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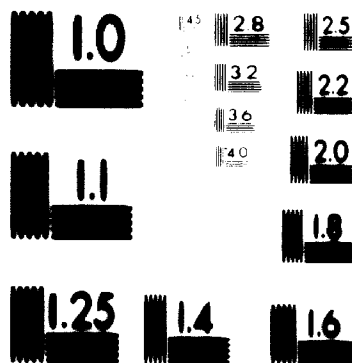
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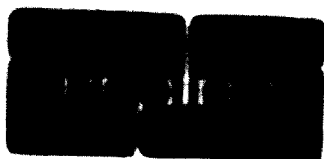


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UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANIZATION
VIENNA, AUSTRIA

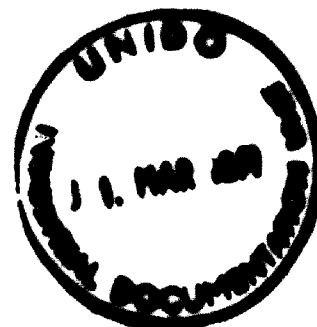
02589

STUDY FOR THE ESTABLISHMENT
AND THE UTILIZATION OF A COLLECTION
OF FEASIBILITY STUDIES BY UNIDO

80 p. + annex.

TERPLAN - CZECHOSLOVAK INSTITUTE FOR REGIONAL PLANNING
PRAGUE

April 1970



Comments by Dr. King

Since the language of this Study is not for me a working language, my conclusions are of course tentative. However it seems that

1) the authors of the Study have not understood the ISIS system, so their comments upon it are not valid.

2) a combination of edge-notched cards (in the Study called "punched cards") with a relatively sophisticated system such as INDIS represents the maximum of work for the minimum return. The printed indexes or a computer search should give us the required information without the need of notching and needling cards.

3) a sixth card type, added to the ISIS/INDIS five, could be a useful method of indicating the presence or absence of certain types of data (in the Study called "problems") which recur frequently in these studies:

This list of "problems" must be worked out with great care. The list in Chart 4 could be taken as a starting point.

In my view this list should not be tied to the proposed "Types of Studies" breakdown. If, as is to be expected, there are studies which do not fit neatly into one category, but expand into two or more, or if an error were to be made in the "Type of Study" classification, then information would be lost. On the other hand is the problem that a searcher wishing information with a typically "Type 9" slant and degree of specificity might find "Type 1" material of little use. Again it is possible that data might be suitable for various types of studies, or possibly might be better suited to another type than to the one in which it is actually found.

4) the Study slides from the area of document retrieval into that of data retrieval without a clear indication of the magnitude of the gulf that it is crossing. In a data retrieval system, all the data should be stored in machine readable form, and the documents themselves may presumably be discarded. This is not merely a further stage of document retrieval, and we should not put ourselves in the position of being expected to undertake it, without exhaustive studies of what is involved and assurance of the necessary resources to carry it out successfully.

5) the recommendation that our programming be farmed out to IBM is not acceptable.

ABSTRACT.

1. The aim of the establishment of a collection of feasibility studies and technical assistance reports is to create effective tools whereby to support the development of industry in the developing countries. The contents, classification and sorting of the materials, the processing of data included and the methods of dissemination of information should be adapted to suit the requirements of users of the collection.

2. To serve their purpose the material contained in the collection should be sub-divided into the following basic types:

Type I - Country studies: Evaluation of natural and economic conditions for the development of industry in a given country.

Type II - Industrial branches: World trends in the development of individual branches of industry and possibilities of their application in developing countries.

Type III - Structural studies: Determination of the effective structure of industrial branches in the relevant developing country.

Type IV - Sectoral studies: Conditions for the development of one concrete sector of industry in the relevant developing country.

Type V - Small-scale industries: Problems of the development of small-scale industries /handicrafts/ in the relevant country.

Type VI - Improvement of activity of existing establishments: Measures to overcome shortcomings in the activities of one or more establishments existing in one developing country.

Type VII - Opportunity studies: Brief formulation of proposal for the establishment of new plants.

Type VIII- Technical requirement studies: Evaluate in detail individual factors that justify the potentialities of establishing new plants, without detailed technical and economic calculations.

Type IX - Techno-economic feasibility studies: Justification of the feasibility of establishing new industrial plants, including basic techno-economic calculations /bankable project/.

3. This list of types remains an open unit. New types of studies can be added to the collection or they can be applied to other collections set up by UNIDO.
4. The UNIDO Collection should include documents elaborated by UNIDO experts and staff and documents worked out by other organizations. By degrees UNIDO should assume the role of a clearing-house among developing and developed countries.
5. The method of cataloguing, classification and marking the content should express the specific tasks of the Collection. The method of classification should be in maximum conformity with those used in other UNIDO collections.
6. The marking of each volume of the Collection should contain the following basic parts:
 - bibliographical data and basic data for classification
 - contents of materials
 - numerical values of indices contained in the studies.
7. Basic data for classification should include in particular:
 - type of material dealt with
 - country
 - apart from country it is useful to include the region where the country is situated
 - industrial branches.
8. Countries should be labelled according to the digit country-code used in the UN. Labelling of industrial branches should be done on the basis of ISIC. A different system of classification worked out by UNIDO can be used as long as provision is made to ensure transferability of data from one system to the other.

9. The contents of the material should be given both in textual form and by coding the existence or non-existence of several dozen problems, the solution of which is typical for studies included in the Collection.

10. The recording of numerical data included in the Collection is not possible at the present time. It would require extensive preparation /the elaboration of a nomenclature of indicators of studies of individual types/, considerable costs and staff. This manner of recording data, however, should be borne in mind as perspective goal which would facilitate more thorough processing of materials and their evaluation.

11. Computer techniques should be used wherever possible for storage, processing and retrieval of information, facilitating greater compatibility and economy. These methods are used for other UNIDO collections, particularly by the Industrial Documentation Unit.

12. Storage and processing of information should be carried out on the IBM 360 computer using as input medium magnetic tape prepared on the MOHAWK Data Recorder MDS 6401. Manual punched cards which are punched round the edges should be used for the operative needs of sorting. These punched cards for needle selection would use either computerized filing cards or hard copy for magnetic tape records.

13. In view of the unusually wide dissemination to various UN bodies, the basic method of organising and processing the records should be that worked out by the ILO. It should be adapted to conform to the specific conditions of setting up a Collection of studies. It would be expedient:

- for the first part of the record stored on the coded master file to be completed with data for basic classification
- for the textual annotation to be followed by a code for the spheres of typical problems usually analysed in studies of relevant types.

14. The Collection can be used in two ways:

- to provide information on the contents and loan individual volumes of the Collection to users within UNIDO /staff members and field experts/, to other UN bodies and outside the frame of reference of UN /potential investors, firms of suppliers, etc./;
- for the elaboration of comprehensive analyses on the basis of documents contained in the UNIDO Collection.

15. The current task of UNIDO is to provide information on individual documents and to loan them out. Operative provisions for this should be made at the earliest possible date. On the other hand, the elaboration of comprehensive evaluation of several kinds of documents requires thorough theoretical preparation and adequate staffing. This will have to be postponed to a later date. But it will mean that the Collection can be put to a qualitatively higher use. Potential uses include the following:

- cross references in a number of studies according to countries and industries
- testing the quality of newly elaborated studies by comparing them with other studies of a similar type or with the results of running existing plants
- comparison of the feasibility of establishing plants of certain industries under conditions existing in various countries
- comparison of the feasibility of establishing plants of various industries in one developing country with a view to the resulting optimal structure of industrial production
- elaboration of a model of the complex development of the economy in accordance with establishment of plants proposed by the feasibility studies.

16. The Collection is to be established by stages. These stages will differ both in view of the quantity of data included and the scope of records and the depth of processing. Each stage is to be established with full knowledge of the manner in which the further stage is to be set up, but as a relatively closed unit which might immediately be put to use.

17. Computer equipment can be used jointly for other UNIDO activities /particularly the Industrial Documentation Unit/. No great investment is involved.

18. One experienced specialist and one staff member of medium-grade qualification will be needed in 1970 to deal with the records and undertake the first steps in establishing the Collection and to prepare its further development. Experiences gained in the course of 1970 will show whether this set-up is sufficient in future years with a view to intended growth in the scope of the work, its processing and application.

19. The tasks on hand in setting up the first stage of the Collection require certain measures of a mainly organisational character, which the UNIDO staff would perhaps be able to manage with the aid of ad hoc consultants. An exception to this is the adaptation of the ILO method for setting up the Collection which should be carried out by the programming service of IBM or other organisations in consultation with the authors of the ILO method.

20. At the present time it is possible to start further preparatory work towards raising the quality of the Collection and giving it more profound evaluation.

In particular:

- the elaboration of a model nomenclature of indices to be used in individual types of studies
- the elaboration of studies on the use of the documents in the Collection for comprehensive evaluation
- the elaboration of location factors with a view to the specific conditions of developing countries.

21. After the elapse of a considerably longer period and the elaboration of a model nomenclature of indices used in individual types of studies it will be possible to consider the elaboration of a programme for the computerisation of numerical value indices.

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1. INTRODUCTION

Commissioning of the Study

1. The study was commissioned by the UNIDO Purchase Order Res: No. 519/69 dated 3 November 1969 from Polytechna, Prague in collaboration with Terplan, Prague and the Research Institute of Industrial Economics, Prague.

Purpose of the Study

2. The purpose of the study is to deal with these tasks:
- To investigate ways and means for UNIDO to undertake the establishment of a collection of feasibility studies in the field of industry commissioned by the UN system and by other governmental and non-governmental organizations with reference to project proposals in developing areas.
 - To determine evaluation for a meaningful selection of the material to be retained.
 - To establish in this connection whether the development of guidelines in the conducting and presentation of feasibility studies can assist in raising the standard of the studies in addition to leading to a more generalized applicability of the findings.
 - To explore the possibilities of setting up a system whereby data from these selected studies would be fed into an integrated data bank from which they could be retrieved in accordance with different requirements, for example for the purpose of making an analysis by country, region or industrial branch.
 - To indicate effective measures for the dissemination of the material and data collected.

Collective of Authors

3. The study was elaborated by these experts:
Miloš Červený /team manager/ - Terplan, Prague
Věněk Šilhán - Research Institute of Industrial Economics, Prague
Jaroslava Forejtová - Terplan Prague

Period of Elaboration

4. The study was undertaken on 1 December 1969 by studying materials provided by UNIDO, Vienna. The basic ideas were discussed with UNIDO staff members in Vienna 23 - 28 February 1970 after the material had been evaluated and the first conclusions been drawn up. The final material was drawn up in April 1970.

II. PRESENT STATE OF THE ESTABLISHMENT OF THE COLLECTION

5. The proposal for the establishment of a Collection of feasibility studies and technical assistance reports - /henceforth only Collection/ - must be based on a knowledge of the present state and the aims to be achieved by the establishment of the Collection. On the basis of studying materials in December 1969 the following holds true.

6. At the present time no list of items to be included in the Collection has been worked out. The number of items at present at disposal have been estimated at several hundred. This includes reports by field experts and others working within the frame of reference of UNIDO since its establishment; furthermore, items on the development of industry in developing countries supplied by other UN agencies.

7. During their visit to Vienna the authors of this paper dealt with approximately 60 - 70 items that might be included in the future Collection. Their selection could not follow any stipulated requirements; it was a random selection and can therefore not serve as reliable pattern for the contents of the Collection. But it provided the required information on the level of finished reports and the difference in their aims.
8. The study of the material showed that a clear picture of the content of the Collection involved distinguishing different types of documents to be applied in the solution of different tasks. At the same time it became clear that studies carried out by different experts need to be guided in regards to content. A comparison of items showed e.g. greater depth of treatment and clarity in the case of documents dealing with the economic evaluation of the consequences of using different kinds of technology in the production process. The system of indicators used also differed considerably.
9. No members of the UNIDO staff have so far been given the task of establishing the Collection. This is due to the number of existing staff of the Industrial Information and Promotion Section and the necessity of dealing, in the first place, with other tasks within the frame of reference of that Section. The preparatory work is, therefore, being carried out by staff members outside the frame of reference of their normal working day.
10. The problems to be dealt with in the Collection are relatively closest to work done in the Industrial Documentation Unit. Any proposal for drawing up a Collection should, therefore, follow up work done by the IIS in regards to equipment, methods used and staffing. The specific aims and content of the Collection must, of course, involve a purposeful adaptation of ways and means used.

11. Library requirements count on using the IBM 360 computer. Data will be recorded on magnetic tape using the Mohawk Data Recorder MDS 6401. Annotation should be processed according to the method developed for the ILO library.

12. The IIS is carrying out or preparing a whole series of other activities connected with the collection and processing of data. This work could link up in regard to classification of data and methods used in processing. As examples might be cited the Industrial Documentation Unit, Data on the Supply of Industrial Equipment, Roster of Industrial Consultants, Register of Industrial Films.

13. The establishment of the Collections also links up with the work of other UNIDO departments, both with regard to the users of the Collection and similar material worked out by them. As example might be cited the following publications:
 - EXTRACTS OF INDUSTRIAL FEASIBILITY STUDIES
 - PROFILES OF MANUFACTURING ESTABLISHMENTS
 - THE INDUSTRY FILE SYSTEM
 - THE REGISTER OF BUSINESSES.

14. The above shows that the Collection is not to be established in isolation from other work done within the frame of reference of IIS or other UNIDO departments. On the contrary, it is to be part of the broader dissemination of information by UNIDO making joint use of methodological, staffing and material provisions.

**III. THE IMPORTANCE OF ESTABLISHING A COLLECTION OF
FEASIBILITY STUDIES AND TECHNICAL ASSISTANCE REPORTS
AND ITS MAIN USERS**

15. The aim of establishing the Collection is to set up an effective tool for carrying out the basic task of UNIDO - to aid the development of industry in the developing countries.

16. The staff and organisations that carry UNIDO work into practice will be the main users of the items of the Collection. The organisation of the Collection should, therefore, bear in mind their needs, particularly:

- the contents of documents included,
- the manner of their classification,
- data processing and methods of dissemination of information on the Collection and results of overall evaluation of items.

17. The main users of the information will include:

- UNIDO staff who, in their work, need up-to-date information on problems connected with the development of the economies of developing countries.
- UNIDO experts sent to the developing countries to give technical assistance. Their work begins with studies in which the experts gain knowledge of work done so far to aid the developing countries and on their economic problems.
- UN Resident Representatives in Developing Countries. These bodies should play a very important role in coordination and direction of experts activity. They should act both as significant users of the UNIDO Collection /especially of Studies on Industrial Branches, comparison of results of studies elaborated in other developing countries, reports on comprehensive evaluation of documents comprised in the Collection, etc./ and they should provide UNIDO information on all the studies being processed in the relevant developing countries.

