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for a sustainable future

OCCASION

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I. INTRODUCTORY NOTE

Main objective

1. Industrial development programming is a complex, multi-faceted field. It encompasses a wide variety of activities, including, among others: evaluation of shortcomings and potentials of existing industries and planned projects, preliminary assessment of new investment opportunities or project ideas, preparation of technical requirement, economic feasibility, locational and other pre-investment studies, evaluation of these studies in terms of implementation priorities and supporting policy measures, etc. The EXTRACTS OF INDUSTRIAL FEASIBILITY STUDIES are intended to assist those who are engaged in these activities, by retrieving certain key elements of general reference value from the material being generated and accumulated in the actual process of industrial project preparation in various developing countries.
2. A pilot set of EXTRACTS is attached to this Note to demonstrate one possibly profitable approach to this end. In contrast to the PROFILES OF MANUFACTURING ESTABLISHMENT series,^{1/} which draws upon data obtained from actually operating industrial establishments and enterprises, the EXTRACTS attempt to establish a way in which it will be possible to tap the growing stock of techno-economic feasibility studies on various investment projects as available in industrial banks, development corporations, governmental planning agencies, international organizations, etc. Both the EXTRACTS and the PROFILES are designed to provide, in a concise form, summaries of the techno-economic characteristics of a variety of industrial projects as tested against, or adapted to, differential regional economic conditions. Since there is a considerable degree of comparability between the PROFILES and the EXTRACTS series in terms of the particular items of information to be included, it is hoped that most of the purposes for which either series might prove useful would be even better served by a combined use of both.

^{1/} Volume I (ID/SER.E/4; Sales No. E.67.II.B.17) and Volume II (ID/SER.E/5; Sales No. E.68.II.B.13). Volume III (ID/SER.E/6) is now being printed.

Raw material of the EXTRACTS: "Good industrial feasibility studies"

3. Each Extract will be compiled in a Standard Form established for this purpose. Each of the techno-economic "feasibility studies" to be selected and digested into this Form should be a "good" study, in the sense:

- (a) that it presents a well-designed investment project, properly adapted to the conditions prevailing in the given developing country or region; and
- (b) that it is prepared so as to permit a comprehensive, balanced and thoroughly critical evaluation on the given project.

4. Qualification (a) above will assume importance particularly if the EXTRACTS are to be utilized as a source of information on "programming norms" at the "pre-feasibility" stage of project planning. However, if the EXTRACTS are to be useful as an instrument for practical training on industrial project evaluation, the qualification of candidate feasibility studies in terms of point (b) above should be considered as imperative. In other words, a balanced, critical evaluation presented on a poorly designed investment proposal would be even more unacceptable than an incomplete evaluation on a well-designed project.

5. The individual "techno-economic feasibility studies", from which the EXTRACTS are to be compiled, should, in each case, be complete in terms of (a) technical specification of proposed industrial factories (that is, consideration regarding possible alternative model plants for each respective field of industry considered), (b) analysis of the potential cost-price behaviour of each such factory as anticipated under given local socio-economic conditions, and (c) consideration regarding the national and regional development policies and measures likely to influence the viability of the projects considered. Such feasibility studies are so distinguished from the so-called "opportunity" studies or "pre-feasibility" studies which refer to a less advanced stage of project preparation on the one hand, and on the other, from the "blueprint" studies which are rather part of the implementation phase of industrial projects.

Problems of commercial secrecy and technological obsolescence

6. In view of the commercial secrecy clause attached to most feasibility studies, great care must be exercised in "neutralizing" the information to be compiled into the EXTRACTS. Certainly, no mention may be made of any

particular countries and institutions involved in the preparation of the original feasibility studies. Even the continent wherein the projects under study were situated might not be mentioned. It is explicitly agreed that the EXTRACTS carry only information of theoretical interest and are not susceptible of any legal application whatsoever for or against the interest of any country or institution. By the same token, the selection of candidate feasibility studies for EXTRACTS may be made without questioning whether or not the project proposals under study were ever implemented.

7. Studies prepared some years ago, suffering a degree of technological obsolescence in some respects, might nonetheless be found to have a high reference value in other respects. The EXTRACTS are by no means meant for a fool-proof collection of "model plants". But, rather, they are meant to provide comparative reference points to help in the critical evaluation of specific project ideas as envisaged under given socio-economic conditions. Thus, some of the old material piled in the archives of industrial development institutions, studies which were once used and have since been practically consigned to oblivion, may be given a chance of better utilization through the EXTRACTS.

Types of industry to be covered

8. As regards the types of industry to be covered by the EXTRACTS series, some would argue in favour of pre-specifying only a limited number of specific industries or types of project on which the campaign should concentrate at least to start with. This approach would allow for the selection of two or more directly comparable studies on a similar type of project, as prepared under different regional constraints. However, the number of candidate industries that are of great interest for the developing countries would be quite large, if defined in reasonably specific terms. Since candidate feasibility studies for the EXTRACTS are all related to the industrial projects which at least once received serious attention on the part of development institutions in developing countries, it may be advisable not to overly stress the merits of a rigorous pre-selection of candidate industries, at least to start with. Rather, it should be emphatically pointed out that the EXTRACTS be established as a continuing, long-run project, drawing upon the widest possible range of sources, and guided by the expressed interests of the developing countries for its coverage of priority fields of industry.

9. Investment proposals for large-scale steel mills, petroleum refinery complexes, etc. are not to be included in the Series in instances where there is a fear of disclosing the identity of the projects, that is, when the data cannot be sufficiently "neutralized". Any such studies that unambiguously reflect some highly unusual circumstances or policies in a given region will not be recommended for inclusion in the Series for general dissemination. Leaving aside any such exceptional cases, the EXTRACTS will, as a rule, be open to contributions from all sources relating to any branches of manufacturing industry.

Standard form for compilation

10. The pilot set of EXTRACTS has been prepared with a view to demonstrating what exactly can be done to neutralize given sets of material. In doing so, an effort was made to retain as many specific features of the original studies as possible, allowing the resulting summary data to represent just about the least truncated version of the EXTRACTS possible. For a sustained extension of this approach, somewhat less detailed, or further truncated, presentations might also be acceptable.

11. The pro-forma compilation was undertaken on a large (17" x 15") six-page form, consisting of 12 sections. After early experiments with several different cases, a set of sub-headings and items for tabulation have been selected to be pre-printed in the form. These pre-printed headings and items would themselves serve as a checklist for the evaluation of the completeness of a given feasibility study.

12. By way of defining the precise scope of the proposed EXTRACT approach, Part II of this document gives the instructive notes for compilers. These notes are themselves aligned on the pre-printed six-page form for the sake of convenience. Part III, then, shows six sample EXTRACTS.

13. To avoid any mis-representation of the substance of candidate feasibility studies, it is indeed advisable to have each compiled EXTRACT scanned by a project planning expert. Also, such expert's own comments on the original studies may be included in the EXTRACT presentation - either Section XI (Data for evaluation) or Section XII (Supplement) in the Form can be used for this purpose. For the compilation of basic data, however, it is hoped that a lesser degree of skill and experience, say, at the trainee level, will suffice.

