-1987

THE OIC MEMBER COUNTRIES

Country	Project Title	Total Investment in US\$ million	IPS	Year
////////	////////	//////////	////	////
Algeria	Locksmithery (building hardware)	20.0	Brussels	1983
Bangladesh	- Combined leather tanning and shoe factory	7.20	Brussels	1980
	Industrial alcohol from molasses	15.00	Brussels	1982
	Fertilizer granulating	3.70	Brussels	1982
	Deep sea fishing and fish processing	0.10	New York	1982
	Ceramics	2.00	New York	1983
	Expansion of production of ricksaws and bicycles	0.50	Zurich	1984
	Power batteries manufacture	0.80		1986
	Tannery	1.10		1986
	Brick manufacture	8.00		1987
	Emery paper production	0.70		1987
	Spiral pipe plant	25.00		1987
Benin	Charcoal	2.30	Cologne	1980
	Sugar cane complex	190.00	Brussels	1980
	Soft drinks	4.60		1986
Cameroon	Brewery and soft drinks	10.00	Brussels	1983
	Feedmill	0.74	Cologne	1984
	Animal feed	1.00	Brussels	1982
	Organic fertilizer	4.80		1986
	Timber logging	3.50		1986
	Assembly of power batteries	0.20		1986
	Bakery	0.50		1987
	Electric safety equipment	0.06		1987
Egypt	Reinforced concrete pipes	5.50	Brussels	1980
	Vaccine production	1.50	Cologne	1980
	Frozen food processing	1.75	New York	1981

Country	Project Title	Total Investment in US\$ million	IPS	Year
////////	////////	//////////	////	////
Egypt cont'd	Glass containers for pharmaceuticals	46.00	Brussels	1981
	Meat processing	20.60	Vienna	1981
	Tomato growing project	16.00	New York	1981
	Meat processing	4.00	Vienna	1982
	Production of sanitary irrigation material	10.50	Cologne	1984
	Paper sack factory	9.00	Zurich	1984
	Pharmaceutical plant	1.60		1985
	Paint plant	1.30		1985
	Pump factory (expansion)	0.70		1985
	Butter production	2.50		1986
	Milk production	2.50		1986
	Manufacture of mopeds	4.00		1987
Gabon	Palm oil	1.50	Brussels	1984
	Organic fertilizer	5.00		1986
Guinea	Ceramics	7.50	Cologne	1981
	Mamou cannery	n.a.	Paris	1983
	Kindia soft drinks complex	n.a.	Paris	1983
	Manufacturing of candles	n.a.	Paris	1983
	Pharmaceutical products	n.a.	Paris	1983
	Mineral water in Maneah	2.00	Paris	1984
	Animal food and fertilizer	3.50	Paris	1984
	Tomato canning	6.25	Paris	1985
Indonesia	Automobile engines	240.00	Tokyo	1985
	Pump manufacturing (iron casting)	5.00	Tokyo	1985
	Liquid frozen eggs	6.20	Tokyo	1985
	Ferro-silicon	54.40	Tokyo	1985
	Elevator assembly	5.00	New York	1982
	Oil industry processing	1.50	New York	1984
	Scrap steel processing	4.20	New York	1984
	Automobile engines	22.00		1986
	Automotive components	48.80	New York	1984
	Sheet glass	24.00	Brussels	1980
	Shipbuilding (small boats)	60.00	Brussels	1981
	Veneer wafer board	27.60	New York	1981
	Refractory materials	16.50	Tokyo	1982
	Filter aids production	0.70	Tokyo	1983
	Filter rods	9.50	Tokyo	1983
	Cashew nuts and processing	n.a.	Tokyo	1983
	Production of wood products	0.30	Cologne	1983
	Modernization of iron and steel mill	1.50		1987