- Potential investors who need to have at their disposal information on conditions of establishing new plants at all stages of preparatory work in planning and drawing up blueprints. Useful to them in this regard are general reports on conditions for the development of industry in the relevant country and the evaluation of the feasibility of establishing plants of a certain kind.
- States or international banks that provide credit for the establishment of industrial plants in developing countries.
- Foreign trade companies that draw up plans to offer the export of industrial equipment to the newly established industry in developing countries.
- Other UN bodies and organisations outside the frame of reference of the United Nations which deal with problems connected with the development of industry. As examples might be cited housing estate planning, questions of the infra-structure, consequences of the development of industry on that of agriculture, travelling, etc.
- Other potential users include research institutes that deal with the problem of the development of industry in developing countries.

18. The services provided by the Collection in fulfilling the aims of UNIDO can be of two kinds, according to the requirements of users:

- the loan of individual documents in the Collection or conveyance of their contents. Services of this kind are operative in character and service the immediate requirements of the users
- provision of information resulting from a comparison of a series of documents or their overall evaluation. Services of this kind are a type of research work and would mean a qualitatively higher level of services provided within the frame of reference of the Collection.

19. Each of the types of service mentioned in the preceding paragraph involves a slightly different approach to the question of classification and the methods of processing the items in the Collection. Demands also vary in regard to the level of expertise of the staff entrusted with this type of work. With a view to the immediate tasks of UNIDO provisions should be made primarily to provide for the operative requirements of the users. From the very beginning the establishment of the Collection should be organised in such a manner as to facilitate, at some future date, the more exacting manner of scientific processing of the items included in the Collection.

IV. CONTENT OF THE COLLECTION, BASIC TYPES OF MATERIALS

CONTAINED AND THEIR SUBJECT MATTER

20. The documents to be used in setting up the Collection of feasibility studies and technical assistance reports must be drawn up by specialists and deal with possibilities of development of industry in the developing countries. Their scope is very wide, ranging from investigations into the general conditions for industrial development in individual countries to the evaluation of the economic feasibility of establishing plants with a precisely stipulated production programme. They differ in depth of treatment and stress placed on the solution of various problems. In view of this it is possible to stipulate several types of materials that can make up the Collection - in accordance to their basic approach.

21. The division of documents into certain types serves the following purposes:

- it expresses more clearly the tasks to be pursued by the documents; in so doing it provides information for users showing for what purposes a certain document can best serve;

- it provides a basis for the classification of the documents according to subject matter, and for better quality annotation and further computer processing;
- it facilitates the drawing up of a methodological aid for normalizing the content of documents in the Collection. Each type of documents deals with a different sphere of problems to be solved in the first place. This would make it possible for UNIDO to exert an active influence on the work of experts and would raise the quality of materials to be compiled.
- the stipulation of the subject matter provides conditions for a future elaboration of a set of indicators to be used for individual types of materials in the Collection.

22. The determination of types of documents, a model of the content of problems evaluated and a set of indicators proposed link up as follows:

Type of material	model of the content	set of recommended
forming a Collection	of problems dealt with	indicators

23. The work submitted can give only an outline of the proposed content of problems dealt with. A special study should be made dealing with their detailed elaboration and particularly with proposals for a recommended set of indicators. This should follow upon the adoption of the overall concept of the establishment of the Collection.

24. The set of recommended indicators would prove a considerable aid in the comparison of documents that deal with common problems and it would be a necessary condition for future storage of numerical data in the Collection in a computer and computer processing of these. The UNIDO Extracts of Industrial Feasibility Studies form an important step towards establishing a nomenclature of indicators for feasibility studies in the proper meaning of the term. Many other methodological problems remain to be dealt with, e.g. the different subject matter in indicators bearing the same title in different countries, questions of currency rates, etc.

25. A vital task in the setting up of the Collection is the correct stipulation of types of studies and their suitable subject matter, whereas the nomenclature of indicators and their drawing up should be regarded as a matter of long-term perspective.

26. The basic division of the documents in the Collection into various types according to content should be done in accordance with the advance of industrial development in developing countries /from the initial studies on possibilities of industrial development in individual countries to the final stage of studies leading to the drawing up of concrete projects/.

27. At the present time there exist two important works that deal with this problem D. Slimák: STAGES OF PROJECT PREPARATION INTRODUCTORY STUDY. E.G. Bröder: DATA REQUIREMENTS FOR SPECIFIED STAGES OF INDUSTRIAL PROJECT PREPARATION. They do not entirely conform and it would be expedient to add certain other aspects deriving from the research made when this paper was drawn up.

28. A classification of types of studies and their subject matter was drawn up on the basis of existing works and after research into a larger number of documents forming the core of the Collection. For detailed description of the proposed division see para 29 - 37.

29. Type I - Country Studies

This type includes documents characterising the economic potential of the relevant country, and the basic economic and natural conditions for development. They contain an analysis of roughly the following points:

- geographical data /position, area, geology, climate, economic agglomeration/
- population /demographic data, nationality and religion/
- social conditions /state system, economic law, labour law, social insurance, trade union organisations/
- administration /administration bodies, statistical services, public legal organisations/
- economic level /GNP, technical and economic level, structure of production, problems of main industries/
- financial conditions /taxes, customs, credit, currency, state subsidies, conditions for the import of capital, etc./
- foreign trade /commodity and territorial structure, balance of payments/
- raw materials, fuel and power basis
- water resources
- network of transportation /internal transport, important ports/
- manpower /resources, employment and unemployment, tradition of production/
- income of population, salaries and wages
- housing
- education
- health services
- national economic plans
- level of industry /technical level, structure, volume of production, main capacity/
- science, research, development /projects, licences, patents, know-how/.

30. Type II - Industrial Branches

This type includes materials that characterise the development trends in individual branches of industry and related questions /e.g. new technological processes, development of prices, changes in the raw material bases, etc./. The Collection should comprise particularly such materials as evaluate the possibilities of the development of the relevant branches under the conditions of the developing countries as a whole. IBRD is working up a series of documents of this type.

They deal approximately with the analysis of the following problems:

- assortment of production /main groups of products/
- market analysis
- prices
- technology /state and development trends/
- quality and development of new products
- raw material, material, fuel and power basis /state and development/
- specialisation of production /state and development/
- concentration of production /size of plants - suitable capacity level/
- capital intensity
- production and supply relations /to other industrial branches and to other branches of the economy/
- establishment and organisation of enterprises /limited companies, state participation, etc./
- level of management
- science, research and development /projects, licences, patents, know-how/
- requirements in manpower /quantity, qualifications/
- cost of materials /requirements of raw materials, fuel and power/
- cost of transportation
- site /area and quality/

31. Type III - Structural Studies

This type comprises documents dealing with the effective structures of industry from the point of view of the level of profitability; the effective use of capital invested, manpower, raw materials and fuel and power, the guarantee of the country's independence, their share in the world market, the saturation of home needs, etc. The documents will usually deal with technical, technological, financial and other questions of the entire complex of industrial branches. Industrial production in individual developing countries usually forms part of a broader industrial complex /region/. Their optimal trends are subject to many rules in development of industries located in larger territorial units and have to be solved with full awareness of the problems of development in these broader regions and with a knowledge of the influence of location factors for individual branches of industry. Such studies are usually drawn up for the whole country, but may deal with only certain parts. Studies of this type contain characteristic features of the conditions of individual industrial branches on the enlargement of existing plants and for the building of new ones, in particular:

- the raw material, material, fuel and power base of the country /with a view to the specific requirements of individual industrial branches/
- water resources
- network of transportation /comparison with requirements on transport by industrial branches/
- manpower /resources, employment and unemployment, tradition in production/
- level of industry - comparison between individual branches /technical advance volume of production, main capacity/
- concentration of production /size of enterprises/
- capital intensity
- production and supply relations among individual industrial branches /input-output analysis, etc./ and with other branches of the economy /agriculture, forestry/

- market analysis /home and foreign/ for the sale of products of individual industrial branches
- profitability of production in individual industrial branches
- financial conditions /taxes, customs, credit, state subsidies, import of capital/
- establishment and organisation of enterprises /limited companies, state participation, etc./
- science, research and development /projects, licences, patents, know-how/
- location /general view of the location of industry in the country/

32. Type IV - Sectoral Studies

This type comprises documents that evaluate the conditions for effective development of one concrete sector of industry in the relevant country, from the point of view of material and manpower resources, the existing production basis, possibilities of home and foreign sales, etc. These studies are a logical follow-up of the Structural Studies /Type III/. They deal in detail with one branch of industry, for which the relevant country has the most suitable conditions of development. They contain an analysis of approximately these problems:

- level of industrial branch /technical level, structure, volume of production, main capacity/
- raw material, material, fuel and power basis in the country
- water resources
- network of transportation /covering the requirements of the branch on transportation/
- manpower /resources, tradition of production/
- market analysis /home and foreign/
- quality and development of new products
- assortment of production /main groups of products of the given branch/

- specialisation of production
- concentration of production /size of enterprises/
- capital intensity
- production and supply relations /to other industrial branches and other branches of the economy/
- establishment and organisation of enterprises /limited companies, state participation, etc./
- financial conditions /taxes, customs, credit, state subsidies, import of capital/
- level of management
- science, research and development /projects, licences, patents, know-how/
- requirement of manpower /quantity, qualifications/
- profitability of production
- production costs
- material costs /requirements of raw materials, fuel and power/
- transport costs
- location /general view of the location of the industrial branch/.

33. Type V - Small-Scale Industries

This type comprises documents that characterise the state and conditions for development of small-scale industries, as e.g. small-scale metal workshops, wood-leather workshops, arts and handicrafts, the production of textiles and clothing, etc. This type is analogous to the Sectoral Studies, but differs in the content of problems dealt with. In view of the predominant form of craftwork the question of technology is not a major one nor is the provision of exacting territorial technical factors of major importance.

The documents deal approximately with these matters:

- the function of handicrafts in the economic life of the country, in individual regions and large towns
- financial conditions /taxes, credit, state subsidies for small-scale industries/

- social conditions /labour regulations, social insurance, merging of small-scale producers, etc./
- raw material basis /local raw materials for small-scale production/
- market analysis /home and foreign, including the requirements of tourist travel/
- assortment of production /basic branches of production/
- quality of products /level of craftsmanship of the local population/
- incomes of craftsmen /small-scale producers/
- relation of craftsmen to large-scale industry /production, supply relations, spheres of work/

34. Type VI - Improvement of Activity of Existing Establishments

This type comprises analyses on how to improve the activity of existing establishments with unsatisfactory profitability. It usually deals with one /or only a few such establishments/ where the causes of shortcomings derive from the activity of the establishment itself. Research into measures of state policy /taxes, customs, etc./ with the aim of improving the conditions for development of the whole branch belong into studies of type IV - Sectoral Studies.

Analyses deal approximately with the following matters:

- profitability of production /profit, financial situation of the enterprise/
- production costs
- material costs /requirements of raw materials, fuel and power/
- costs of transportation
- requirements in manpower /required qualification, social conditions/
- level of management
- technology /its level and required changes/
- equipment /technical level, age/
- capacity of the establishment /optimal scope, possibilities of reconstruction and demands on capital/

- annual production /use of capacity/
- raw materials basis /suitability of resources for the needs of production/
- market analysis /control of home market, share of production for export/
- prices
- assortment of products /suitability for the needs of customers/
- quality and development of new products
- financial conditions /taxes, customs, state subsidies on the home and foreign market, etc./
- research, development /licences, patents, know-how/

35. Type VII - Opportunity Studies

This type comprises outline proposals for the setting up of new plants /usually ten pages/. The purpose of such documents is to call forth interest among potential investors or to justify the need for the elaboration of further, more detailed studies.

They contain analyses of approximately these matters:

- assortment of products /main groups of products/
- capacity of the establishment
- market analysis /home and foreign/
- raw material, material, fuel and power bases in the country
- cost of investment /rough estimate/
- financial resources /potential investor/
- manpower requirements /quantity, qualifications/
- costs of transportation
- /water supplies /in the case of great demand/.

36. Type VIII - Technical Requirement Studies

This type comprises documents dealing with the establishment of new or the reconstruction of existing plants. Documents of this type contain more profound textual analysis of the future enterprise, but do not provide a complex set of data and indicators needed for the tender.

They contain approximately the following matters:

- assortment of production /list of main products/
- capacity of the establishment
- market analysis /home and foreign/
- prices /rough estimate/
- raw material, material, fuel and power basis in the country
- social conditions /state system, economic and labour law, social insurance, trade union organisations/
- financial conditions /taxes, customs, credit rate, currency, state subsidies, import of capital/
- technology /variants of solution/
- equipment /basic types/
- costs of investments
- sources of finance /credit, foreign capital, potential investor/
- manpower requirements /quantity, qualifications/
- total costs of production
- of this: material costs /raw materials, fuel, power/
costs of transportation
wage funds
- profitability of production
- supplies of raw materials /rough estimate of needs and resources/
- supplies of fuel and power /rough estimate of needs and resources/
- water supplies /in the case of great demand/
- production structure of the establishment.

37. Type IX - Techno-Economic Feasibility Studies

This type comprises documents that deal in detail with the effectiveness of the establishment of new or reconstructed establishments including basic techno-economic indicators. These studies deal also with the location of establishments and requirements arising from local conditions. They are worked out to such depth that decisions on financing the establishment of the plant can be taken /"bankable projects"/. This type is of prime significance in comparison with the types of studies given above in view of the completeness and depth of treatment /full-fledged studies/. Even in the form of indicators used these documents come closest to material published as **PROFILES OF MANUFACTURING ESTABLISHMENTS**. In method such studies should conform to the **EXTRACTS OF INDUSTRIAL FEASIBILITY STUDIES** published by the East Africa Party on **Industrial Programming Data**. They contain analyses of approximately following matters:

- assortment of products /detailed specification/
- capacity of the establishment
- annual production
- market analysis /home and foreign/
- production and supply relations to other enterprises
- prices /state and development trends/
- raw material, material, fuel and power basis in the country
- social conditions /state system, economic and labour law, social insurance, trade union organisations/
- financial conditions /taxes, customs, interest rates, state subsidies, import of capital, etc./
- technology /justification of proposed solution/
- equipment /detailed specification/
- patents, licences, know-how

- **costs of investment**
of this: **fixed assets / site, buildings, machinery/**
working capital,
other investments
- **sources of finance / credit, foreign capital, potential investor /**
- **manpower requirements / quantity, qualifications/**
- **total production costs**
of this: **material costs / raw materials, fuel, power/**
cost of transportation
wage funds
- **profitability of production**
- **site / area and quality/**
- **supplies of raw materials, include semi-manufactures / quantity, specific needs, supplier/**
- **supplies of fuel and power / quantity, specific needs, supplier/**
- **water resources / under local conditions/**
- **production structure of establishment**
- **general scheme of plant**
- **location**
- **period of establishment**
- **provision of blueprint**
- **provision of building capacity.**

Sequence scheme of groups of activities in solving the above-mentioned problems is illustrated in Chart 5.