The bulk of the work of compilation may thus be handled as part of the routine assignments of trainees gaining experience in industrial programming, project promotion and evaluation. An experiment, made in connexion with the preparation of the pilot set, has given a positive indication in this respect. Moreover, the same exercise has proved that the pro-forma summarization and transcription can be helpful in locating calculation errors and inconsistent assumptions as involved in the original (supposedly well-prepared) studies that would otherwise pass unnoticed.

Institutional requirements

14. It should be noted that the operational significance of the EXTRACT approach resides not only in the intrinsic value of the information compiled in summary form, but also in providing the opportunity for bringing together in a comparable form an ever-growing number of investment project studies. These studies which are currently piling up or being hoarded in a variety of institutions can be transformed into an on-going series of reference programming data for broad and practical uses. It is important, therefore, that the task of compiling the EXTRACTS receive appropriate institutional support and be actively participated in by as many of the development institutions as possible which have access to the relevant raw materials.
15. Given the existence of appropriate support from interested development institutions - which would in principle act both as the suppliers and as the users of the EXTRACTS - UNIDO would be willing to serve as a central clearing house, performing mainly the following functions:
- (a) Seeking relevant kinds of EXTRACTS in response to specific requests from developing countries;
 - (b) Rendering assistance to those willing to contribute to the EXTRACTS by means of conducting training workshops on industrial project planning;
 - (c) Providing editorial and technical evaluation services as required in the process of assembling and disseminating EXTRACTS for registered users; and
 - (d) Publishing selected EXTRACTS for general uses.

Merits of the EXTRACT approach

16. Relative to other possible approaches to the complex task of improving the data base for industrial programming, the main merits of this EXTRACT project may be considered as follows:

- (a) It would lead to a better and broader utilization of the scattered, but continually growing stock of industry studies; without the EXTRACTS, the specific use made of each such study would be extremely short-lived, despite the high cost of its preparation.
- (b) Compared to the conventional technique of "catalogue", which offers no more than an indexing of the materials of relatively unspecified reference value, the EXTRACTS offer a substantive reference material that has already been pre-digested for a specified, yet fairly broad, range of uses.
- (c) Compared to the conventional "model plant" data which is concerned only with the "technological norms" for each specified industry, the EXTRACTS make use of the so-called techno-economic feasibility studies, each representing a synthesis of the data on engineering alternatives and the data on local markets and other economic factors.
- (d) Compared to the PROFILES OF MANUFACTURING ESTABLISHMENTS, the EXTRACTS have the advantage of utilizing the cost-price information which is more explicitly structured for analytical purposes than the information normally available from the accounting records of operating enterprises; a relative disadvantage of the EXTRACTS is, however, that data, as available at the stage of the feasibility study, reflects at best the well-informed imagination of those who prepared the studies, with a degree of uncertainty attached to their implementability in reality.
- (e) While the compilation of the PROFILES can procedurally be linked to the effort of conducting a diagnostic study on existing industries, which is itself a pre-requisite for industrial development planning, the EXTRACTS may be developed as an integral part of the UNIDO programme for training on industrial project preparation and evaluation.

Main uses of the EXTRACTS

17. The EXTRACTS, compiled and assembled from a variety of sources related to the developing countries, can be used for a range of purposes connected with industrial development programming. Leaving aside their potential usefulness for general theoretical interest, it is anticipated that their primary field uses will occur in the following contexts:

- (a) As a reference at the stage wherein "ideas" for new development projects are being sought, before resources are committed for intensive (and expensive) studies on selected ideas;
- (b) As a comparative reference for evaluating industrial project studies or offers from potential suppliers, with due attention to the possibilities for variations arising with a given type of industrial plant under different market and other regional conditions; and

(c) As a comparative reference for evaluating the performances of existing factories and enterprises.

18. In addition to various adaptive uses of the substantive contents of each EXTRACT, the standardized framework of EXTRACTS may in itself serve as a sample terms of reference for the preparation of industrial feasibility studies. Also, when it is possible to follow up on a given industrial project to compare pre-investment estimates with post-investment realities, a combined reference to both the PROFILES-type and the EXTRACTS-type information may help provide an insight into factors crucial for realistic project programming, helping thereby to up-grade project preparation methodologies in general.

Proposal for action

19. As in the case of the PROFILES, the practical utility of this approach to reference programming data depends directly on the scale of collection achieved. And the latter depends on the co-operation of all agencies interested in this project, either as suppliers of its necessary inputs, or as users of its outputs, or both.

20. As suggested earlier, the problem of commercial secrecy or copyright might emerge as a main stumbling block to the viability of the EXTRACT proposal. It is as yet an open question whether such difficulty presents itself as a prohibitive clause or as a negotiable matter. This note, accompanied by the pilot set of EXTRACTS for demonstration, is intended to provide but the first step in drawing together the suggestions and contributions from all interested parties. For that matter, the particular format of EXTRACTS presented here may be regarded as only tentative. In the final version, it is possible that even a set of alternative (but basically comparable) formats is allowed to evolve gradually through continued exercises and adjustments for various supply and demand characteristics.

21. The role that an international organization like UNIDO can play in fostering this project was already suggested in paragraph 1 above. Any institutions, private or governmental, that are interested in making contributions to the EXTRACTS project, may wish to contact UNIDO for establishing suitable arrangements. When an institution possessing good candidate studies in its archives lacks the necessary personnel for producing properly neutralized EXTRACTS thereof, copies of such studies may be made available to the UNIDO project staff for internal treatment; or alternatively, some

other form of UNIDO assistance may be arranged. Such UNIDO assistance may be combined, if so requested, with a training workshop for local personnel on the techniques and procedures of industrial project planning in general.

Q2. Communications concerning this project may be addressed directly to:

Industrial Programming Section
Industrial Policies and Programming Division
UNIDO
P.O. Box 707
Vienna, Austria

II. INSTRUCTIVE NOTES FOR COMPILATORS

[REDACTED]

Project No. _____ Date _____

PROJECT

Title _____

Planning year _____

1

I. ORIGIN OF THE STUDY

1. This study was prepared by _____

The study was triggered by _____

The following factors were considered:

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IV CAPACITY OF PROPOSED PLANT

1 Nominal maximum capacity according to major process

3. Time the time range of calculation (operating time) and introduce time for transport, storage and assembly that reflects to the nominal maximum capacity of the major production processes.

4. The time of the proposed stages to represent the function will be set by the management system.

Maximum feasible capacity of the plant

The final step in the process is to evaluate the results and report. Typically, the test statistic and its associated p-value are used to determine if the null hypothesis can be rejected.

4. Any other requirements of the contract

the maximum number of days of operation of the plant.