Country	Project Title	Total Investment in US\$ million	IPS	Year
////////	////////	//////////	////	////
Indonesia cont'd	Rattan furniture	1.10		1987
	Cast iron pumps	5.73		1987
	Cocoa processing	0.80		1987
Jordan	Truck repair workshop	4.40		1985
	Commercial and workshop centre	10.00		1985
	Cold store	0.24	Paris	1983
	Industrial bakery	2.40	Paris	1983
Socialist People's Libyan Arab Jamahiriya	Poultry	120.00	Cologne	1980
Malaysia	Battery manufacturing	1.60	New York	1981
	Small forging plant	2.30	Zurich	1980
	Tyre retreading and rubber	2.30	Cologne	1981
	Electric typewriter cassettes	0.12	Vienna	1982
	Sanitary hardware	1.10		1986
Mali	Shea-nut extraction	4.00	Brussels	1980
Mauritania	Fish processing	69.00	Cologne	1981
Morocco	Chemical plant	1.00	New York	1980
	Distribution and copying equipment			
	recycling plant	4.00	New York	1980
	Repair shops	2.50	Zurich	1980
	Seaweed harvesting	0.80	New York	1981
	Biscuit factory	1.20	New York	1981
	Steel structures	n.a.	Zurich	1982
	Phosphates	0.40	Brussels	1983
	Sunflower hybrid seed plantation	n.a.		
Niger	Sorghum millet mill	0.76		1985
Pakistan	Activated carbon manufacturing	5.20	Zurich	1985
	Machine tool manufacturing	1.50	Zurich	1985
	Production of dumpers	5.10	Cologne	1980
	Farm implements production	3.50	Cologne	1980
	Polyester plant	88.00	New York	1981

Country	Project Title	Total Investment in US\$ million	IPS	Year
//////	//////	//////////	////	////
Pakistan cont'd	Asbestos pipes	15.80	Brussels	1982
	Tractor assembly	n.a.	Zurich	1983
	Expansion household appliances of plastic	1.00	Zurich	1984
	Activated carbon	3.80		1986
Senegal	Retreading plant	0.60	Zurich	1980
	Limestone extraction	5.00	Brussels	1980
	Fish processing	5.60	Brussels	1981
	Floor and wall tiles	6.20	Colcgne	1982
	Textiles	65.00	New York	1982
	Brickyard	n.a.	Paris	1982
	Deep-frozen fish	n.a.	Paris	1982
	Colour laboratory	1.15	Paris	1983
	Metallic joinery	0.70	Paris	1983
	Electronic components	0.50	Paris	1983
	Yogurt and dairy products	0.60	Paris	1983
	Soft drinks	0.70	Paris	1983
	Production of travelling goods in leather	1.00	Vienna	1983
	Electrodes manufacturing plant	0.80	Zurich	1983
	Expansion cool storage house	0.50	Zurich	1984
	Expansion of electrical fixtures and installations	0.60	Zurich	1984
	Fishing vessels	1.00	Zurich	1985
Somalia	Pumps	0.50	Cologne	1983
	Waste water plant	0.90		1985
	Feed mill, cattle fattening farm	3.40		1985
	Meat factory (slaughter-house rehabilitation)	1.60		1985
	Salt factory rehabilitation	1.00		1985
Sudan	Integrated poultry complex	38.00	Brussels	1983
	Computer centre for hardware and software	0.16		1985
	Wheat mill	0.50		1985
	Organic fertilizer plant	6.00		1985
Tunisia	Construction of engines and trucks	19.00	Cologne	1981
	Leather finishing and shoe design	3.70	Brussels	1982

Country	Project Title	Total Investment in US\$ million	IPS	Year
//////	//////	//////////	////	////
Tunisia cont'd	Tannery	1.20	Brussels	1983
	Factory for plastic toys	0.36		1985
	Pharmaceutical products	0.15		1987
	Metal-work subcontracting			1987
	Extractor hoods for cookers	0.35		1987
	Hydraulic pumps	0.30		1987
Turkey	Meat and meat products	11.40	Vienna	1981
	"Sonnen" Hotel Marmaris	2.80		1986
	"Sonnen" Club Sarigerme	5.60		1986
	Istambul Airlines (expansion)	8.80		1986
	Blood donation centre	22.00		1986
	Continuous casting plant (expansion)	11.80		1986
Uganda	Truck maintainance and repair service	24.00		1985
	TV assembly and repair service	0.60		1985
	Maize mill	0.84		1985
	Soap factory	1.00		1985
	Waste plant for tea plantations	1.00		1985
	Wolframite mining	12.00		1985
	Marble Mining	8.00		1985
	Bulb factory	1.00		1985
	Fish factory	1.30		1985
	Extension of coffee processing plant	1.20		1985
	Organic waste plant for national coffee association	1.10		1985
	Charcoal plant	1.80		1986
	Maize mill	1.10		1987
Yemen	Bulb factory	1.10		1985
	Carpet factory	0.72		1985
	Cattle farming	2.40		1985
	Bottling plant	0.88		1985
	Five wheat mills	4.40		1985