38. The division of the Collection into the above-mentioned basic types is not intended to form a closed, but an open system. If the need should arise for other types of materials to be included as the problems develop or the users may require, it will be possible to add other independent groups. The numerical marking of these types can also be used for documents kept in other collections within the framework of IIS than the Collection of feasibility studies and technical assistance reports.

39. The logical sequence of the types of documents of the Collection is illustrated in Chart 1. Basic viewpoints for classifying the studies into individual types are given in Chart 2 and Chart 3.

40. In the course of drawing up this study research was undertaken into a large number of documents which are to form the core of the Collection. Annex I gives a list and the classifying into the basic types given above /and further possibilities of the classification viewpoints mentioned in other parts of this paper/.

41. A detailed survey of problems predominant in individual types of studies I - IX is given in Chart 4. This survey shows that identically named spheres of problems are often dealt with in several different types of studies. Account should, however, be taken of the fact that subjects bearing the same name are dealt with to different extent in different types of studies.

42. The full set of problems to be taken into account in materials of a certain type can not usually be found in anyone document. Should the user be looking for a document of a certain trend and extent of treatment where he would find information on a given problem he must proceed in a horizontal and vertical direction, i.e. must look for studies of the required type where an evaluation of the relevant problem is marked.

43. Some problems given in the list on Chart 4 are of specific character and may have been subject to independent studies. This refers to marketing, location studies etc. The point may be raised that studies of such a kind should be included in the Collection as further independent types. It is however more suitable to include marketing analyses and location studies among the individual types of documents in conformity with the sphere of economic activity they deal with. Their specific approach can be expressed in the correct coding or in the annotation of the content.

44. Marketing analyses for all industrial branches in one country are usually given in studies of type III. Marketing analyses for one branch can be found in studies of type IV., marketing research for newly established enterprises are dealt with in studies of type VIII. When they include detailed research into assortment - studies of type IX.

45. Similarly, evaluation of location of a whole industry is generally found in type III, of one branch in type IV, detailed location with the evaluation of all local factors is usually given in studies of type IX even if general considerations /often with variants of solutions/ can be found also in studies of type VIII.

V. SOURCES OF DATA FOR THE COLLECTION

46. The main sources of data are documents compiled by UNIDO experts as part of technical assistance to developing countries. Most of these documents are financed through the UNDP /Technical Assistance or Special Fund/, but other sources of financial support are also possible. Nor must UNIDO's attitude to providing these documents always be the same.

In a number of instances, UNIDO acts as the executive agency for the UN /for missions financed through UNDP or other UN sources, or data procured out of its own budget/. In other cases, UNIDO obtains documents put out by other organisations or UN bodies. In such cases it merely acts as the recipient of data.

47. Another source of data /at the present time more a potential source/ are documents put out by organisations outside the framework of the UN. One should note in the first place the CATALOGUE OF INVESTMENT INFORMATION AND OPPORTUNITIES /Agency for International Development/. To fulfil the function of a clearing-house and for an evaluation of a larger collection of studies it is recommended that UNIDO not only own a list of documents provided by other organisations but that, in line with possibilities, it also possess their copies. See Chart 6 for a scheme of data indicating UNIDO's degree of direct contribution in providing them.

48. The following problems are linked to the different content of the data, to the various sources of financing them and to the various possibilities of acquiring data:

- The organisation of a suitable flow of information
- Ensuring UNIDO's influence on the subject matter.

49. The suitable flow of information should be resolved in a differentiated manner with information acquired by other organisations. As regards documents of the feasibility studies type /technical reports, etc./ which have an unquestionable relation to industrial development, it would be correct to ensure that UNIDO receives one copy of these documents from the UN bodies that put them out. According to subject these documents would be incorporated either into the Collection of feasibility studies and technical assistance reports, or into the library /Industrial Documentation Unit/.

50. It would also be possible to request that the governments of individual developing countries send in documents where the study was originally undertaken for their benefit. This approach, however, would be less reliable /in view of the greater number of developing countries than that of UN bodies/ as well as the differing level of administration of such countries.

51. An important role in ensuring the flow of information should be played by UN bodies in the developing countries /Resident Representatives/, especially if the representation of various organisations and specialised agencies are amalgamated / VIZ Jackson: A STUDY OF THE CAPACITY OF THE UNITED NATIONS DEVELOPMENT SYSTEM, Chapter 7/. Representation in the field could then supply UNIDO with information on all studies provided by UN organisations in the given developing countries and in a number of cases by bodies outside the UN. /If need be, ensure acquisition of studies carried out/.

52. Regarding documents put out by bodies other than UN ones, the reliability of information of these documents can be ensured in the course of long-term relations between UNIDO and these bodies. A reliable flow of such information will also depend chiefly on how the UNIDO bodies succeed in ensuring their application and presentation to the potential users.

53. The creation of a high quality Collection and its maintenance not only requires ensuring a constant flow of newly elaborated studies but also actively influencing the quality of their elaboration /mutual comparison/. UNIDO can contribute to this end in the following manner:

54. By working out a methodical system that would help to standardize and unify the subject matter, possibly also indicators used for the different types of study. This would facilitate their classification, the comparison and evaluation of data they contain. In order to obtain a certain standardization of acquired data it is necessary, from the very beginning in establishment of the Collection, to follow the interests of all UNIDO bodies that will use the Collection. It would be useful to put the methodical data for influencing the content of studies, once worked out at the disposal of other UN organisations who send their experts to developing countries, or who are dealing with data on the possibilities of developing industry in these countries.

55. Every expert sent by UNIDO to developing countries should go through a briefing in which, apart from his specific tasks, he should be acquainted with the content of the Collection and with the documents from which he can draw data for his work. At the same time he should be told of the shortcomings that most often crop up in the elaboration of studies by experts.

56. The scheme of global information flow from processors via UNIDO /its body providing the establishment of the Collection - IIS/ to main users is illustrated in Chart 7.

VI. CHOICE OF DOCUMENTS TO BE INCLUDED IN THE COLLECTION

57. Extensive material is already at UNIDO's disposal for the organisation of the Collection. Not all, however, is suitable for inclusion in the Collection. The evaluation of the existing material from the viewpoint of expediency of incorporating it into the Collection should be done from the following viewpoints:

- content /the solved problems/
- form and extent of documents.

58. In view of this assessment such documents should be removed from the Collection which

- do not correspond to UNIDO's type of work
- form part of a different collection of documents /other collections/ within the framework of UNIDO
- do not have a lasting value.

59. From the point of view of content these documents in particular should not be included in the Collection:

- a/ official UNIDO documents or those of other UN bodies. These documents are requisite components of the archives of other bodies and were requested from them.
- b/ documents which are part of other collections organised by the Industrial Information and Promotion Section /VIZ para 12/, or documents that are put out and dealt with by other bodies of UNIDO. However, it is necessary to ensure a certain comparability between these various collections, chiefly from the standpoint of classification and sorting the documents they contain.
- c/ material of a general character on specific measures in economic policy in support of industrial development in developing countries /for instance in the realm of taxes, customs, prices, working rights, and so on/. These documents do provide valuable data even for determining industrial development, but they are of a broader character, extending beyond UNIDO's frame of reference and are, as a rule, prepared and disseminated by other UN bodies. They would take on a duplicate character if they were to be included in this Collection.
- d/ documents that deal directly with problems other than industrial development in developing countries /for instance, the development of research and project bases, education, problems of housing and so forth/. These documents belong more to the frame of reference of other bodies of the UN than to UNIDO, /for example UNESCO, ILO, and so on/. In general they are put out by these bodies.

60. Even though the documents mentioned in para 59 should not be included directly in the Collection of Feasibility Studies and Technical Assistance Reports, they have a direct bearing on industrial development and should therefore be at UNIDO's disposal. Documents in para 59, a, b, are covered in other collection of IIS or other bodies of UNIDO; documents in para 59, c, d, should be available in the UNIDO library. Their acquisition, maintenance, annotation and dissemination should be carried out only by traditional library methods.

61. After eliminating those documents from the standpoint of their subject matter, it would be useful to eliminate a whole series of other documents which cannot provide the required information from the viewpoint of the form and extent of their elaboration. This is material which in view of its subject matter, however, could be included in one of the types mentioned in para 29 - 37, but which is not of permanent value for an effective solution of problems. Among these documents there are chiefly:

- a/ Documents whose basis /in conformity with their stipulated target/ are not suggestions for the effective solution of problems but justifications for requests by the particular country for UN technical aid.
- b/ Reports /mostly Final Reports/ on the results of the activities of long-term missions whose purpose was not to draw up a written document with a proposal for a solution but to provide the assistance required on the spot within the frame of reference of activities of the particular mission. Such reports serve the economic-administrative needs of financial and contractual bodies. Among these, for instance, are, help in the training of personnel, assistance in the solution of various problems of administration and so on. An exception to this might be such final reports on long-term missions containing technical-economic analyses concerning problems of development of certain industrial branches in the given country, and can

therefore provide valuable information for subsequent field activity or in the solution of problems of investment construction.

c/ Various current reports, first drafts, in a number of cases also interim Reports, insofar as they have only a provisional character and the Final Report will deal once again with the solutions to the problems.

d/ Documents that contain chiefly statistical data on economic and social phenomena without providing a deeper analysis on the possibilities of economic development that stems from this /this refers chiefly to documents issued by the UN Statistical Office, or by other statistical bodies/.

e/ Documents that have clearly become outdated. A correct evaluation of outdated documents can be given only by a specialist evaluation of their content, which would be a very expensive practice. For ordinary practice the fact that the same problems has already been dealt with by far newer documents will suffice. The classification method can serve to determine documents dealing with identical matters /see chapter VII/.

VII. CATALOGUING, CLASSIFICATION AND MARKING OF CONTENT OF DOCUMENTS FORMING THE COLLECTION

62. The scope of data to be recorded, classified sorted or otherwise processed depends on the extent to which the Collection is to be organised. The complex characteristic of documents should basically contain these main parts:

- a/ basic bibliographical data
- b/ type of document and its main characteristics
- c/ indication of problems dealt with in the documents
- d/ record of the numerical value of indicators contained.

63. The main bibliographical data comprise:

- **Entry number of publication**
- **Author**
- **Title of publication**
- **Year of publication**
- **Number of pages**
- **Language in which the publication is written**
- **Location /organisation holding the document/.**

64. Type of document and its main characteristics.

This should contain the basic criteria according to which the user would look for a required document. It should correspond to the specific aim and purpose of the Collection organised by UNIDO and cannot apply general subject headings used in libraries of a universal character. The most important criteria for the selection of documents comprise:

- **type of document included in the Collection**
- **geographical location /country, possibly wider region/**
- **industrial branch.**

65. The type of material included in the Collection gives the user the basic idea of its purpose. For numerical marking of individual types see Chapter IV.

66. Further basic information for the user of the Collection includes data on the geographical area for which the document was compiled. Materials of all types except Type II deal with a concrete country. /Type II deals with branches of industry in all countries/. The numerical code of the UN should be used to mark the country /to ensure comparability with other UN material/. In a number of cases - in a broader context - it may be useful to group together information on several smaller countries to form a region. Organisation according to continents is too broad classification for this purpose; it is more suitable to chose several smaller regions on any one continent.

67. Data on industrial branches form another approach to the Collection which must form one of the basic viewpoints in classification. These data can be provided only in studies of type II, IV, VI, VII, VIII, IX, and in some cases also in studies of Type V. /Small-scale industries/.

68. The manner of classification of industrial branches should be in maximum conformity with classification used by other UN bodies, particularly by UNIDO departments. Titles used in other UNIDO documents /e.g. THE INDUSTRY FILE SYSTEM: A DATA BANK FOR INDUSTRIAL PLANNING; THE REGISTER OF BUSINESS clearly tend to use the ISIC classification. This should therefore also serve in the setting up of the Collection. If the Industrial Information and Promotion Section uses another system of grouping branches into major groups or another method of marking them numerically, unequivocal transferability of data should be ensured between the ISIC classification and the method to be used in setting up the Collection.

69. The ISIC is a General Classification designed to meet widely varying needs of many countries at differing stages of industrial development. The field of economic activity is broken down into 8 divisions /first digit/, 44 subdivisions /first 2 digits/, 122 groups /3 digits/. There is also an additional group for nonclassifiable establishments. The UN, the ILO, the FAO and other international bodies utilised the international standard classification in classifying data according to kind of economic activity.
Need also for international comparability of economic statistics.

70. Another problem is the advantage or disadvantage of numerical coding of branches and their textual marking. Numerical coding, for which the ISIC method uses the decimal system, provides for a certain hierarchy of classification into division, major group, group. This manner is therefore suitable for classification for research work. The textual expression, on the other hand, makes it possible to express the character of production in more detail, and it is more comprehensible for people from the developing countries who lack practice in the classification of industrial branches. Most suitable would be a combination of the two manners /VIZ Chapter IX/.

71. The marking of the problems dealt with in the documents can be done in textual form using a large number of previously stipulated descriptors or coding agreed to in advance according to a definite list of problems to be evaluated or dealt with in studies of a given type. Free verbal expression makes it possible to select from a considerably larger sphere of terms given in the List of Descriptors than is possible by a previously stipulated list of problems dealt with. But it serves less well for classification requirements in view of its non-organised structure, and the number of descriptors used for one annotation is rather limited. Coding of a set of problems dealt with most frequently in a single-purpose Collection, on the other hand, makes it possible to give far more comprehensive information on the content of the documents elaborated. In this case, too, a combination of the two methods is possible /VIZ Chapter IX/.

72. Record of numerical values of indicators: This work can be done only on the basis of very thorough methodological and organisational preparation. It requires the unification of individual types of studies including a stipulated nomenclature of indicators used. It should be realized that the subject matter of equally defined indicators does not tally in all countries and requires a series of detailed footnotes. Such problems are related to those arising in international statistics where data are compared. It is even more complex since the content of the problems dealt with is not identical and since the

individual studies are compiled by specialists chosen ad hoc, not by permanent specialists organisations. But important work has been accomplished in this field. This refers to a large set of data on series of manufacturing establishments published by UNIDO under the title **PROFILES OF MANUFACTURING ESTABLISHMENTS** and a methodological document entitled: **EXTRACTS OF INDUSTRIAL FEASIBILITY STUDIES**. The set of indicators used in these two works should, basically, correspond to the set of indicators used in studies of type IX: **Techno-economic Feasibility Studies**.