V INVESTMENT (000 US \$)		Foreign currency component	Total	Foreign currency component
	Total			
VI. ALL INVESTMENT				
1 Fixed assets				
1.1 Land and buildings	Estimated cost of land and buildings.			
1.2 Buildings	Estimated cost of plant and equipment for fixed assets:			
Factory				
Office				
Storage				
1.3 Others	Estimated cost of power, electrical works, reservoirs, water, telephone system, heating for employees, etc., separately from fixed assets.			
1.4 Machinery & equipment	Total cost including installation & initial stocks			
1.5 Total				
7. Working capital				
7.1 Inventories	Estimated cost of inventories required to support production.			
Production materials, fuels & auxiliary materials				
Parts & supplies for repair & maintenance				
Work in process				
Finished goods				
7.2 Accounts receivable	Estimated average period of deferred payment or credit for customers in months.			
7.3 Other liquid assets				
3. Other investments				
3.1 Pre-investment costs	Expenses prior to the start of production which have to be capitalized.			
Preliminary expenditure				
Planning costs				
Engineering costs				
Interest during construction				
Training costs				
Others				
3.2 Start-up expenses				
Consultant fees				
Costs for test run				
Others				
Major machinery & equipment				
	Job supplier country's cur.	Transport cost (insurance freight)	Import duty	Landing, local installation cost
	Total			

Products from my nursery should preferably be listed by departments or shops, rather than item by item; a classification corresponding to the shop equipment given in **Fig. Manning Table** would be the most desirable.

¹⁴ These permits, indicate the capacity rating of the machinery and equipment to shop, or for preformantly important items, see Vol. Supplement, if necessary.

VI MANNING TABLE

Least commonest oil sources

Shop	1st shift	2nd shift	3rd shift	Shop	1st shift	2nd shift	3rd shift
1 Primary operative shops (including supervisory staff)				2 Auxiliary operative shops			
a) The listing of shops should preferably be indicative of the main processing stages involved. A process flow chart supporting the given shop alignment may be shown in XII. <u>Supplement</u> .				Repair & maintenance Utilities control Product & material storage Off site transport Guards - cleaners etc.			
b) Seasonal workers should be so specified.				3. Administration			
				Production management Research & development Sales & purchases			

VII ANNUAL PRODUCTION

1 Total annual expected maximum output

Product	Domestic sales			Foreign sales			
	Unit	Quantity	Unit price ex factory (US \$)	Annual turnover (1000 US \$)	Quantity	Unit price ex factory (US \$)	Annual turnover (1000 US \$)

Indication by product and by destination. "Unit price ex factory" would include production and/or sales taxes, if any. Special subsidized export prices should be so indicated.

2 Expected sales and inventory build up:

Indication of assumptions on the expected growth of turnover and capacity utilization during the first few years of production, as tabulated in the following table:

3 Pricing policy:

The indication of the proposed pricing derived from direct costing with current import prices; the latter should be clarified in terms of the actual value of the imported part of import and the normal rates of exchange including duties, sales taxes, trade and transport margins. The results of any sensitivity tests to ensure the desired level of profitability and the pricing of products should be given. Financially acceptable measures - the justification for such measures should be given in Financial justification.

4 Planned sales organization:

Indication of the planned sales organization, showing the number of salesmen, sales areas, and their distribution in geographical areas and by product.

VIII ANNUAL OPERATING COSTS AND PROFITS

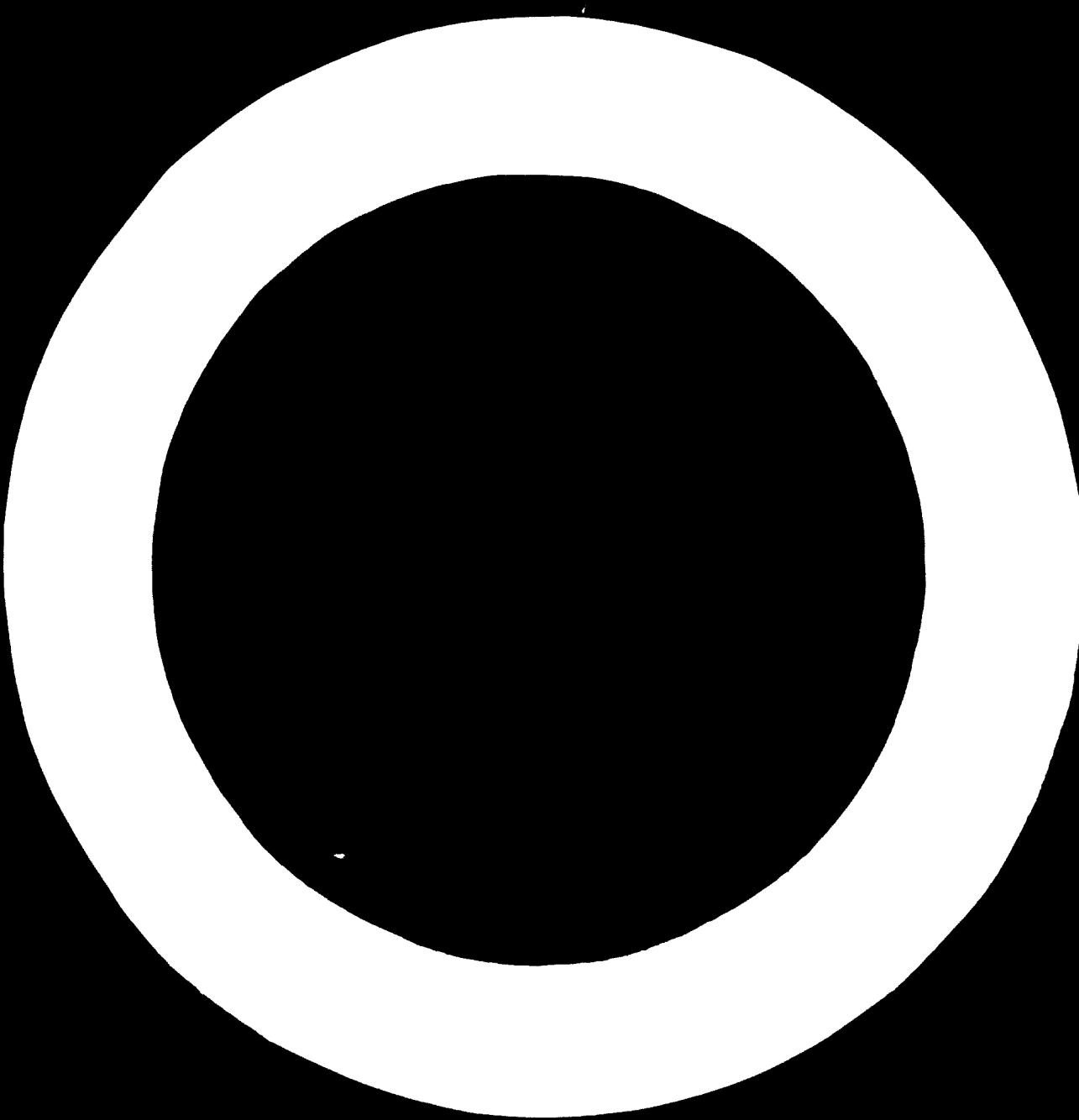
Cost item	Unit	Unit price (US \$)	Quantity	Annual costs (1000 US \$)	Foreign currency component (1000 US \$)	Cost item	Annual costs (1000 US \$)	Foreign currency component (1000 US \$)
1. Material costs								
Indication of the material costs corresponding to the proposed export prices (see page 20).								
Material costs consist of raw materials, semi-finished products, tools, working materials, fuel, power and other supplies, id. energy, heat, ice, water, and other materials.								
Indication of the expenses, advertising, insurance fees, telephone, id. staff travel and other business expenses which should be included in item 1. Indication of the expenses and sales costs. Item 1 should include wages and salaries for the enterprise's employees.								
(*) Categories of persons employed:								
Top managers Engineers Technicians Commercial staff Clerks and typists								
Foremen Skilled operatives Semiskilled operatives Unskilled operatives Part time operatives Other special categories								
No. of persons				Annual wages & salaries & fringe benefits (1000 US \$)		No. of persons	Annual wages & salaries & fringe benefits (1000 US \$)	