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ANNEX 7

DELEGATES FROM THE OIC MEMBER COUNTRIES  
ON THE JOB ORIENTATION PROGRAMME FOR DELEGATES FROM DEVELOPING COUNTRIES  
1978-1987

Country ////////	Participant ////////////////	Duration ////////	Service ////////
Algeria	Mr. Omar Aoudj	s/t 1982	Brussels
Bangladesh	Mr. Haque	1979/81	New York
	Mr. A.N.S. Mahmud	1981/83	New York
	Mr. A. Ahmed	s/t 1979	New York
	Mr. Sekander Ali	s/t 1979	New York
	Mr. Mir M. Ali	s/t 1981	New York
	Mr. G. Robbani	s/t 1982	Brussels
	Mr. Anwar Hussein	1985/86	Cologne
	Mr. Salehuddin	s/t 1982	Brussels
	Mr. H. Chowdhury	s/t 1983	New York
Cameroon	Ms. A. Efoua Mbozo'o	1984/85	New York
	Mr. A. Amuam	s/t 1984	New York
Egypt	Mr. M.S. Bayoumi	s/t 1978	New York
	Mr. H. Gadel Hak	s/t 1979	New York
	Mr. A.A. El-Din Nazmy	s/t 1979	New York
	Mr. M. Balah	s/t 1981	New York
	Mr. M. Mourad	s/t 1981	New York
	Mr. M. Sadek	s/t 1981	New York
	Mr. I. Kamel	1986/88	Paris
	Mr. M.A. Helmy	s/t 1986	Tokyo
	Mr. A.M. El Gabrouny	s/t 1985	Tokyo
Guinea	Mr. Millimono	1983/85	Paris
Indonesia	Mr. R. Kasri	1980/82	New York
	Mr. S. Widhianto	1984/85	Tokyo
	Mr. Sudratjat	s/t 1983	Brussels
	Mr. Hidayat	s/t 1983	Brussels
	Mr. Siahaan	s/t 1983	Brussels
	Mr. Suud	s/t 1983	Brussels
	Mr. Soeroto	s/t 1983	Brussels
	Mr. B. Rusbandi	s/t 1981	New York
		s/t 1982	New York
	Mr. Marsianto	s/t 1980	New York
	Mr. Hermanto	s/t 1985	Cologne
	Mr. L.S. Kembaren	1986/87	Tokyo
	Mr. A.S. Javanegara	1985/86	Tokyo
Iraq	Mr. M.A. Nisaif	s/t 1979	New York
	Mr. S. Al-Saicq	s/t 1983	Brussels
Jordan	Mr. Nsour	1983/84	Paris

////////////////////////////////////  
(Note: s/t = short term, less than one year)

Country ////////	Participant //////////	Duration ////////	Service ////////
Libya	Mr. A. Abdallah	s/t 1979	New York
Malaysia	Mr. Ang Poh Eng Ms. M. Harizi Mr. Tan Mr. Halimi Ms. Kooi-Sim Foo Ms. E. Teh	s/t 1983 s/t 1983 s/t 1981 s/t 1981 s/t 1983 s/t 1981	Brussels Brussels Brussels Brussels Brussels New York
Mali	Mr. M. Simpara	s/t 1983	Brussels
Mauritania	Mr. I. Old Sidi A. Vall Mr. A.D. Kamara	s/t 1979 s/t 1983	New York Brussels
Morocco	Mr. M. Bensaïd Mr. O. Rhissassi Mr. J. Mouedden Mr. O.H. Sqali	1978/81 s/t 1984 s/t 1978 s/t 1982	New York New York New York New York
Qatar	Mr. N. Al-Khalifa Mr. S. Al-Khauly	s/t 1979 s/t 1979	New York New York
Senegal	Mr. Sidibe Mr. Cisse Mr. Camara Mr. Samb Mr. S.A. Fave Mr. M.A. Ndiave	1981/83 1981/83 1982/83 s/t 1982 s/t 1981 s/t 1982	New York Paris Tokyo Tokyo New York New York
Somalia	Mr. A.A. Mohamed Mr. A.M.Y. Bullo	1984/85 s/t 1984	New York New York
Sudan	Mr. M. Abdel-Azim Mr. S. Saad Mr. M. Medani Mr. F. Zaki Mr. H. Ahmed Mr. M. Hamad	s/t 1979 s/t 1979 s/t 1979 s/t 1979 s/t 1981 s/t 1981	New York New York New York New York New York New York
Tunisia	Mr. A. Krichene Mr. M. Chaieb Ms. A. M'Kada	s/t 1978 s/t 1978 1986/87	New York New York Zurich
Turkey	Mr. Sertac Dogan	1979/80	New York
Yemen Arab Republic	Mr. O. Alkumein	s/t 1978	New York