73. The record of numerical values of indicators of individual studies remains a matter for a later stage. It cannot be carried into effect at the present time. A record of numerical data should, in future, help to fulfil these tasks:

- simultaneous retrieval of indicators from several sources dealing with a similar task
- comparison of these indicators of individual studies or with other sources
- numerical processing of these indicators.

In the setting up of the Collection the record of numerical data should be borne in mind as a perspective goal.

VIII. TECHNICAL MEANS IN ORGANISING THE COLLECTION

74. The selection of the right kind of techniques for the storage, processing and retrieval of information on the content of documents depends on the following circumstances:

- scope of items processed
- number of questions answered
- depth of treatment and rate of details provided in the information
- scope of UNIDO activity in disseminating information on the documents assembled
- scope of analogical collections of UNIDO and possibility of using the same techniques and a similar manner of processing.

75. At the present time it is only possible to make a rough estimate of the number of volumes of the Collection. It can be expected that the annual increment will amount to approximately 250 documents from UNIDO sources, which should be included in the Collection. Another 600 annually can be expected from other UN sources. To this should be added material elaborated by AID /estimate, at the present time, 1,600 volumes/, or documents from sources outside the UN.

76. The number of inquiries cannot be reliably stipulated at the present time /when the Collection is in its initial stages/. An analogy can only be taken from the number of 500 monthly requests for documents and extracts which are being dealt with at present by UNIDO staff and experts in the Industrial Documentation Unit. In view of the narrower purpose of the Collection the future number of inquiries as to the Collection can be expected to be lower.

77. The following conclusions can be drawn as to the extent of dealing with information:

- The manual methods of classification would suffice for simple classification and selection of documents in the Collection /according to types, countries, branches - VIZ para 64/, number of volumes in the Collection being relatively small.
- Problems could be marked by a code /VIZ para 71, Chart 4/ with the technic aid of punched card machines or a computer.
- The marking of problems in textual form and its processing /e.g. ILO method VIZ Chapter IX/ would require the use of a computer.
- A computer would be an essential condition if the record is to include a numerical value of indicators /VIZ para 72/.

78. The scope of UNIDO participation in the dissemination of information should increase after the Collection has been established. All technical provisions for this should be made in time.

79. In assessing the suitability of technology and the manner of processing account has to be taken of the Industrial Documentation Unit, which is already in existence, and the establishment of another Collection. The Industrial Documentation Unit has 27,000 items at the present time. It uses a computer for its work, and the magnetic tape data recorder MDS 6401 for the provision of input media. The basic manner of storage and processing has been evolved by the ILO /VIZ Chapter IX/.

80. The extent of processing of the Collection should not be less than that, at present, used by the Industrial Documentation Unit. Which means:

- the use of a computer as the main technical means in the storage, processing and retrieval of information in the Collection.
- the advisability of using the ILO method for the setting up of the Collection should be taken into consideration /VIZ Chapter IX/.

81. Punched card machine do not serve any purpose in the setting up of the Collection. Their use would theoretically come into consideration only under certain special conditions, particularly:

- input media for the computer would have to be punched cards which, at the same time or after reproduction could also be used for a punched card machine /basic data needed for sorting including coding of content - Chart 4 could be contained on one punched card/
- punched card machines would have to facilitate more easy access than the computer in Geneva.
- in view of their capacity they would have to be fully used for purposes other than those of the Collection.

82. On condition that the stipulations given in para 81 are fulfilled there would still be the following disadvantages in a punched card system:

- the necessity of frequent reproduction of punched cards after having gone through the machine 100 - 150 times
- the necessity of providing complex services
- input media for a computer would be far less suitable than the use of magnetic tape records
- a number of steps /particularly if the ILO method were to be used/ would have to be carried out by a computer, so that there would inevitably be duplication in the use of equipment
- in future it is intended to make use of the IBM 360 computer in Vienna, which would ease contact with the computer centre /technically this can be further improved by the use of a terminal/.

83. For operative use computer techniques should be matched with manual card files with punched edges. A simple sorting machine can handle approximately 20,000 cards, which would fully serve the needs of the Collection.

84. Manual sorting can prove more effective if compared with modern computer techniques in the following cases:

- it is possible to answer an inquiry by simple selection from a file, which is more accessible than formulating an operation for the computer
- in view of the relatively high costs connected with running a computer on a new operation, which becomes economically viable for large undertakings with longer time frequencies, but not for ad hoc simple questions.

85. The use of punched cards for manual sorting should be selected in such a manner as to require a minimum of human labour. This can be done in two ways:

- by glueing the card files worked out by the computer method of the ILO to punched cards for manual sorting
- by writing a text on the card as on the hard copy /using the typewriter-printer equipment MDS/.

86. The use of card-files 75 x 125 mm in size should make it possible to place them on the punched card with holes around the edges in two rows, size approximately 195 x 155 mm. For purposes of sorting and selection it should be possible to mark this card

- along the top edge : type of material, country /5 digits/
- lower edge : industrial branch, language /5 digits/
- left-hand edge : year of publication, place of location / 3 digits/
- right-hand edge : number of pages /3 digits/

Cards 105 x 145 mm are currently produced. If there should be difficulties in using cards 105 x 155 mm, cards of normalized size could omit data along one of the shorter sides - best the number of pages.

87. In inscribing punched cards in the form of hard copy on a magnetic tape recorder cards of different sizes could be used, e.g. the currently produced size 145 x 210 mm. Its disadvantage - in comparison with the card 105 x 155 mm in size /possibly 105 x 145 mm/ is the larger size /and resulting storage problems/. The advantage would rest in the possibility of placing full textual annotation on the larger area of the card and the possibility of a larger number of informations made along the edges /all data indicated in para 63 and 64/.

IX. APPLICATION OF THE ILO METHOD TO THE SETTING UP OF THE COLLECTION.

88. The method used by the International Labour Office /ILO/ and its Central Library for cataloguing and processing the contents of individual volumes in the library has been adopted also by other UN bodies /FAO, UNESCO and others/. It is also used in the UNIDO library. Its advantages and shortcomings need to be examined in detail before a decision is made as to its application in the setting up of the Collection. For the sake of clarity paragraphs 89 - 91 give a brief outline of the main features of the method used.

89. The ILO method is based on annotation of the contents of a publication in textual form. Selected descriptors are used for this purpose. Machine processing can provide a list of publications where the same descriptors appear in the annotation. In substance it is a matter of machine processing of a subject index. The same method is used to print and process a personal author, corporate author and conference index. Filing cards are printed in the same manner.

90. More complex methods of processing involve:

- a/ 100 - Index: The table entitled "key descriptor" has on each row a record of each publication in the annotation of which the same key descriptor is found. /Each publication therefore appears in as many tables as it has different descriptors in its annotation/. The record includes all descriptors which are to the left and to the right of the key descriptor in the annotation of the relevant work, reaching a maximum number of 50 characteristics to the left and to the right of the key descriptor /the average amounts to 8 descriptors/. The entry number, language and date of publication is given at the end of the row.

- b/ **TABLEDEX: all coded descriptors, to be found in the annotation of each relevant document, are given for each work /apart from entry number, language and year of publication/. Coding is carried out so that the order of numbers of the code corresponds to the alphabetical order of the relevant descriptors.**
- c/ **The ILO method furthermore facilitates the retrieval of publications with the required characteristics.**

91. **Data on publications are preserved on magnetic tapes and on discs.**

The following are the two most important records:

- **The Master file is stored on a disc. It contains all data on the publication with complete annotation.**
- **The Coded master file is stored on a magnetic tape. It contains: Entry number, language, year of publication, library physical location and a coded content of the annotation. In the code each descriptor given in the annotation is entered in a four-digit code given in the order in which the entry is made in the annotation.**

92. **The method used by the ILO is a highly developed system for library purposes, particularly those of broad scope. It fully corresponds to the logic of written research. However, it is impossible to state in advance at what place in the annotation - and therefore where on the magnetic tape certain type of data will be recorded. Different possibilities exist for storing input of documents where it is possible to determine in advance their inner structure or at least the set of problems to be dealt with. In such cases it is possible to normalize items of information fed into the computer so that for each problem it becomes possible to find easily the characteristic features at a certain, previously stipulated place on the magnetic tape.**

93. Compared with current library resources the documents in the Collection of feasibility studies and technical assistance reports are of a different internal structure. A certain sphere of problems can be stipulated therefore in advance /or information as to whether certain problems have been dealt with in the study/. It is therefore possible to achieve a certain normalization of the sequence in which information on the contents of the studies is to be presented.

94. This difference in method of dealing with information is not merely of theoretical significance. As long as the information on documents to be studied is placed arbitrarily on the magnetic tapes far greater technical difficulties arise in the sorting of stored documents according to stipulated points. In such a case the computer has to test by stages all places on the tape - for all documents that might be required - to discover whether the required phenomenon appears there. This requires extensive computer time, which is costly. This problem can be partially solved with the aid of the disc memory of the new generation computers, however the disc should contain only data that are frequently required. If possible replies to certain questions are stored in a precisely stipulated order the computer looks for the entry only at a given place on the magnetic tape. This provides for far broader possibilities of classification of different kinds of documents.

95. The ILO method facilitates the expression of the content with the aid of chosen verbal descriptors, but not the input of value indicators /it would be necessary to state verbally in front of each numerical value what form of index is involved/. This prevents the mathematical processing of the input values or a comparison of the values of different documents. This shortcoming would show more clearly if the Collection were to use, at some point in the future, a computer also for the storage and processing of the subject of indices.

96. The following conclusions can be drawn from the total evaluation of the feasibility of using the ILO method for setting up the Collection and for computerization of the information contained:

- it can serve fully to set up the Collection in the form of a library using textual annotation, including a subject catalogue of documents included.
- it is substantially less suitable for complex operations of sorting materials under agreed headings.
- it is unsuitable for the input of technico-economic indicators in the computer memory and its possible further comparison and mathematical processing.

As a whole it can be said that the feasibility of using the ILO method decreases by stages with the transition to more exacting methods of processing, particularly in dealing with value indicators.

97. Since the ILO method is widely used in various UN bodies and in UNIDO itself it will have to serve as a basis for the storage and processing of entries on documents in the Collection. Some of the shortcomings mentioned above can be overcome by suitable adaptation made with a view to the specific requirements of the Collection of studies on the development of industry in developing countries. The use of such an adapted version of the ILO method would mean that the subject matter of the Collection can be published in the same manner and in the same publications in which information on the Library is disseminated. It will also be useful to apply to the Collection /though on a limited scope/ the well-tested and used methods of computerization, with certain necessary amendments.

98. The first part of the Coded master file includes the following basic bibliographical data /VIZ para 91/:

- entry number
- language
- year of publication
- location of library.

For rapid information and requirements of sorting it would be expedient to add the following data to the first part of the record:

- total number of pages
- type of documents included in the Collection
- region
- country
- industrial branch.

99. The newly added data in the first part of the record would be coded in numbers and given in a firmly stipulated order; this facilitates quick orientation on the magnetic tape during the sorting. The following number of digits should be reserved for the individual data added:

total number of pages: 3 digits

type of document included in the Collection: 2 digits

/This would provide for a reserve in case an increase in the number of types is considered or if other collections are to be fitted into the same system/.

broader region: 2 digits

/The first digit would mark the continent.

The second digit would serve as a reserve to delimit a smaller region.

Until this is stipulated the second digit would be marked 0/.

country: 3 digits /if UN coding is used/.

industrial branch: 4 digits

/Corresponds to the number of digits proposed in the new draft code for industrial branches worked out by the Industrial Information Section.

If the ISIC 3 digit code were to be used, the fourth digit would serve as a reserve in case of more detailed classification, e.g. National Classification System/.

100. The extended first part of the record would be followed by textual annotation according to the rules of the ILO method. However, neither the admissible scope of textual annotation, nor the numbers of descriptors used in processing by the 100 - Index method allow for a full record of the problems usually solved in the individual types of studies /VIZ Chart 4/.

101. This shortcoming could be overcome if a third part were added to the record. Here the bivalent methods /marked 0 - 1/ would be used to stipulate the precise order of which sphere of problems is evaluated or dealt with in each study. This system and order of evaluation would correspond to the list of problems laid down in chart 4 /after possible adaption/. In view of the bivalent marking this entry would take up a minimum length on the magnetic tape; in view of the precise order of problems marked the third part would be suitable for sorting and aid the retrieval of studies with required contents.

102. As was stated in para 73, the present time is not suitable for making input of numerical value indicators given in individual studies. If this should be decided upon at some future date, it would be expedient to have the data given on a separate magnetic tape. It is, moreover, likely that one tape would serve for one type of studies only, and it will become necessary to work out a nomenclature of indicators differentiated for each individual type. This would further facilitate easier comparison and processing of indicators of studies of the same type. An entry number of the document, maybe also the type of the study could serve as a link between the basic annotation record and that of numerical indicators. The type of the study would mark the set and order of the indicators used/.

103. If this conception of records of documents is accepted it will be necessary to work out a working-sheet to hold the first three parts of the entry /without marking value indicators, which is impossible at the present/. A suggestion for the layout of the working-sheet is given in Chart 8.

X. METHODS OF DISSEMINATION OF INFORMATION

104. The documents in the Collection can be used in the following manner:

- to provide information, annotation, data or loan copies of individual documents in the Collection
- to elaborate documents that evaluate the results of a few or a larger number of documents in the Collection.

105. At the present time the prime task will be to provide all the required information for the users of individual volumes of the Collection. The second task - that of the complex evaluation of a larger number of documents - is a matter of research work which will need, in due time, the preparation of various methodological studies. Chapter IX includes proposals on how the documents in the Collection can be used to reach theoretical conclusions on the optimal use of the resources of the developing countries towards the development of industry.

106. The following are recommended as basic manners of disseminating information:

- the issue of a periodical publication on additions to the Collection in book /or brochure/ form, similar to that published by the ILO library;
- the UNIDO Newsletter might be suitably used as a source of information on investments in developing countries, where realisation depends on the provision of foreign resources;

- the provision of information in reply to concrete requests by persons interested in studies worked out in a certain country. This would be similar to the work done by the Industrial Information Centre;
- detailed briefing of UNIDO representatives sent as experts to the developing countries both by UNIDO staff members and other experts;
- the organisation of seminars and meetings at which representatives both of the developing as the developed countries would participate and where information of interest to both sides would be given;
- participation of UNIDO representatives at actions with large international participation. An example of this might be trade fairs, particularly those where machine equipment is on sale and which are attended both by representatives of the developing countries as by large firms of suppliers;
- the elaboration of material to be used in the work of various UNIDO sections, or special documents for experts to be sent to individual developing countries;
- the documents can be used to draw up assessments of proposals put forward by other UN bodies and their plan of work;
- active work by UNIDO staff in providing information on opportunities for investment for large foreign banking houses, industrial concerns, and others.