IX. FINANCING PROPOSAL (in US \$)		4. Suppliers' credits: Specify the amount, type, period and conditions of suppliers' credits.
<p>1. Equity capital (total):</p> <p>2. Long term loans (total): Rate of interest: Repayment: - Long-term loans with different terms: - Other loans: - Short-term loans (including short-term revolving credit facility): - Other long-term loans (including long-term revolving credit facility).</p>		
X. IMPLEMENTATION PLAN		5. Remarks on the financing policy: Indicate whether or not the financing proposed is consistent with the original financing policy of the project, and state the reasons for any deviation from the original financing policy. If the original financing policy is not available, indicate the financing policy of the project as proposed.
<p>1. Technical collaboration service: Specify the technical assistance concerning further utilization of existing industrial capacities of the host country industry, time required, cost, etc., and the features of the project, acceptance of the proposed form when the original feasibility study was prepared.</p> <p>2. Project management: Specify whether or not the contract for management includes specific arrangements proposed for project management during the implementation period.</p> <p>3. Recruitment and training of personnel: Describe programmes for training abroad and/or locally. Also describe the proposed time schedule of recruitment of technical personnel, cost, etc., etc.</p> <p>4. Other items: Specify additional problems, infrastructural requirements to be satisfied, any special legislative actions required to ensure the viability of the project considered, etc.</p> <p>5. Time schedule: The schedule proposed for major implementation activities, covering contracting and other pre-contracting activities, construction, start-up, first year of extensive phase; this would underlie the calculations presented in the cash flow table.</p>		
XI. DATA FOR EVALUATION		
<p>1. Profitability evaluation: Check: - Break-even point analysis - Return to total capital - Pay back - Return to equity capital</p> <p>2. Further profitability analysis for given project life (Bankability test): Check: - Internal rate of return - Net present value - Any other method used</p> <p>3. National economic benefit/cost analysis (National priority test): Check: - Direct value added and employment effects - Balance of payment effects - Social marginal productivity of capital - Backward and forward effects - Synthetic benefit/cost analysis - Any other method used</p>		
<p>12. A brief outline of the methods used and major findings:</p> <p>Check in the above the type of analysis included in the original feasibility study and summarize the main findings. Any important or inadequate treatments involved in the original study may be pointed out and an alternative analysis may be undertaken and presented by those who prepare this Extract. The original feasibility study document used for this Extract compilation may or may not be complete in terms of project evaluation. Recommendations made in the original document may or may not be reasonable. A space in this section may well be spared for an expert evaluation pinpointing any notable weak points of the original project study.</p>		

XII. SUPPLEMENT

CASH FLOW TABLE (000 US \$)		Year		
A. Source of cash				
1. Current year revenues				
a) Sales				
b) Other				
2. Property				
a) Acquisition - cash				
b) Disposal				
3. Capital				
a) Sales revenue ²				
B. Uses of cash				
1. Fixed capital expenditure				
a) Land site improvements & buildings				
b) Machines & equipment new installation				
c) Machines & equipment replacement				
2. Net working capital				
a) Cash & bank				
b) Accounts receivable				
c) Inventories				
3. Pre-investment & start up expenses				
4. Production expenditure				
a) Personnel expenditure				
b) Material				
c) Subcontractor expenditure				
d) Utilities, taxes & insurance				
e) Other expenditure				
5. Debt service				
a) Interest on long-term debt				
b) Dividends				
6. Dividends & profit ³				
7. Surplus/Deficit (A - B)				

Comments
1. At least 4 different items should be shown separately.
2. Actual value of production of finished goods minus annual accumulation of finished goods inventory.
3. Capital includes investment production costs of finished goods.
4. The cash budgeting interest charge is extraction.
5. Current year cash minimum accumulation of finished goods.
6. This item stands for the cash of profit which is to be paid out namely profit tax, dividends, fees of the members of the executive board, managerial staffs, etc., etc. in profits, etc. A fully this sum will be distributed after allowances have been made for depreciation which are not included under item 4 production expenditure. The cash flow balance should be programmed therefore in such a way that all the asset replacement (B1-C) can be covered after yearly by the accumulated surplus.



III. SIX EXAMPLES

PROJECT *Project Name* **Version** *Version* **Build** *Build*

Planning year

IV CAPACITY OF PROPOSED PLANT

1. Nominal maximum capacity according to major process: No. 15000 kg/h

¹ Maximum feasible capacity of the plant.

The expected maximum output of the plant is 1000 kg/day at a cost of 1.5 M/kg. The plant is assumed

V INVESTMENT (1000 US \$)		Foreign currency component	Total	Foreign currency component
	Total			
1. TOTAL INVESTMENT				
1.1 Fixed assets	1000	1000	1000	1000
1.1.1 Land & site development	100	100	100	100
Buildings	200	200	200	200
Factories	100	100	100	100
Office	50	50	50	50
Storage	50	50	50	50
Other	0	0	0	0
1.1.2 Inventories	500	500	500	500
1.1.3 Parts & supplies for repair & maintenance	100	100	100	100
1.1.4 Work in process	50	50	50	50
1.1.5 Finished goods	50	50	50	50
1.1.6 Other	0	0	0	0
1.1.7 Total fixed assets	1000	1000	1000	1000
1.2 Working capital *	1000	1000	1000	1000
1.2.1 Inventories	500	500	500	500
Production materials, tools & auxiliary materials	300	300	300	300
Parts & supplies for repair & maintenance	100	100	100	100
Work in process	50	50	50	50
Finished goods	50	50	50	50
1.2.2 Account receivable	300	300	300	300
1.2.3 Other liquid assets	200	200	200	200
1.2.4 Total working capital	1000	1000	1000	1000

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should be designed for completely self-supporting operation of the community, equipped with its own maintenance, fire protection, water supply, power plant, housing, and medical and educational facilities.

The cost of the project is thus about one-half industrial, estimated at \$100 million, and one-half agricultural for a total of \$200 million, or \$100 per acre in total cost.

The project would be administered by a government agency, as well as privately.