UNIDO PUBLICATIONS RELEVANT TO INDUSTRIAL INVESTMENT

1. Manual on the Establishment of Industrial Joint Venture Agreements in Developing Countries
2. Financial Resources for Industrial Projects in Developing Countries, Vols I-IV, 1983
3. Manual for the Preparation of Industrial Feasibility Studies
4. Directory of Development Finance Institutes
5. Manual for the Evaluation of Industrial Projects
6. Guidelines for Project Evaluation
7. Development Banking in the Eighties

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**UNIDO****UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION**

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## INVESTMENT CO-OPERATIVE PROGRAMME

INDUSTRIAL INVESTMENT PROJECT PROFILE

Country: \_\_\_\_\_ \*Project number: \_\_\_\_\_

\*ISIC: \_\_\_\_\_ Submission date: \_\_\_\_\_

Project title:  
  
\_\_\_\_\_Project descriptionPart A - Information on the project1. Technical aspects

1.1 Is this project a new enterprise or expansion/modernization of an existing one?

1.2 Product(s) to be manufactured:

---

\* To be filled in by UNIDO

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1.3 For which market? (Export, local, etc.):

1.4 Plant capacity and manufacturing process:

1.5 Availability of manpower, raw materials and utilities (power, water, etc.):

1.6 Plant location and availability of infrastructural facilities:

2. Financial aspects

2.1 Total project cost, broken down into land, construction, installed equipment and working capital, indicating foreign exchange component:

	<u>Local currency component (in US\$)</u>	<u>Foreign currency component (in US\$)</u>	<u>Total (in US\$)</u>
Fixed investment:			
Land			
Buildings			
Machinery and equipment			
Working capital			
Pre-operational expenses			
Interest during construction			
Provision for contingencies			
 Total	 _____	 _____	 _____

2.2 Proposed financial structure, indicating expected sources and terms of equity and loans:

	<u>Local sources (in US\$)</u>	<u>Foreign sources (in US\$)</u>	<u>Total (in US\$)</u>
Equity			
Long-term loans			
Medium-term loans			
Short-term loans			
 Total	 _____	 _____	 _____



2.3 Information on profitability and return on investment:

3. Foreign contribution desired

Indicate whichever is needed among the following:

- Equity participation
- Loans
- Licence and know-how
- Access to foreign markets
- Other

4. Project study available:

- Pre-feasibility
- Feasibility
- Other
- None

5. Currency exchange rate used:

Date:

Rate: US\$ 1 =

Part B - Information on sponsor(s)

Do you wish to have this information kept confidential?  Yes  No

1. Name of company:

Address:

Telephone and telex numbers:

Contact person:

2. Business experience (present line of business):

3. Annual turnover (gross sales) (in US\$):

4. Present ownership:

5. Share capital (nominal):

6. Bank connections:

7. Affiliated companies:

8. Year of establishment:

9. Number of employees:



ISIC:

Code No.:

1. Name of firm:

2. Address:

3. Telephone:

4. Telex:

5. Contact  
Name:

Position:

6. Working language:

7. Number of employees:

8. Turnover:  
(Gross sales)

9. Main products:

9.1 \_\_\_\_\_

9.6 \_\_\_\_\_

9.2 \_\_\_\_\_

9.7 \_\_\_\_\_

9.3 \_\_\_\_\_

9.8 \_\_\_\_\_

9.4 \_\_\_\_\_

9.9 \_\_\_\_\_

9.5 \_\_\_\_\_

9.10 \_\_\_\_\_

10. Preferred form of transfer of resources:

Cash investment

Equipment supply

Joint venture

Expertise

Sub-contracting

Management

Licensing

Technical

Sale of technology

Training

Turnkey project

Marketing

11. Preferred developing countries:

12. Date:

Comments:

Please return this form to Industrial Investment Division, UNIDO, VTC, P.O. Box 300, A-1400 Vienna, Austria