107. Another important question is to what extent the information in the studies can be published. Most of it is restricted at the present time. This prevents UNIDO from fulfilling the function of an important clearing-house between the developing and the developed countries. As long as the demand for restricted information is upheld, at least the titles should be made public. Support should be given to the view that greater publicity would benefit the acquisition of the required sources for the development of industry in the developing countries.

XI. COMPREHENSIVE EVALUATION OF DOCUMENTS FORMING THE COLLECTION

108. As was stated in para 105, the complex evaluation programme or comparison of several documents of the Collection should be prepared by means of special studies. Only a few suggestions for this activity are set out in this paper. An attention must be devoted particularly to the following possibilities:

- Elaboration of a cross-table of a number of studies sub-divided according to the particular developing countries and industrial branches.
- Evaluation of effectiveness of plants projected by comparing them with other studies and existing plants.
- Comparability of the findings of the studies on establishing the plants of various branches in one country.
- Comparability of the findings of the studies concerning the establishment of the plants in the same branches in various countries.
- Elaboration of models of the countries' complex development with the application of studies worked out in the relevant country.

109. Elaboration of cross table on a number of studies sub-divided according to the countries and industrial branches would be a relatively simple technical matter when the establishment of the Collection is completed and basic classification of documents included is carried out. A pattern of such cross-table VIZ Chart 9. The rows of the table would give data for individual countries, possible grouped according to regions, continents or sphere of influence of individual economic UN commissions. The columns would give the individual industrial branches and total sum for the given country. Individual groups of branches should be aggregated into major groups according to the ISIC or according to the numerical coding elaborated in the Industrial Information Section.

110. Such a survey should reveal the structure of the studies carried out in individual countries. It would make possible:

- to trace new trends in the international cooperation
- to draw attention to possible one-sided economic developments of certain countries. It would result in an insufficient use of resources for the optimal development of the branch.

A table worked out in such a manner would include only several types of studies /particularly Techno-economic Feasibility Studies - Type IX/ or only those of more recent date.

111. Evaluation of the Effectiveness of the Plants Projected.

Feasibility studies on construction of new plants are elaborated by various experts in a different extent and quality. They should be submitted to a review by another body. The Collection of studies can provide data required. The newly elaborated study on the effectiveness of establishment of the plant should be compared to analogous studies carried out by another experts /condition is the classification of studies according to the industrial branches/.

112. To achieve a comparability of documents comprised in the Collection requires their considerable standardisation. It should be done firstly from the standpoint of the contents of problem solved in the respective groups of documents serving similar purpose, later to attain the maximum comparability of the indicators used. If it is attained a certain standardisation of problems solved in individual groups of the documents of the Collection, but not an unification of indicators used, it will be possible to carry out a comparability only by means of a direct study of documents compared and the construction of logical findings resulting from this comparison.

113. If the unification of indicators used is achieved, computerization of conclusions of individual documents will be possible. It need not concern the comparability of profit per production unit only, but also the comparability of other indicators. It can influence also the choice of an optimal solution that would make use of the most valuable ideas of various documents of the Collection dealing with similar problems.

114. The documents of the Collection can be compared both mutually and with existing or projected plants. The unity of the Collection indicators with those used in other UNIDO materials, especially in PROFILES OF MANUFACTURING ESTABLISHMENTS and PROFILES OF PRE-INVESTMENT INDUSTRIAL PROJECTS should be ensured.

115. The comparability of the establishment of plants of the similar branch in various countries: The three following causes, in the main, can influence various economic results of studies with the same industrial profile in various countries:

- A more concrete solution of the given problem
- A different methodological explanation of individual indicators in various studies
- Better industrial pre-requisites existing in one country for the development of certain industrial branches in comparison with other countries.

116. The first two causes should be made clear during the evaluation of study elaborated /VIZ para 111 - 114/. After the elimination of the influence of methodological shortcomings the comparison of studies of the same or similar industrial branches in various countries should serve as a basis for a decision in which countries the most convenient conditions for development of the relevant branches are to be found. Such documents would be of special importance for potential foreign investors.

117. Comparability of the results of studies on establishment of plants of different branches in one country would provide an assistance primarily to local governmental bodies for determination of perspective conclusions concerning the country's development. It would be a certain testing of conclusions for provision of a basis for the elaboration of structural studies /type II of the documents of the Collection/. Similarly, these structural studies can be aided by the results of the work done during the evaluation mentioned in para 115 - 116.

118. The setting up of a model of the countries' complex development: The effectiveness of studies solved separately was evaluated in our previous considerations. But a number of experiences of the developing and developed countries reveals that sufficient effectiveness of individual plants evaluated in isolation need not remain the same if we evaluate the whole complex of plants in a certain region. Besides, it is necessary to carry out a comprehensive evaluation of a development rate that would be ensured by establishment of plants projected.

119. A summary table for individual countries set up on the basis of studies elaborated would serve as a certain basis for this evaluation. The rows of this table would show individual industrial branches, the columns would show the basic indicators of the activity of these plants and their demands for the production factors /for instance annual turnover, exports, anti-import production manpower, investment costs, fuel and basic raw material requirements, etc./. Not only data resulting from studies should be included, but also - in a row of each branch - the development estimation of existing plants and especially new plants should be differentiated. The survey would be carried out for a definite target year /VIZ Chart 10/. The activity of this kind would considerably exceed the framework of the Collection and should be carried out with a greater number of field experts and with an adequate number of UNIDO Headquarters experts.

120. A greater number of models with a varying rate of development of individual industrial branches should be elaborated for one country evaluating particularly the following points:

- to which extent the rate considered and the production structure correspond to the basic aims of the country's economic policy
- if resources required for the production development are at the disposal in the relevant country and if they are used in a satisfactory manner
- if there exists an adequate relation between individual industrial branches /especially the input-output analysis/.

121. It is necessary to bear in mind that these evaluated data of the Collection would be only one of the possible ways that must be used in working out a development model of the developing countries. The models set up in such a way could not replace the evaluation of territorial and technical factors in the construction of new plants solved by means of physical planning methods.

XII. STAGES OF ESTABLISHING AND EXTENDING THE COLLECTION

122. The organisation of the Collection of feasibility studies and technical reports in full scope and depth of processing requires considerable financial resources. Besides, it is necessary - to ensure the target - to elaborate a whole number of methodological documents and provide a number of organisational measures which will urgently require a longer period. The Collection should not be established immediately in its ultimate shape but the steps ought to be taken by stages. After completing each stage, the Collection should provide practical results, always in greater depth or scope than in the previous stage. But it is to be ensured that each new stage were not hindered from going over to a higher stage of the organisation of the Collection.

123. A transition to a higher stage of the Collection can be done in two ways:
- a/ to extend the sphere of data included into the Collection
 - b/ to extend the manner of storage and processing of information comprised in the documents of the Collection.

A transition to a higher stage does not consist only in time period or in providing financial resources. The effectiveness of a transition to a new stage depends on the scope of the documents processed /the more data the higher demands on computerization/ and on the number of the users of the Collection documents.

124. From the point of view of the extension of the scope of documents contained in the Collection - the following sequence can be suggested:
- a/ documents of UNIDO as the UN executive agency
 - b/ documents of other bodies within the UN
 - c/ documents of other public /state/ organisations
 - d/ documents from other sources.

125. The possibilities of the acquisition of documents from various sources differ in their forms. While the documents sub para 124 a/, b/ can be provided by organisational measures within the UN, the possibilities of the acquisition of documents sub c/ and particularly sub d/ depend on the advantages accrue to the relevant organisations. The advantages cannot be of financial character only /materials provided at a charge/. They can result from the applicability of the relevant documents and their delivery to the interested parties. It depends on to what extent the UNIDO will start to fulfill a new role of a clearing house. In some cases the acquisition of the whole material /its copy/ into the Collection will be possible, in other cases only its contents and the place of occurrence will be kept.

126. As far as the extension of the ways of storage and processing of information contained in the material the following sequence can be suggested:
- a/ The execution of a mere list of documents included in the Collection
 - b/ The execution of cataloguing /by means of traditional library methods/
 - c/ The elaboration of textual annotation to each document with the use of the list of descriptors and processing by the ILO methods presently used.
 - d/ The labelling of the basic bibliographical data, registration of document in the relevant type, coding the country and industrial branch /VIZ para 98/. These data are to be registered both in the extended first part of the ILO record and in punched cards for manual sorting.
 - e/ The labelling of the sphere of problems solved in the documents /according to the scheme elaborated in advance/ and their record by bivalent coding on magnetic tape /application of the ILO method - VIZ para 101/.
 - f/ The storage of numerical values given in the individual documents of the Collection in the computer and their retrieval for problems solved.
 - g/ The computerisation of numerical input values /both during the comparison of findings from various materials and through mathematical processing of input data/.

127. The extension of the Collection stated in para 126 concerns the technical ways of processing. It does not solve the problem of raising the standard of UNIDO work concerning the evaluation of data contained in the Collection and especially the realisation of a comprehensive evaluation of a greater number of documents. Generally it can be stated that the more exacting and complicated ways of evaluation will require more extensive and thorough methods of storage and computerization of the documents contained in the Collection.

128. The transition from one phase of processing to another /more elaborated phase/ could be carried out by degrees always taking over the results of previous phase.

When going over to a higher phase of processing the lower phase should be mastered. In the last resort the advance in several successive phases can be carried out simultaneously. It concerns primarily the first phase of preparation of the Collection when it is possible to process a list, a file and an annotation simultaneously. This advance would defer, on one hand, the term when the survey of all studies will be at disposal, on the other hand it would become a labour-saving factor in the longer time period.

129. A logical sequence exists between the extension of the documents comprised in the Collection and their profound elaboration. It is generally valid that the less accessible the source of information, the less detailed their elaboration. It is not necessary that all the documents of the Collection had the same extent of elaboration. For instance, the target state of elaboration /para 126 f,g/ will be achieved, in all likelihood, only in documents directly contained in the Collection. The final stage of elaboration of documents from other sources, only registered in the Collection, will be probably only the activity mentioned in para 126 d, in best case in para 126 e.

130. This relation is schematically shown in Chart 11. The higher row in the chart cannot, at any stage of the establishment of the Collection, include more squares characterising the advance of elaboration than the lower row.

XIII. REQUIREMENTS FOR STAFFING AND COMPUTER EQUIPMENT

131. The requirements for computer equipment must be considered in accordance with the requirements of other UNIDO activities. Storage, processing and retrieval of records would be executed on the same equipment as the record of the data on books and articles. /Mohawk Data Recorder MDS 6401 and IBM 360 Computer/. No greater investments into the computer equipment would be required. Items on manual sorting of the cards punched round the edges would be quite negligible.

132. As far as costs of computerization, then - with the use of the traditional /unchanged/ ILO method - the computer time needed for the input and processing of data of one study would roughly equal the time for the record of one library volume. If the ILO method was adapted /extension of the first part of the record and bivalent marking of sphere of roughly 50 problems dealt with - VIZ para 98, 101/ computer time required for input and processing of data of one study could be increased approximately by 50 per cent. This would not cause any significant problem owing to a small number of studies in the Collection. The time on retrieval could be, on the contrary, lowered as the requirement often concerns data given at place of record previously stipulated. A number of mere inquiries /orientated particularly on a certain country and industrial branch/ could be answered by the manual needle s selection of the cards.

133. If numerical records of indicators given in studies were carried out, it would require substantially more time for record and processing of individual indicators. The estimation of the time required for this task is not at present urgent and it could be executed after the elaboration of a more comprehensive study on nomenclature of indicators that should be contained in the particular types of studies.

134. As for the staff number, it is necessary to distinguish:

- execution of the records of contents of studies /similarly as in processing a library/
- evaluation and processing of comprehensive evaluations with the use of the documents contained in the Collection
- organisation of connections with the users of the Collection.

135. While computer time required for the record and processing of one study of the Collection is in the traditional ILO method quite comparable to the time required for one library volume, time of manpower spent on the execution of a record of a study is higher.

136. For a very simple annotation and record of basic bibliographical data roughly one hour can be calculated per one study. A procedure usual in the ILO method is taken into account, with reference to the fact that materials included in the Collection of feasibility studies and technical assistance reports are considerably more extensive than literary articles. To evaluate its character the document is to be got perfunctorily through. In marking the contents of problems solved /by means of coding - VIZ para 101/ it was possible to calculate roughly additional half an hour per report. This time can be reduced both by a suitable form for the record and by model contents of the study that an expert should follow in the elaboration of his report, particularly in its subdivision into parts. In such a case a staff member carrying out a record could proceed, in marking the problems dealt with, according to the contents set out in each study.

137. Considering the scope of an annual increment of roughly 200 - 300 documents from UNIDO sources and roughly 500 - 600 documents from other UN sources, only for the establishment of the collection one staff member of medium-grade qualification will be needed in 1971 for cataloguing and indexing the documents and one specialist competent for the control of this work, for the dissemination of this information and the development of the methodology

of the organisation of the Collection. According to the extent of data and experiences gained in the course of the first year of establishing the Collection and the number of requirements on information, the demands for the following years will be specified.

XIV. FOLLOW-UP OF ACTIVITY

138. The preparation of the Collection and its sequential extension will require a number of further organisational measures or elaboration of methodological or research treatises.

139. In the first stage the following works, in the main of organisational character, have a special importance:

- a/ Decision on types of documents the Collection is to be established from and sub-divided into. This paper, in particular Chapter IV, can provide a basis.
- b/ Confirmation of the List of descriptors from the point of view of the requirements of annotation in the branch of industrial studies. Supplements of the List of descriptors, should be carried out in one step /four-digit coding of descriptors must, in an upward trend, correspond to their alphabetical order.
- c/ Execution of adaptation of the ILO programme ensuring the additional data to the input records /VIZ para 98, para 101/.
- d/ Decision on the group of problems to be recorded in the contents of individual studies /data VIZ Chart 4/
- e/ Elaboration of a new working-sheet for records of contents of studies /data VIZ Chart 8/.
- f/ Purchase of equipment for manual sorting, decision on the size of cards punched round the edges and on way they are filled in.

140. The tasks mentioned in para 139 a, b, d, e, f can be carried out by the staff members preparing the establishment of the Collection in UNIDO on the basis of use of this document with possible ad hoc consultations with selected consultants.

141. The task given in para 139 c /adaption of the ILO programme/ is of a technical or programming character. It should be consulted with the authors of the ILO programme and prepared in IBM technical service or in other organisations acquainted with technical aspects of the ILO programme.