Major machinery & equipment	F.o.b. supplier country & port	Transport cost (insurance freight)	Import duty	Landing, local installation cost	Total	Foreign currency component
1. Power generation equipment						
1.1. Thermal power plant						
1.1.1. Coal-fired power plant	1.1.1.1. China	1.1.1.1.1. Fuzhou	1.1.1.1.1. 10%	1.1.1.1.1. 10%	1.1.1.1.1. 10%	1.1.1.1.1. 10%
1.1.1.1.2. India	1.1.1.1.2. Mumbai	1.1.1.1.2. 10%	1.1.1.1.2. 10%	1.1.1.1.2. 10%	1.1.1.1.2. 10%	1.1.1.1.2. 10%
1.1.1.1.3. Indonesia	1.1.1.1.3. Batam	1.1.1.1.3. 10%	1.1.1.1.3. 10%	1.1.1.1.3. 10%	1.1.1.1.3. 10%	1.1.1.1.3. 10%
1.1.1.1.4. Pakistan	1.1.1.1.4. Karachi	1.1.1.1.4. 10%	1.1.1.1.4. 10%	1.1.1.1.4. 10%	1.1.1.1.4. 10%	1.1.1.1.4. 10%
1.1.1.1.5. Thailand	1.1.1.1.5. Bangkok	1.1.1.1.5. 10%	1.1.1.1.5. 10%	1.1.1.1.5. 10%	1.1.1.1.5. 10%	1.1.1.1.5. 10%
1.1.1.1.6. Vietnam	1.1.1.1.6. Hanoi	1.1.1.1.6. 10%	1.1.1.1.6. 10%	1.1.1.1.6. 10%	1.1.1.1.6. 10%	1.1.1.1.6. 10%
1.1.1.2. Nuclear power plant	1.1.1.2.1. China	1.1.1.2.1. 10%	1.1.1.2.1. 10%	1.1.1.2.1. 10%	1.1.1.2.1. 10%	1.1.1.2.1. 10%
1.1.1.2.2. India	1.1.1.2.2. Mumbai	1.1.1.2.2. 10%	1.1.1.2.2. 10%	1.1.1.2.2. 10%	1.1.1.2.2. 10%	1.1.1.2.2. 10%
1.1.1.2.3. Indonesia	1.1.1.2.3. Batam	1.1.1.2.3. 10%	1.1.1.2.3. 10%	1.1.1.2.3. 10%	1.1.1.2.3. 10%	1.1.1.2.3. 10%
1.1.1.2.4. Pakistan	1.1.1.2.4. Karachi	1.1.1.2.4. 10%	1.1.1.2.4. 10%	1.1.1.2.4. 10%	1.1.1.2.4. 10%	1.1.1.2.4. 10%
1.1.1.2.5. Thailand	1.1.1.2.5. Bangkok	1.1.1.2.5. 10%	1.1.1.2.5. 10%	1.1.1.2.5. 10%	1.1.1.2.5. 10%	1.1.1.2.5. 10%
1.1.1.2.6. Vietnam	1.1.1.2.6. Hanoi	1.1.1.2.6. 10%	1.1.1.2.6. 10%	1.1.1.2.6. 10%	1.1.1.2.6. 10%	1.1.1.2.6. 10%
1.1.2. Wind power plant	1.1.2.1. China	1.1.2.1. 10%	1.1.2.1. 10%	1.1.2.1. 10%	1.1.2.1. 10%	1.1.2.1. 10%
1.1.2.2. India	1.1.2.2. Mumbai	1.1.2.2. 10%	1.1.2.2. 10%	1.1.2.2. 10%	1.1.2.2. 10%	1.1.2.2. 10%
1.1.2.3. Indonesia	1.1.2.3. Batam	1.1.2.3. 10%	1.1.2.3. 10%	1.1.2.3. 10%	1.1.2.3. 10%	1.1.2.3. 10%
1.1.2.4. Pakistan	1.1.2.4. Karachi	1.1.2.4. 10%	1.1.2.4. 10%	1.1.2.4. 10%	1.1.2.4. 10%	1.1.2.4. 10%
1.1.2.5. Thailand	1.1.2.5. Bangkok	1.1.2.5. 10%	1.1.2.5. 10%	1.1.2.5. 10%	1.1.2.5. 10%	1.1.2.5. 10%
1.1.2.6. Vietnam	1.1.2.6. Hanoi	1.1.2.6. 10%	1.1.2.6. 10%	1.1.2.6. 10%	1.1.2.6. 10%	1.1.2.6. 10%
1.2. Water supply, irrigation, drainage, waste disposal equipment	1.2.1. China	1.2.1. 10%	1.2.1. 10%	1.2.1. 10%	1.2.1. 10%	1.2.1. 10%
1.2.2. India	1.2.2. Mumbai	1.2.2. 10%	1.2.2. 10%	1.2.2. 10%	1.2.2. 10%	1.2.2. 10%
1.2.3. Indonesia	1.2.3. Batam	1.2.3. 10%	1.2.3. 10%	1.2.3. 10%	1.2.3. 10%	1.2.3. 10%
1.2.4. Pakistan	1.2.4. Karachi	1.2.4. 10%	1.2.4. 10%	1.2.4. 10%	1.2.4. 10%	1.2.4. 10%
1.2.5. Thailand	1.2.5. Bangkok	1.2.5. 10%	1.2.5. 10%	1.2.5. 10%	1.2.5. 10%	1.2.5. 10%
1.2.6. Vietnam	1.2.6. Hanoi	1.2.6. 10%	1.2.6. 10%	1.2.6. 10%	1.2.6. 10%	1.2.6. 10%
1.3. Sewage treatment equipment	1.3.1. China	1.3.1. 10%	1.3.1. 10%	1.3.1. 10%	1.3.1. 10%	1.3.1. 10%
1.3.2. India	1.3.2. Mumbai	1.3.2. 10%	1.3.2. 10%	1.3.2. 10%	1.3.2. 10%	1.3.2. 10%
1.3.3. Indonesia	1.3.3. Batam	1.3.3. 10%	1.3.3. 10%	1.3.3. 10%	1.3.3. 10%	1.3.3. 10%
1.3.4. Pakistan	1.3.4. Karachi	1.3.4. 10%	1.3.4. 10%	1.3.4. 10%	1.3.4. 10%	1.3.4. 10%
1.3.5. Thailand	1.3.5. Bangkok	1.3.5. 10%	1.3.5. 10%	1.3.5. 10%	1.3.5. 10%	1.3.5. 10%
1.3.6. Vietnam	1.3.6. Hanoi	1.3.6. 10%	1.3.6. 10%	1.3.6. 10%	1.3.6. 10%	1.3.6. 10%
1.4. Other equipment	1.4.1. China	1.4.1. 10%	1.4.1. 10%	1.4.1. 10%	1.4.1. 10%	1.4.1. 10%
1.4.2. India	1.4.2. Mumbai	1.4.2. 10%	1.4.2. 10%	1.4.2. 10%	1.4.2. 10%	1.4.2. 10%
1.4.3. Indonesia	1.4.3. Batam	1.4.3. 10%	1.4.3. 10%	1.4.3. 10%	1.4.3. 10%	1.4.3. 10%
1.4.4. Pakistan	1.4.4. Karachi	1.4.4. 10%	1.4.4. 10%	1.4.4. 10%	1.4.4. 10%	1.4.4. 10%
1.4.5. Thailand	1.4.5. Bangkok	1.4.5. 10%	1.4.5. 10%	1.4.5. 10%	1.4.5. 10%	1.4.5. 10%
1.4.6. Vietnam	1.4.6. Hanoi	1.4.6. 10%	1.4.6. 10%	1.4.6. 10%	1.4.6. 10%	1.4.6. 10%