142. The following theoretical and research treatises of a long-term character are to be made to raise the quality and use of the Collection:

a/ Elaboration of the nomenclature of indicators recommended for individual types of documents. Such a work would fulfil the following tasks:

- It would contribute to raising the quality of studies elaborated.
- It would make possible to compare more studies.
- It would be the necessary prerequisite for possible future computerization of numerical data contained in individual studies.

This work should be done in close cooperation with other UNIDO bodies, mainly with the most significant users of individual types of studies.

b/ Elaboration of studies on the possibilities of complex evaluation of the documents contained in the Collection /primarily for the purposes of international cooperation, extension of structural studies and elaboration of complex models of economic development of individual developing countries /VIZ Chart IX/.

c/ Elaboration of localisation factors of individual industrial branches with a view to the specific conditions of the developing countries. Such a study would serve for the purpose of optimal localisation of industry within the developing country. Simultaneously it would become a valuable aid for the localisation of plants in larger regions, the market of individual developing countries being relatively small. Factors of localisation would become the most important instrument in the development of the international cooperati-

d/ Elaboration of programmes in a computer for storage, sorting, processing and retrieval of all numerical data given in the individual studies.

143. Works mentioned in para 142 a, b, c could be started at the earliest possible date. They should be executed by experienced firms on order or with the assistance of individual consultants either for processing of closed documents or for ad hoc consultations provided by UNIDO staff members ensuring the individual tasks.

144. Works given in para 142 d would be done after a longer time period /also in conformity to the financial conditions of UNIDO/. Precise formulation of requirements should be carried out by a firm /or consultants/ with the use of materials mentioned in para 142 a. The programme itself should be elaborated by special programming firms /IBM if possible - when IBM 360 computer is intended to be used/ with maximal use of existing programmes.

ANNEX I

LIST OF DOCUMENTS

That Form the Basis for the Establishment of the Collection of Feasibility Studies with Coding of Basic Bibliographical Data, Including Main Characteristics for Sorting.

Type I

Author: Title of Material in the Collection:

W. Bartelds: Current Problems and Development Need of Burma's Industry,
1963

Code: 1
1
63
1
.
i
3
080
-

World Plan of Action, in the Application of Science and Technology
for Development-Survey of Needs and Priorities, 1969 /Ghana/

Code: 2
1
69
1
.
i
1
162
-

World Plan of Action in the Application of Science and Technology
for Development-Survey of Needs and Priorities, 1969 /Gambia/

Code: 3
1
69
1
.
i
1
156
-

Table II

Chemical Industry and Developing Countries, 1965

Code: 4
 1
 65
 1
 1
 .
 .
 .
 311

A.C. Huang: Past and Perspective Trends in the World Aluminium Industry, 1965, IBRD

Code: 5
 1
 65
 1
 1
 .
 .
 .
 342

A. Cilengrogh: Manufacture of Heavy Electrical Equipment in Developing Countries, 1965, IBRD

Code: 6
 1
 65
 1
 1
 .
 .
 .
 370

J. Baranson: Automotive Industries in Developing Countries, 1968, IBRD

Code: 7
 1
 60
 1
 .
 ii
 -
 -
 383

Item III.

Industrial Development Survey Mission in Iran to Interim Report, 1964

Code: 8
 1
 64
 1
 .
 iii
 5
 210
 -

Item IV.

An Examination of Iron Ore Potential in British Guiana, 1963, 212 p.

Code: 9
 1
 63
 1
 212
 IV
 1
 180
 181

Utilización Industrial de los Sub - Productos de la Cana de Azúcar en el Perú, 1965

Código: 10
-
65
-
I
-
IV
-
259
267

Z. E. P. team: Mining of Tin and Tungsten in the Union of Burma, 1964, 21 p.

Código: 11
-
64
-
I
-
VI
-
268
272

Dr. H.G.R. Roddy: Technical Reorganization of the Ceylon Mills & Fats Corporation and the Development of Oil & Fats Industry in Ceylon, 1967, 79 p.

Código: 12
-
67
-
I
-
VI
-
273
279

Dr. H. Nilson: Special Fund Project, 1965, 39 p. /Colombia/

Código: 13
-
65
-
I
-
VI
-
280
286

M. Mejer: The Establishment of a Sugar Industry in Ceylon, 1925, 68 p.

Code: 14
1-25
26-27
28-29
30-31

E. Jankovschy: Salt Production in the Philippines, 1924, 25 p.

Code: 15
1-2
3-4
5-6
7-8
9-10
11-12

Ernst Hahn: Report on Furniture Production and Design of New Furniture, 1926, 28 p. /Israel/

Code: 16
1-2
3-4
5-6
7-8
9-10
11-12

C. R. Sahiberg: Republic of Cyprus, Pulp and Paper, 1967, 20 p.

**Code: 17
1
67
1
30
IV
4
111
271**

Yusuf Sun, Phag. D.: Feasibility Studies on the Development of Pharmaceutical Industry in Iran, 1967, 42 p.

**Code: 18
1
67
1
42
IV
5
210
319**

Eng M. Vuco: Study and Some Preliminary Projects of the Machine Building Industry in Iran, 1965, 162 p.

**Code: 19
1
65
1
162
IV
5
210
311**

O. Dirolla: Industrial Machinery Lubrication Feasibility Project Report, 1964, 100 p. /India/

**Code: 20
1
64
1
100
IV
J
20
300**

Iran V.

G.A. De arng: Small Scale Industries of Thailand, 1956, 37 p.

**Code: 21
1
66
1
37
V
J
420
399**

Ch. Mc Gee: Development of Hand. rafts, 1969, 38 p. /Undertermined/

**Code: 22
1
69
1
38
V
J
420
399**

D.C. Alexander, J. Epstein: Policies and Programmes for the Development of Small-Scale Industries in Ecuador, 1964, 23 p.

Code: 23
 1
 64
 1
 22
 V
 2
 135
 399

G. Sain: Report on Recommendations for Development of Small-Scale Industry in Liberia, 1967, 77 p.

Code: 24
 1
 67
 1
 77
 V
 1
 255
 399

B. Willis: Production and Export Market Possibilities for Taiwan Handicrafts, 1955

Code: 25
 1
 55
 1
 vi
 1
 67
 399

Type VI.

Scandioconsult International AB: EDFU Bagasse Pulp Mill Egypt, 1966, 22 p.

Code: 26
 1
 66
 1
 22
 VI
 1
 450
 271

**A. Halilović: The Evaluation Report about Tannery Project in Jordan, 1966,
 34 p.**

Code: 27
 1
 64
 1
 34
 VI
 5
 234
 291

**Final Report of 1967 UNIDO/SIS Mission to Israel
 The Development of Metalworking Industries as Potential Export
 Industries, 1967, 123 p.**

Code: 28
 1
 67
 1
 123
 VI
 5
 219
 341

J. M. Smith: The Development of Iron Steel and Iron-Ferrous Industries in Taiwan, 1955, 45 p.

**Code: 29
1
55
1
45
VI
3
067
341**

A. Jacobson: Improving Operation and Maintenance of Thermal Electric Generating Plants, 1965, 2 p. / Syrian Arab Republic/

**Code: 30
1
65
1
21
VI
5
414
513**

Type VII.

J. Z. Godet: Analyse du Projet d'une Verrerie au Senegal, 1967, 16 p.

**Code: 31
2
67
1
16
VII
1
301
338**

P. Egerton: A Study on the Economic Feasibility of Motor Vehicle Assembly, 1966 /Iraq/

**Code: 38
1
66
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VII
5
313
383**

A. Tamini: Utilization of By-product Calcium Carbonate, 1966 /Thailand/

**Code: 33
1
64
1
VII
3
48
339**

A. Tamini: Iron in Malaya, 1966 /Undertaken/

**Code: 34
1
64
1
VII
3
48
339**

A. Tamini: Possible Development of Aluminium Industry in Iran, 1964

Code: 35
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 64
 1
 VII
 3
 210
 342

Type VIII

A. Tamini: Utilization of Gypsum Resources for Sulfuric Acid and Cement Manufacture in Thailand, 1964, 6 p.

Code: 36
 1
 64
 1
 6
 VIII
 3
 420
 199

R. S. Maness: Marketing Fertilizer with Special Reference on Phosphate Fertilizers, 1962, 25 p. /Chile/

Code: 37
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 62
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 VIII
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 084
 311

E. W. Douglass: The Arab Potash Company Amman, Jordan, 1962, 26 p.

**Code: 38
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62
1
34
VIII
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234
311**

C. J. Pratt: Feasibility Study for Phosphate based Fertilizer Production in Cyprus, 1967, 122 p.

**Code: 39
1
67
1
12.
VII
4
111
311**

B. Thiagarajan: UNIDO/UNDP Mission to Iceland to Investigate the Manufacture of Chemical from Seawater in Iceland, Final Report, 1967, 123 p.

**Code: 40
1
67
1
125
VIII
4
190
319**

**Experimental Production Plant for Asbestos, Processing Plan
of Operation, 1969, 34 p. /Bolivia/**

**Code: 41
1
69
1
34
VIII
3
051
339**

**A. Tamai: Development of Aluminium Industry in Lower Mekong Basin, 1964,
-11 p. /Thailand/**

**Code: 42
1
64
1
11
VIII
3
489
342**

**prof. N. Bachmann: Iranian Aluminium Project-Element Indo-Iranian Project
/Memorandum No 2/, 1964, 35 p.**

**Code: 43
1
64
1
35
VIII
3
489
342**

Expanso: The Expansion of the Timna Copper Recovery Plant, 1953, 28 p.
/Israel/

Code: 44
-
63
-
28
VII
-
319
311

A. W. Hartley: Iron-Study - Electronics, 1955, 40 p.

Code: 45
-
63
-
28
VII
-
319
310

Iran III.

S. S. Faki: Economic Analysis Alcohol Distillery Project, 1954, 20 p. /Iran/

Code: 45
-
63
-
28
-
319
311

J. Grant: Paper Industry for Trinidad and Tobago, Report, 1968, 167 p.

**Code: 47
1
68
1
167
IX
1
489
271**

J. Grant: Arena Cardboard Factory - Eastern Sudan Report, 1968, 169 p.

**Code: 48
1
68
1
169
IX
1
492
272**

Dr. ing. C.V. Chiosso: Profitability Calculation of a Paper Mill Offered Plant, 1966, 8 p. /Iran/

**Code: 49
1
66
1
8
IX
5
219
272**

**Dr. R.C. Reast: Feasibility and Market Study for Production of Purfural,
Final Report, 1967, 44 p. /Trinidad and Tobago/**

**Code: 59
1
67
1
44
IX
1
429
319**

**Dr. B.J. Nijhawan: Integrated Iron and Steel Project for the Republic of Korea,
Report on the Technical Mission, 1967, 97 p.**

**Code: 51
1
67
1
77
IX
3
545
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**O. Birolli: Gas-Cylinder Fabrication, Feasibility Project Report, 1964,
27 p. /India/**

**Code: 5
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64
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127
IX
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224
339**

**Industrial Studies and Development Centre: Lead-Acid Storage Batteries,
1986, 18 p. /Tanzania/**

Code: 53
 1
 66
 1
 18
 IX
 1
 417
 370

**O. Birolia: Electrical Equipment Fabrication, Feasibility Project Report,
1969, 109 p. /India/**

Code: 54
 1
 64
 1
 109
 IX
 3
 204
 370

**O. Birolia: Heavy Structuraly Fabrication, Feasibility Project Report,
1963, 77 p. /India/**

Code: 55
 1
 63
 1
 77
 IX
 3
 204
 370

**©. Birolli: The Heavy Structural Fabrication Industry in Iran, Feasibility
Project Report, 1986, 68 p.**

Code:

55-68-01-11-10-00

DESCRIPTION OF THE CODING SYSTEM

- Contents of Code:**
- 1 - Entry Number of Material
 - 2 - Language
 - 3 - Year of Publication
 - 4 - Location /Organisation Holding the Document/
 - 5 - Number of Pages /incl. Appendixes, Charts, Maps etc./
 - 6 - Type of Material
 - 7 - Region
 - 8 - Country
 - 9 - Industrial Branch
 - 10 - Reserve /author/

On the Code contents:

ad 1/ Entry Number of Material

is numerical order of the materials included in the Collection.

ad 2/ Language

the following order used for the code record

- 1 - English
- 2 - French
- 3 - Spanish
- 4 - Russian
- 5 - Chinese
- 6 - German
- 7 - Italian
- 8 - Other languages

ad 3/ Year of Publication

in the code record the last two digits of the year / 1969 - 69/ of the study published are marked.

ad 4/ Location of Material

Marking 1 is designed for the location of material in UNIDO. It is possible to determine another sphere of organisations interested for possible location of certain materials /with other numerical records/.

ad 5/ Number of Pages /inc. appendixes, charts, maps etc./

Record according to the actual number of pages, including diagrams, tables, charts, map appendixes.

ad 6/ Type of Material

Subdivision according to the proposed classification of the Collection I-IX. Classification of individual materials of feasibility studies according to character and aim /see the present paper/.

ad 7/ Region

The following marking of regions used:

- 1 - Africa Region
- 2 - The American Region
- 3 - Asia and Far East Region
- 4 - Europe Region
- 5 - Middle East Region

For the purpose of possible more extensive characterisation the regions can be subdivided into smaller regional units /e.g. Northern Africa, etc. - two-digit record/.

ad 8/ Country

Used numerical order of list of Country-Nationality and Currency Codes including code 499 stateless and undetermined.

ad 9/ Industrial Branch

Code records 3-digit group according to the ISIC. The 4th digit is left as a reserve for possible closer marking.

Note: Material of entry number 13 comprising 3 groups of ISIC / 201, 202, 203/ - canning industry/ is given sub Code ISIC 200.

ad 10/ Reserve /author/

Reserve of one code 3-digit item can be left for possible record of authors according to the alphabetical order.

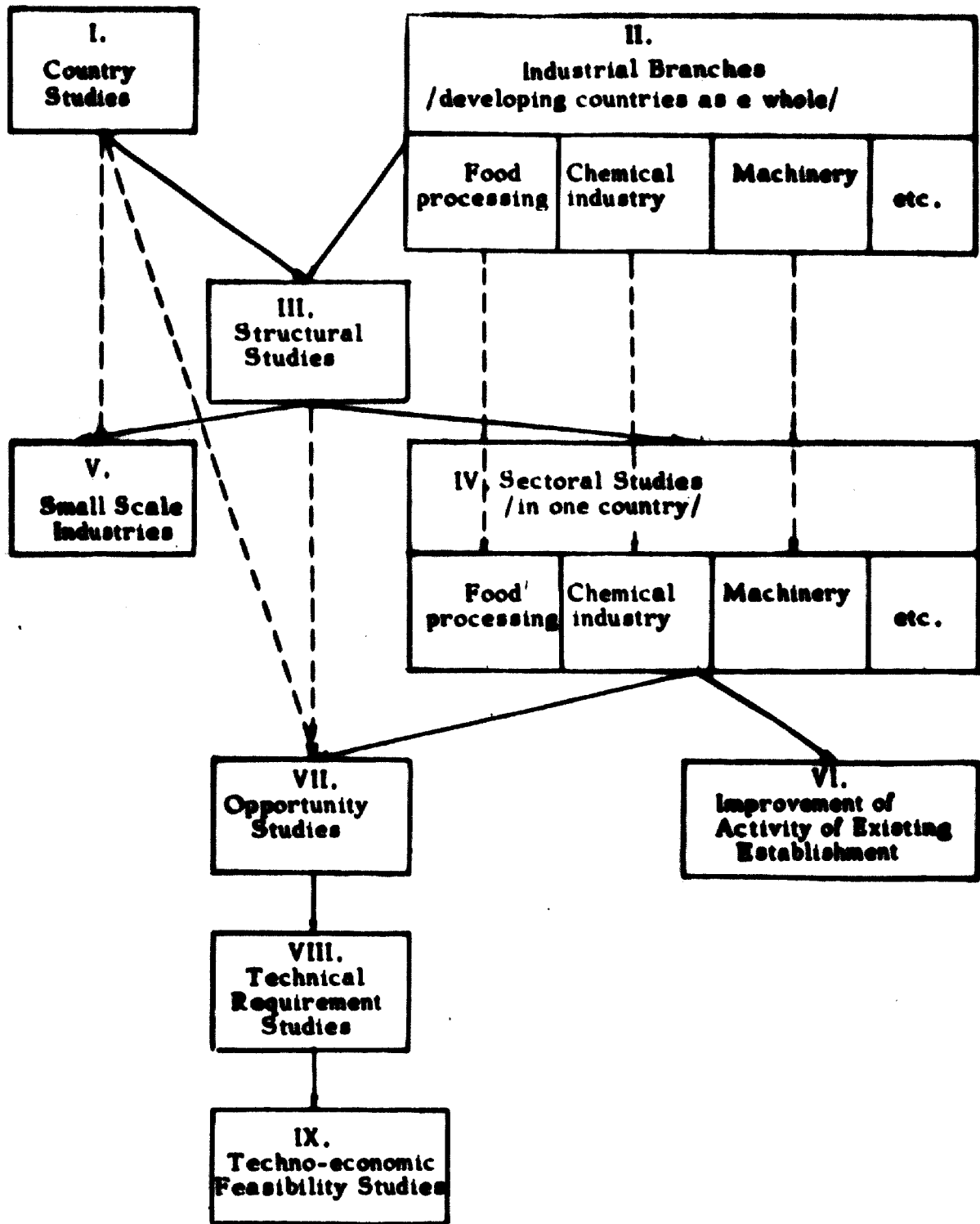
LITERATURE USED

- UN: Profiles of Manufacturing Establishment I, II
 Extracts of Industrial Feasibility Studies, 1969
 Outline for a Study on the Establishment and Utilization of a Collection of
 F.S. by UNIDO
 Catalog of Investment Information and Opportunities, 1967
 Cataloguing of Feasibility Reports and other Engineering Information and
 Data and Development of fully automated System for Storage & Retrieval,
 1964
 E.G. Bröder: Data Requirements for Specified Stages of Industrial Project
 Preparation
 D. Slimak: Stages of Project Preparation
 Jackson: A Study of the Capacity of the United Nations Development System
 /Chapter VI, VII/
 Schema of UNIDO organisation
 Agenda and Background Information, 1969
 The Industry File System a Data Bank for Industrial Planning, 1969
 Technical Assistance Reports Available in the Reference and Documentation
 Unit, 1964
 Objectives, The UNIDO Industrial Information Centre, 1969
 Guideline for the Formulation of Annotations for International Labour
 Documentation
 Meller: Report on Examination of Information Storage and Retrieval Systems...
 to the Industrial Information and Promotion Section, UNIDO.
 Recommendations for Acquisition of Data Processing of Equipment,
 1968/July
 Meller: 15 /a/ Types of Consulting and Technical Services Rendered /Offered/
 Meller: Typenblatt - MD 6401 Data Recorder
 - MS 1118 DLP Data Recorder
 Computerisation of Information Retrieval in the Field of Industrial Relations;
 Thompson ILO Geneva
 UNIDO Internal Information Bulletin Regarding Field Operations, No. 32,
 1970/February
 World Plan of Action in the Application of Science and Technology for
 Development /Chapter III, Industry/, 1969
 Programme of Work for 1970 of the UNIDO, 1969
 Programme of Work of UNIDO for 1969, 1968
 Plan Frame for the World Plan of Action for the Application of Science and
 Technology to Development, 1968
 World Plan of Action for the Application of Science and Technology to Develop-
 ment, 1968
 Updating of Programme of Work of UNIDO for 1969, 1968

- Activities of the UNIDO 1969/71, 1969**
Report by the UNIDO Representative at the Second Session of the ECAFE/AIDC, 1969
Report by the UNIDO Representative at the Forth Session of the Asian Industrial Development Council, 1969
Index to UNIDO Publications /Jan. 1967 - Dec. 1968/
The Register of Business, A First Step in the Development of an Industrial File System, 1969
Multilateral Development Financing Institutions, IBRD, 1967
A Cost-Benefit Approach to Educational Planning in Developing Countries, IBRD, 1967
The Role of Assigned Tax Revenues in a Development Programme, IBRD, 1954
US Foreign Aid in 1958: Programme and Administration, 1958
Commodity Price Trends, IBRD, 1967
Commodity Price Trends, IBRD, 1968
The Economic Benefits of Road Transport Projects, IBRD, 1968
The Export of Experience of Developing Countries, IBRD, 1967
The Structure of Protection in the Industrial Countries and the Effects on the Exports of Processed Goods from Developing Countries, IBRD, 1968
Resolution East African Working Party of Industrial Programming Data, 1969

Chart 1

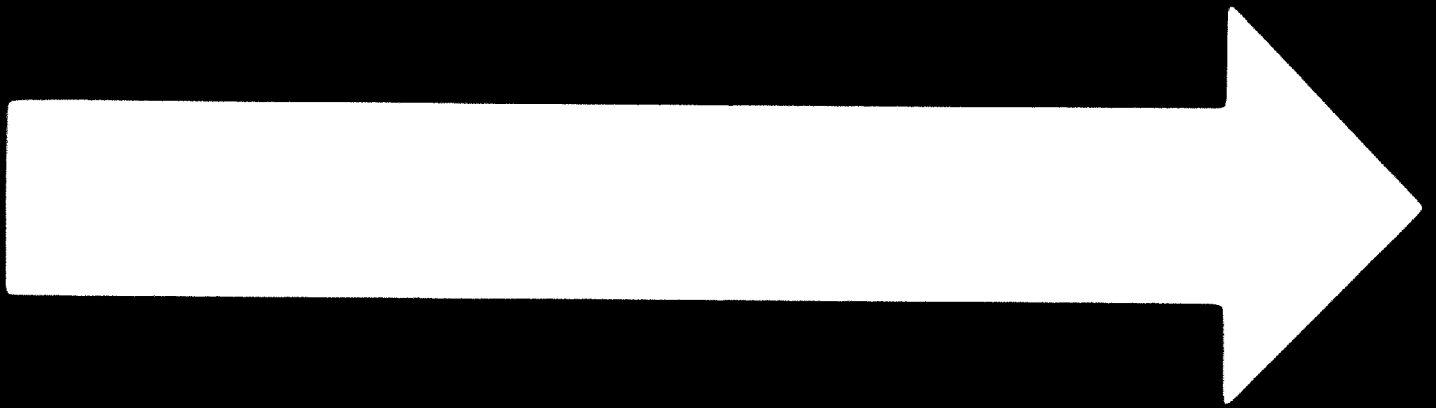
The Logical Sequence of the Types of Studies



Classification of Studies into Individual Types

Contents of Studies	Industrial Unit	Country	Type
Evaluation of the Natural and Economic Conditions for Industrial Development in a Country	Development of Industry as a Whole	Individual Developing Country	I. Country Studies
World Trends of the Development of Individual Industrial Branches and Their Application in the Developing Countries	Individual Industrial Branch as a Whole	Developing Countries as a Whole	II. Industrial Branches
Determination of the Effective Structure of Industrial Branch in the Relevant Developing Country	Structure of Industry as a Whole	Individual Developing Country	III. Structural Studies
Conditions for Development of One Concrete Industrial Branch in the Relevant Developing Country	Individual Industrial Branch as a Whole		IV. Sectoral Studies
Problems of the Development of Small-Scale Industry /Handicraft/ in the Relevant Developing Country	Small Scale Industrial Production		V. Small Scale Industries
Improvement in the Activity of Existing Plants in Developing Country	One or Several Plants of One Industrial Branch		VI. Improvement of Activity of Existing Establishments
Brief Formulation of the Project of Establishment of New Plant			VI. Opportunity Studies
Evaluation of the Expediency of Establishment of New Plant without Detailed Techno-economic Calculations			VII. Technical Requirement Studies
Justification of the Effectiveness of Establishment of New Industrial Plants Including Basic Techno-economic Calculations /Bankable Project/			VIII. Techno-economic Feasibility Studies

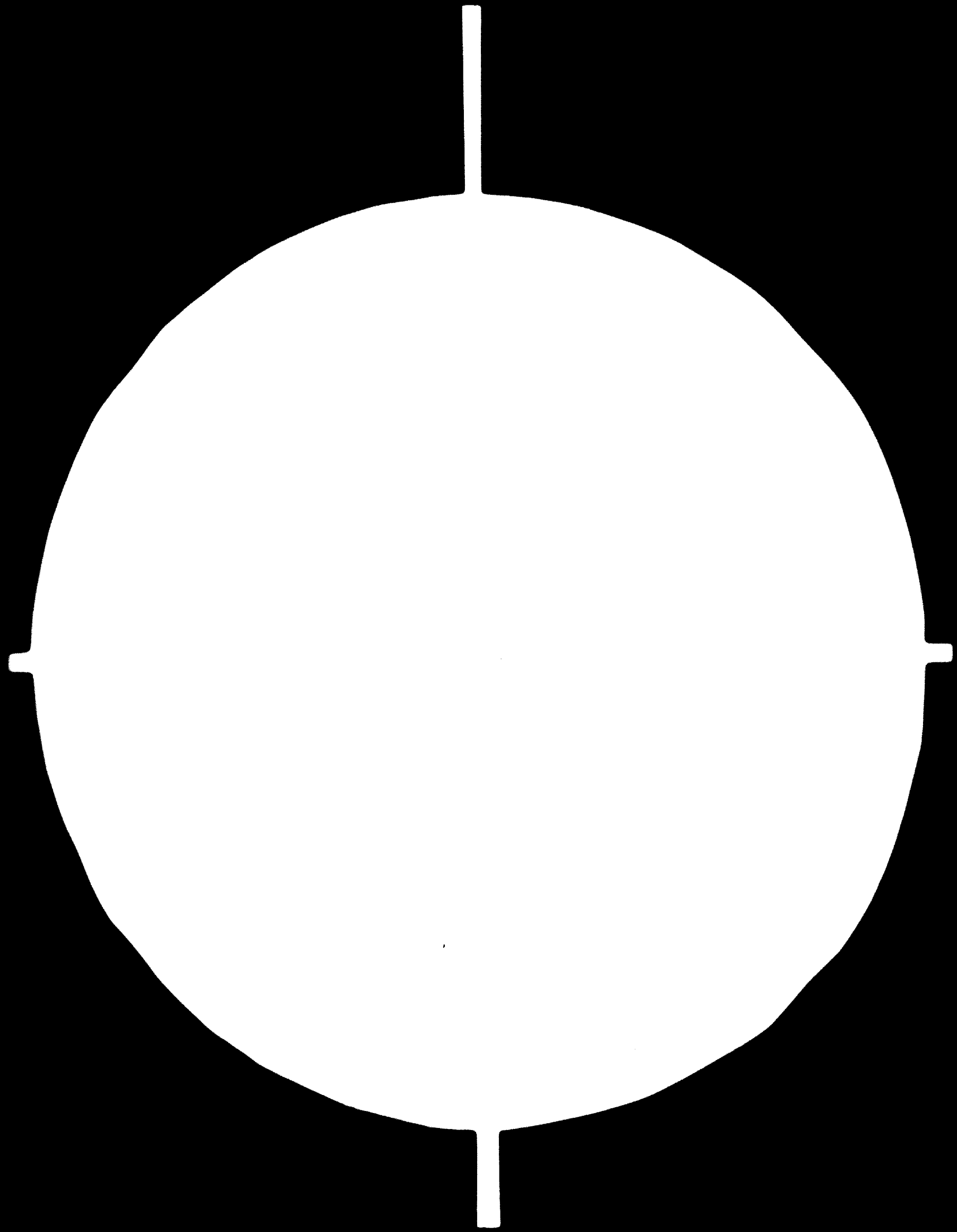
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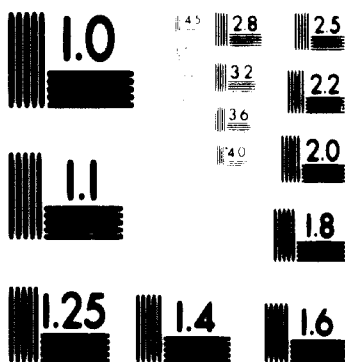
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2 OF 2



MICROCOPY RESOLUTION TEST CHART
NATIONAL BUREAU OF STANDARDS
STANDARD REFERENCE MATERIAL 1010a
(ANSI and ISO TEST CHART No. 2)