VI MANNING TABLE

Total number of persons

Shop	1st shift	2nd shift	3rd shift	Shop	1st shift	2nd shift	3rd shift
1 Primary operative shops (including supervisory staff)				2 Auxiliary operative shops			
Wet cleaning, product cleaning, extraction of starch, purification of starch, dewetting dissolving, drying and siftting	100%	100%	100%	Repair & maintenance Utilities control Product & material storage Off-site transport Quality assurance	100%	100%	100%
Quality control, shipping and receiving	100%	100%	100%				
				3 Administration			
				Production management	100%		
				Research & development	4		
				Sales & purchase	1		
				General administration	1		

• II ANNUAL PRODUCTION

¹ Total annual expected returns are as of December 31, 2000.

Product	Product Line A			Product Line B		
	Unit	Quantity	Unit price ex factory (US \$)	Annual turnover (1000 US \$)	Quantity	Unit price ex factory (US \$)
1	PC	1000	1000	1000000	200	1500
2	Laptop	500	1500	750000	100	1200
3	Tablet	300	800	240000	50	1000
4	Smartphone	800	500	400000	150	3000
5	Wearable	200	400	80000	10	8000
6	Accessories	1000	100	100000	50	2000
7	Peripherals	500	200	100000	20	5000
8	Software	100	1000	100000	10	10000
9	Services	100	1000	100000	10	10000
10	Logistics	100	1000	100000	10	10000
11	Marketing	100	1000	100000	10	10000
12	R&D	100	1000	100000	10	10000
13	Customer Support	100	1000	100000	10	10000
14	Manufacturing	1000	1000	1000000	200	1500
15	Total	3000	1000	3000000	500	1500

2. Expected sales and inventory build up The company has planned to increase its sales by 10% each year. The sales forecast is as follows:

Pricing policy The firm's pricing strategy is now based mainly on the cost of labour, current average price for a four-month stay in New Jersey, and the cost of living in New Jersey.

4. Planned sales organization: The firm's sales force must be organized to meet its sales objectives.

VIII ANNUAL OPERATING COSTS AND PROFITS

X. FINANCING PROPOSAL (in US \$)**4. Suppliers credits**

Supplier credit details

Supplier's name
Supplier's address
Supplier's telephone number

5. Remarks on the financing policy

The plant will be financed by a combination of bank loans and equity capital.

IMPLEMENTATION PLAN

The implementation plan consists of the following stages: (1) Pre-operational phase (2) Construction phase (3) Start-up phase (4) Initial operations phase (5) Full-scale operations phase (6) Expansion phase (7) Maturity phase.

1. Pre-operational phase (1-3 months)

Pre-operational activities include: (1) Site selection and acquisition; (2) Land leveling and foundation work; (3) Procurement of equipment and raw materials; (4) Construction of buildings and infrastructure; (5) Training of personnel; (6) Obtaining permits and approvals; (7) Finalizing contracts and agreements.

2. Construction phase (4-6 months)

Construction activities include: (1) Foundation work; (2) Building construction; (3) Installation of equipment; (4) Commissioning of systems; (5) Training of personnel; (6) Obtaining permits and approvals; (7) Finalizing contracts and agreements.

XI. DATA FOR EVALUATION**1. Profitability evaluation:**

- (a) Break-even analysis
- (b) Payback period
- (c) Internal rate of return
- (d) Net present value
- (e) Sensitivity analysis

2. Further profitability analysis for given project life (Bankability test):

- (a) Check
- (b) Internal rate of return
- (c) Net present value
- (d) Any other method used

3. National economic benefit-cost analysis (National priority test):

- (a) Direct added employment effects
- (b) Balance of payment effects
- (c) Social marginal production of capital
- (d) Backward and forward effects
- (e) Synthetic benefit-cost analysis
- (f) Any other method used

4. Description of the methods used and major findings:

4.1 Break-even analysis: Break-even operating rates were defined in two different ways depending on their purpose. (a) Minimum operating rates, which would cover all costs including depreciation of plant facilities, would be used if low operating rates were expected to persist for a long time. (b) Short periods of restricted cash supply or sales possibilities, depreciation would be deferred, and a lower break-even operating rate would cover all costs except depreciation, can be used.

For example, if variable costs, which would vary directly with production rate, are fixed costs, but would not change with operating rates, minimum operating rates, it was assumed that the plant would operate at full scale to when no more capital would be required, short periods of restricted cash supply would be paid off. It was further assumed that at low operating rates, average net costs would probably be \$100-\$120 per ton of the greater percentage purchased from the plantation.

At low operating rates not including depreciation would be \$100-\$120 per ton per year, i.e., about 10% of domestic capacity. If depreciation is included, the break-even operating rates at the same cost rates are 1,000-1,200 tons, i.e., about 10% of the domestic capacity.

4.2 Capital cost: Assuming a cost out of \$4.1, return on capital investment, including working capital was estimated to be 10% after tax. The cost of depreciation during the period with no tax liability (first 4 years of operations) - see supplement for the station return to capital costs. The tax-free period was calculated from the cumulative net profits and depreciation. Net profit in the first operating year is estimated to be \$1,000,000, in the following years at \$15,000. Depreciation amounts to \$1,000 per annum. Thus capital investment is returned after eight years.

4.3 Value added and employment effects: The net value added amounts to approximately \$100,000 in factors-out terms, i.e., wages and salaries, including fringe benefits and profit before taxes. The direct contribution to domestic income, however, is less since a part of the salaries has to be paid for expatriates. The manufacturing plant provides work for 70 domestic employees, 20 of which can be unskilled. If a plant is built adjacent to the factory, at least another 100 men would be required.

XII. SUPPLEMENT**1. Capital investment and operating costs.**

The capital investment required for a 100-ton-per-day plant is estimated at \$1,000,000 which would include the cost of land, plant equipment, and working capital. The cost of the plant equipment includes the cost of the plant building, piping, structural steel, electrical equipment, and all other plant equipment required for the operation of the plant.

The operating expenses for the proposed plant are estimated at approximately \$1,000,000 per year. This estimate includes the cost of labor, materials, fuel, power, maintenance, insurance, taxes, depreciation, interest, and all other expenses associated with the operation of the plant.

The capital investment required for a 100-ton-per-day plant is estimated at \$1,000,000 which would include the cost of land, plant equipment, and working capital. The cost of the plant equipment includes the cost of the plant building, piping, structural steel, electrical equipment, and all other plant equipment required for the operation of the plant.