24 x F

Chart 5

Sequence Scheme of Activities in Fullfledged Feasibility Studies Processing

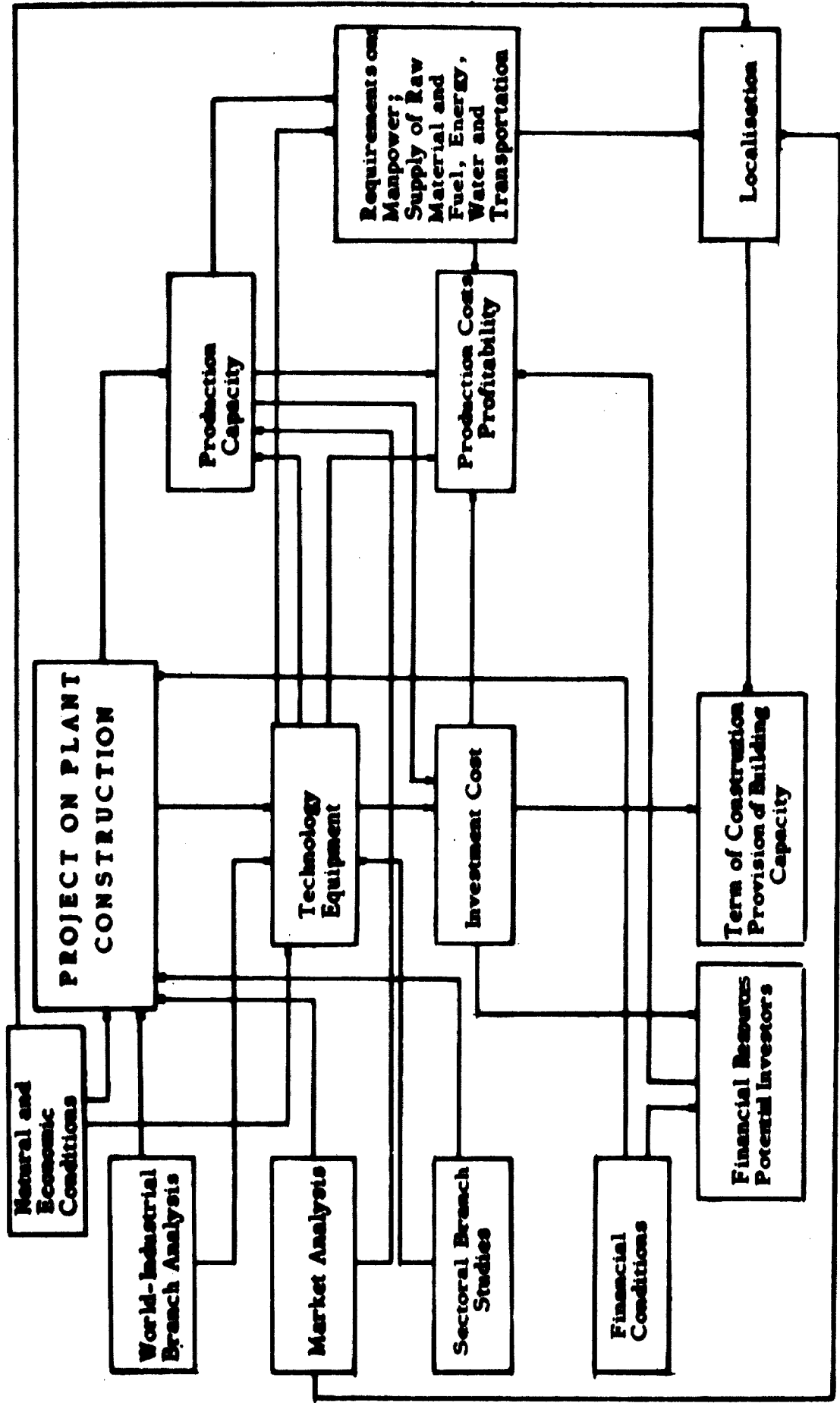
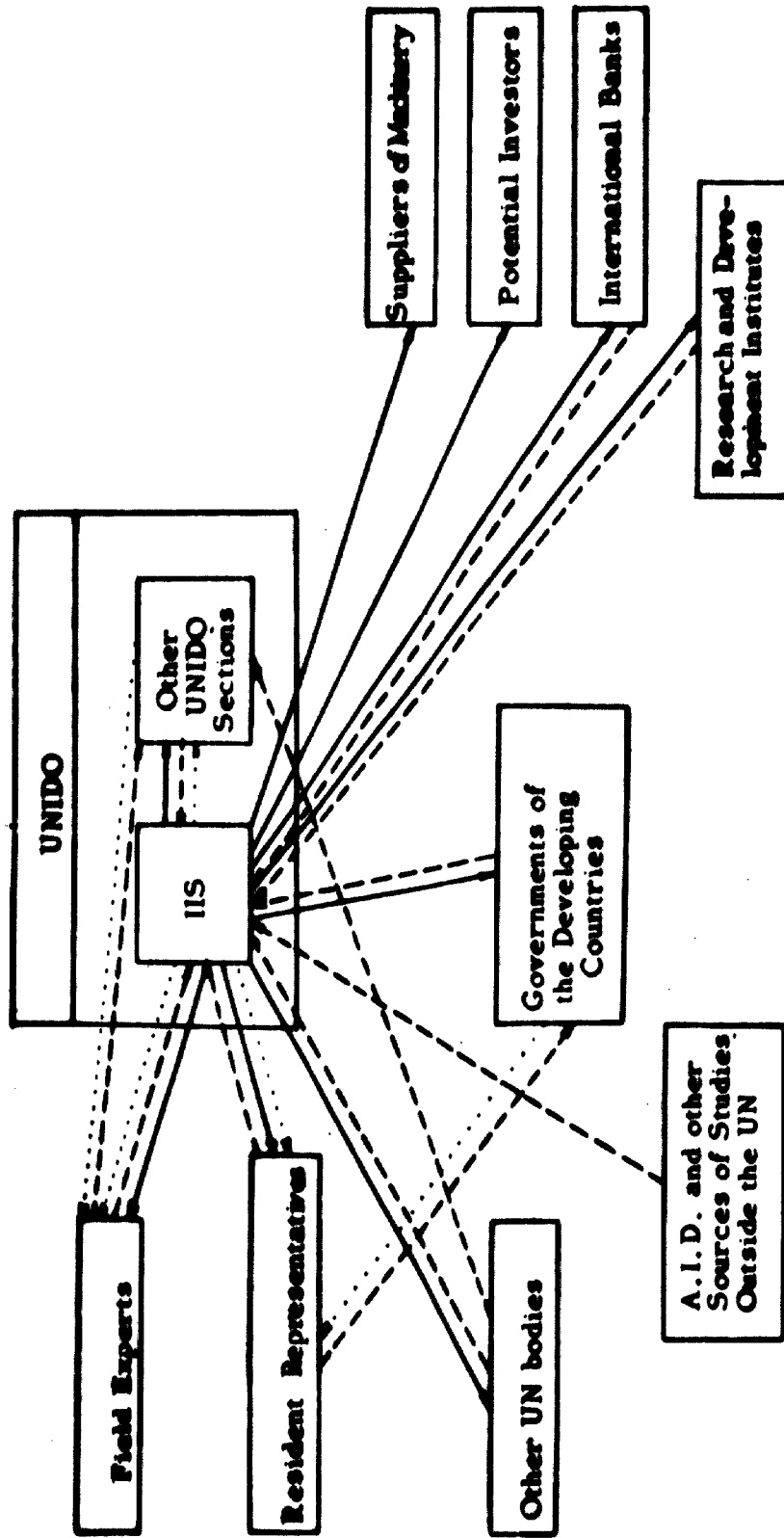


Chart 6

Forms of Data Acquisition for the Collection of Feasibility Studies		Materials of Other Bodies Outside the UN	
Documents of UN Bodies			
<p>UNIDO as an Executive Agency</p>	<p>UNIDO as a Recipient of Data Provided by other UN Bodies</p>		
<p>Materials Financed from UNIDO Budget</p>	<p>Materials Financed by UNDP/SF, UNDP/TA or from Other Sources Outside UNIDO</p>		
			<p>UNIDO Possesses only the Lists of These Works in the Collection, Possibly Their Brief Annotation</p>

Chart 7

Scheme of Information Flow of the Collection of Studies



- Information Flow from the UNIDO Collection for Users
- - - Information Flow from Processors to the UNIDO Collection
- Coordination of Methodological Contents of Studies

Working Sheet for the Record of Contents of Studies

Author:

Name of Study:

<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Entry Number of Material
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Language
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Year of Publication
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Location/of organisation holding the document/
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Number of Pages /incl. appendixes, charts, maps etc./
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Type of Material
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Region
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Country
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Industrial Branch
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	Reserve /Author/

Text of Annotation

Main Problems

- Geographical Data /area, geology, climate, economic agglomeration/
- Population /demographic data, nationality, religion/
- Social Conditions /state system, economic and labour law, insurance/
- Administration /administration bodies, statistics, public organisations/
- Economic Level /GNP, structure, problems of branches/
- Financial Conditions /taxes, customs, currency, state subsidies/
- Foreign Trade /structure, balance of payments/
- Raw Material, Material, Fuel and Power Basis
- Water Resources
- Network of Transportation /internal transport, important ports/

- Manpower /resources, employment, tradition of production/
- Income of Population /wages and salaries/
- Housing
- Education
- Health Services
- National Economic Plans
- Level of Industry /technical level, volume of production, main capacity/
- Specialisation of Production
- Concentration of Production /size of enterprises/
- Capital Intensity
- Production and Supply Relations
- Establishment and Organisation of Enterprises /limited companies etc./
- Level of Management
- Function of Small-Scale Industries /in the life of the country and in other areas
- Science, Research, Development /projects, licences, patents, know-how/
- Quality and Development of New Products
- Assortment of Production
- Capacity of Establishment
- Annual Production /use of capacity/
- Marketing Analysis
- Prices
- Cost of Investments
 - of this: Fixed assets /site, buildings, machinery/
 - Working capital
 - other investments
- Sources of Finance /credit, foreign capital, investor/
- Technology
- Machinery
- Requirements of Manpower /quantity, qualification/
- Total Production Costs
 - of this: Material Costs /raw materials, fuel, power/
 - Cost of Transportation
 - Wage Funds
- Profitability /profit, income of entrepreneurs/
- Site /size and quality/
- Supply of Raw Materials /quantity, specific needs/
- Supply of Fuel and Power /quantity, specific needs/
- Water Supply
- Production Structure of the Establishment
- General Scheme of the Plant
- Location
- Period of Establishment
- Provision of Blueprint
- Provision of Building Capacity

Model of Complex Development

Country:

Target Year:

Indicators Industrial Branches	Annual turnover /000 \$ /	Export /000 \$ /	. . .	Total investment /000 \$ /	Total number of persons	Consumption of electricity /MWh/	. . .
0101 Meat and by-products							
0102 Dairy products							
incl. new plants							
:							
0103 Fruits and vegetables							
:							
:							
0201 Spirits, distilling and blending							
incl. new plants							
:							
0202 Wines							
:							
:							
0401 Wool, cotton and natural fibres							
:							
0701 Wool, pulp and cellulose							
0702 Paper incl. new plants							
:							
:							
Total							

Chart 11

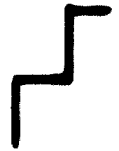
Stages of Establishing and Extending the Collection

Other Sources										
Other Public or Governmental Agencies										
Other UN Bodies										
Documents of UNIDO / Executive Agency/								↑		
	List of Documents	Cataloguing the Documents	Textual Annotation	Indexing Basic Bibliographical Data into Groups of Documents	Marking the Problems Solved in Document	Input of Numerical Values into Computer	Computerization of Numerical Values			

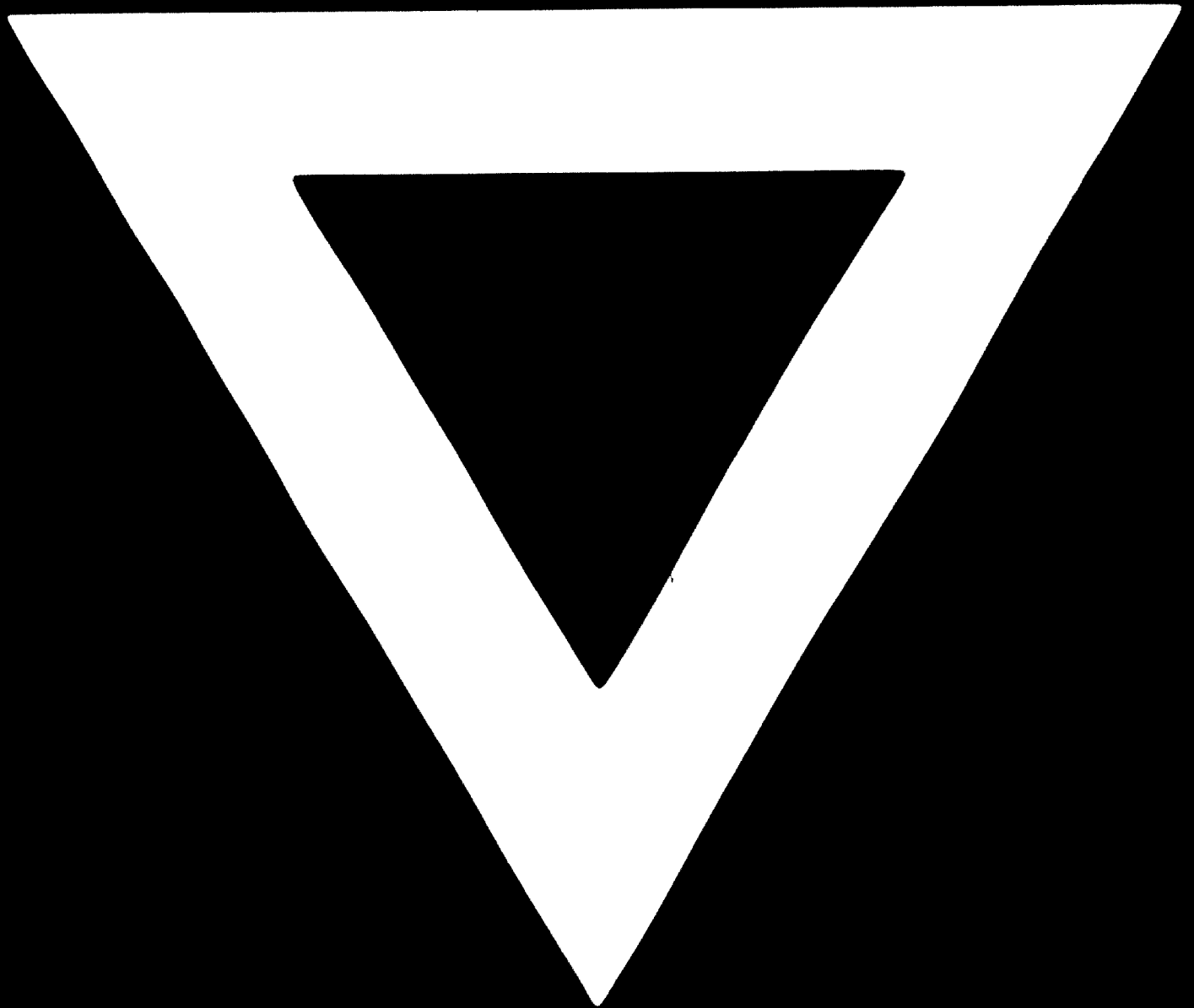
Directions of Sequence in Establishing the Collection



Schematic Design of Stages in Establishing the Collection



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