2. Capital investment and operating costs (\$1,000,000).

The capital investment required for a 100-ton-per-day plant is estimated at \$1,000,000 which would include the cost of land, plant equipment, and working capital. The cost of the plant equipment includes the cost of the plant building, piping, structural steel, electrical equipment, and all other plant equipment required for the operation of the plant.

The operating expenses for a 100-ton-per-day plant are estimated at approximately \$1,000,000 per year. This estimate includes the cost of labor, materials, fuel, power, maintenance, insurance, taxes, depreciation, interest, and all other expenses associated with the operation of the plant.

The operating expenses for a 100-ton-per-day plant are estimated at approximately \$1,000,000 per year. This estimate includes the cost of labor, materials, fuel, power, maintenance, insurance, taxes, depreciation, interest, and all other expenses associated with the operation of the plant.

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3. Profitability evaluation (Table 3-1).

	Operating year	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th
	\$1000	\$1000	\$1000	\$1000	\$1000	\$1000	\$1000	\$1000	\$1000	\$1000	\$1000
1. Plant investment	100										
2. Working capital ¹	100										
3. Other initial development	100	1,000 ²	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000
4. Depreciation & reserve	-	63	134	191	227	254	271	288	304	311	318
5. Net revenue ³	243	290	321	346	367	387	407	427	447	467	487
6. Cumulative net profits	-	14	67	133	199	254	309	364	419	474	529
7. Net revenue remaining in plant ⁴	242	276	307	332	357	382	407	432	457	482	507
8. Alien income	100	100	100	100	100	100	100	100	100	100	100
9. Operating cost	546	574	601	629	656	684	711	739	766	794	821
10. Gross profit ⁵	11	12	13	14	15	16	17	18	19	20	21
11. Depreciation & released ⁶											
12. Cumulative operating costs											
13. Net for tax purposes (ash)											
14. Adjusted gross profits (Net ash)	11	12	13	14	15	16	17	18	19	20	21
15. Cumulative losses carried forward	-	-	-	-	-	-	-	-	-	-	-
16. Taxable profit (Net ash)	-	-	-	-	-	-	-	-	-	-	-
17. Income tax at 40% of taxable profit	-	-	-	-	-	-	-	-	-	-	-
18. Net profit	14	15	16	17	18	19	20	21	22	23	24
19. Return on plant investment plus working capital ⁷ (%)	14	15	16	17	18	19	20	21	22	23	24

1. Production = 1,000 tons in 1st year of operation.

2. Working capital = 1-month's operating cost plus 2-month's transportation expenses.

3. Differences in some figures in comparison to other chapters are due to rounding.

4. Depreciation = % initial plant investment. Reserve created for replacement of passenger vehicles every 5 years, lorries every 5 years, 30% salvage value.

5. Net ash = Unadjusted net revenue.

6. Includes for correction of replacement vehicle ash.

7. After depreciation of 40% of plant investment.

PHOTO 1

Planning year

1. ORIGIN OF THE STUDY

¹ The study was interested in the relationship between the two variables, but not in the direction of causality.

Effect of the oxygen flow rate

- For the first time in history, we have the opportunity to make a better world. We can do it if we work together.

GENERAL DESCRIPTION

5. Alternative technologies available and technology adopted for the study

4. Diagnostic factors

- Indication of particularly important factors. The major factor in the development of the compensated stage was the long, severe, 1939-1940 winter. By mid-November 1939, temperatures were below normal throughout the state. This was not unusual, but the following month saw record low temperatures and widespread snow cover. The result was a virtual standstill of the economy, particularly the agriculture sector.

Although the specific mechanisms by which the brain processes and integrates sensory information are not fully understood, it is clear that the brain uses complex algorithms to extract meaningful information from the environment.

III MARKET

¹ The notion of estimated error rates can be found in Section 3.

3. Selection of production. Although a standard size of "1" x 4" for slab-shaped wood materials such as veneer boards, joiner's boards, fibre boards, and so on, has been established, for reasons connected with plant form engineering and raw material control, the manufacture of half the size, i.e., 1" in width, is recommended. By planing two sides, the exact slab standard of "1" x 4" can be reached.

IV. CAPACITY OF PROPOSED PLANT

1. Nominal maximum capacity according to major process The capacity of each major process will be determined by the number of hours per year available for production. This will be calculated by dividing the total number of hours available per year by the number of hours required for each major process. The capacity of each major process will be expressed in terms of the number of hours available per year.

Maximum feasible capacity of the plant

2. Calculated maximum output of the plant The calculated maximum output of the plant will be determined by the capacity of each major process multiplied by the number of hours available per year.

V. INVESTMENT (000 US \$)

	Total	Foreign currency component	Total	Foreign currency component
1. Fixed assets				
Buildings	1,200	1,200	2. Working capital	1,200
Land & development costs	1,200	1,200	Inventories	1,200
Buildings	1,200	1,200	Production materials, fuel & auxiliary materials	1,200
Furniture, fixtures, etc.	100	100	Parts & supplies for repair & maintenance	100
Offices	100	100	Work in process	100
Utilities	100	100	Finished goods	100
Others	100	100	Accounts receivable	100
Total fixed assets	1,500	1,500	Other liquid assets	100
2. Major machinery & equipment				
Machinery & equipment	1,600	1,600		
Buildings	1,600	1,600		
3. Other investments				
Pre-investment cost	100	100		
Preliminary expenditure	100	100		
Planning costs	100	100		
Engineering costs	100	100		
Interest during construction	100	100		
Training costs	100	100		
Others	100	100		
Start up expenses	100	100		
Consultant fees	100	100		
Costs for test run	100	100		
Others	100	100		

Major machinery & equipment

	F.o.b. supplier country's port	Transport cost (insurance freight)	Import duty	Landing, local installation cost	Total	Foreign currency component
Crane, overhead, 10 ton	1	100	100	100	300	300
Crane, overhead, 20 ton	1	200	200	200	600	600
Crane, overhead, 30 ton	1	300	300	300	900	900
Crane, overhead, 40 ton	1	400	400	400	1,200	1,200
Crane, overhead, 50 ton	1	500	500	500	1,500	1,500
Crane, overhead, 60 ton	1	600	600	600	1,800	1,800
Crane, overhead, 70 ton	1	700	700	700	2,100	2,100
Crane, overhead, 80 ton	1	800	800	800	2,400	2,400
Crane, overhead, 90 ton	1	900	900	900	2,700	2,700
Crane, overhead, 100 ton	1	1,000	1,000	1,000	3,000	3,000
Crane, overhead, 120 ton	1	1,200	1,200	1,200	3,600	3,600
Crane, overhead, 140 ton	1	1,400	1,400	1,400	4,200	4,200
Crane, overhead, 160 ton	1	1,600	1,600	1,600	4,800	4,800
Crane, overhead, 180 ton	1	1,800	1,800	1,800	5,400	5,400
Crane, overhead, 200 ton	1	2,000	2,000	2,000	6,000	6,000
Crane, overhead, 220 ton	1	2,200	2,200	2,200	6,600	6,600
Crane, overhead, 240 ton	1	2,400	2,400	2,400	7,200	7,200
Crane, overhead, 260 ton	1	2,600	2,600	2,600	7,800	7,800
Crane, overhead, 280 ton	1	2,800	2,800	2,800	8,400	8,400
Crane, overhead, 300 ton	1	3,000	3,000	3,000	9,000	9,000
Crane, overhead, 320 ton	1	3,200	3,200	3,200	9,600	9,600
Crane, overhead, 340 ton	1	3,400	3,400	3,400	10,200	10,200
Crane, overhead, 360 ton	1	3,600	3,600	3,600	10,800	10,800
Crane, overhead, 380 ton	1	3,800	3,800	3,800	11,400	11,400
Crane, overhead, 400 ton	1	4,000	4,000	4,000	12,000	12,000
Crane, overhead, 420 ton	1	4,200	4,200	4,200	12,600	12,600
Crane, overhead, 440 ton	1	4,400	4,400	4,400	13,200	13,200
Crane, overhead, 460 ton	1	4,600	4,600	4,600	13,800	13,800
Crane, overhead, 480 ton	1	4,800	4,800	4,800	14,400	14,400
Crane, overhead, 500 ton	1	5,000	5,000	5,000	15,000	15,000
Crane, overhead, 520 ton	1	5,200	5,200	5,200	15,600	15,600
Crane, overhead, 540 ton	1	5,400	5,400	5,400	16,200	16,200
Crane, overhead, 560 ton	1	5,600	5,600	5,600	16,800	16,800
Crane, overhead, 580 ton	1	5,800	5,800	5,800	17,400	17,400
Crane, overhead, 600 ton	1	6,000	6,000	6,000	18,000	18,000
Crane, overhead, 620 ton	1	6,200	6,200	6,200	18,600	18,600
Crane, overhead, 640 ton	1	6,400	6,400	6,400	19,200	19,200
Crane, overhead, 660 ton	1	6,600	6,600	6,600	19,800	19,800
Crane, overhead, 680 ton	1	6,800	6,800	6,800	20,400	20,400
Crane, overhead, 700 ton	1	7,000	7,000	7,000	21,000	21,000
Crane, overhead, 720 ton	1	7,200	7,200	7,200	21,600	21,600
Crane, overhead, 740 ton	1	7,400	7,400	7,400	22,200	22,200
Crane, overhead, 760 ton	1	7,600	7,600	7,600	22,800	22,800
Crane, overhead, 780 ton	1	7,800	7,800	7,800	23,400	23,400
Crane, overhead, 800 ton	1	8,000	8,000	8,000	24,000	24,000
Crane, overhead, 820 ton	1	8,200	8,200	8,200	24,600	24,600
Crane, overhead, 840 ton	1	8,400	8,400	8,400	25,200	25,200
Crane, overhead, 860 ton	1	8,600	8,600	8,600	25,800	25,800
Crane, overhead, 880 ton	1	8,800	8,800	8,800	26,400	26,400
Crane, overhead, 900 ton	1	9,000	9,000	9,000	27,000	27,000
Crane, overhead, 920 ton	1	9,200	9,200	9,200	27,600	27,600
Crane, overhead, 940 ton	1	9,400	9,400	9,400	28,200	28,200
Crane, overhead, 960 ton	1	9,600	9,600	9,600	28,800	28,800
Crane, overhead, 980 ton	1	9,800	9,800	9,800	29,400	29,400
Crane, overhead, 1,000 ton	1	10,000	10,000	10,000	30,000	30,000
Crane, overhead, 1,020 ton	1	10,200	10,200	10,200	30,600	30,600
Crane, overhead, 1,040 ton	1	10,400	10,400	10,400	31,200	31,200
Crane, overhead, 1,060 ton	1	10,600	10,600	10,600	31,800	31,800
Crane, overhead, 1,080 ton	1	10,800	10,800	10,800	32,400	32,400
Crane, overhead, 1,100 ton	1	11,000	11,000	11,000	33,000	33,000
Crane, overhead, 1,120 ton	1	11,200	11,200	11,200	33,600	33,600
Crane, overhead, 1,140 ton	1	11,400	11,400	11,400	34,200	34,200
Crane, overhead, 1,160 ton	1	11,600	11,600	11,600	34,800	34,800
Crane, overhead, 1,180 ton	1	11,800	11,800	11,800	35,400	35,400
Crane, overhead, 1,200 ton	1	12,000	12,000	12,000	36,000	36,000
Crane, overhead, 1,220 ton	1	12,200	12,200	12,200	36,600	36,600
Crane, overhead, 1,240 ton	1	12,400	12,400	12,400	37,200	37,200
Crane, overhead, 1,260 ton	1	12,600	12,600	12,600	37,800	37,800
Crane, overhead, 1,280 ton	1	12,800	12,800	12,800	38,400	38,400
Crane, overhead, 1,300 ton	1	13,000	13,000	13,000	39,000	39,000
Crane, overhead, 1,320 ton	1	13,200	13,200	13,200	39,600	39,600
Crane, overhead, 1,340 ton	1	13,400	13,400	13,400	40,200	40,200
Crane, overhead, 1,360 ton	1	13,600	13,600	13,600	40,800	40,800
Crane, overhead, 1,380 ton	1	13,800	13,800	13,800	41,400	41,400
Crane, overhead, 1,400 ton	1	14,000	14,000	14,000	42,000	42,000
Crane, overhead, 1,420 ton	1	14,200	14,200	14,200	42,600	42,600
Crane, overhead, 1,440 ton	1	14,400	14,400	14,400	43,200	43,200
Crane, overhead, 1,460 ton	1	14,600	14,600	14,600	43,800	43,800
Crane, overhead, 1,480 ton	1	14,800	14,800	14,800	44,400	44,400
Crane, overhead, 1,500 ton	1	15,000	15,000	15,000	45,000	45,000
Crane, overhead, 1,520 ton	1	15,200	15,200	15,200	45,600	45,600
Crane, overhead, 1,540 ton	1	15,400	15,400	15,400	46,200	46,200
Crane, overhead, 1,560 ton	1	15,600	15,600	15,600	46,800	46,800
Crane, overhead, 1,580 ton	1	15,800	15,800	15,800	47,400	47,400
Crane, overhead, 1,600 ton	1	16,000	16,000	16,000	48,000	48,000
Crane, overhead, 1,620 ton	1	16,200	16,200	16,200	48,600	48,600
Crane, overhead, 1,640 ton	1	16,400	16,400	16,400	49,200	49,200
Crane, overhead, 1,660 ton	1	16,600	16,600	16,600	49,800	49,800
Crane, overhead, 1,680 ton	1	16,800	16,800	16,800	50,400	50,400
Crane, overhead, 1,700 ton	1	17,000	17,000	17,000	51,000	51,000
Crane, overhead, 1,720 ton	1	17,200	17,200	17,200	51,600	51,600
Crane, overhead, 1,740 ton	1	17,400	17,400	17,400	52,200	52,200
Crane, overhead, 1,760 ton	1	17,600	17,600	17,600	52,800	52,800
Crane, overhead, 1,780 ton	1	17,800	17,800	17,800	53,400	53,400
Crane, overhead, 1,800 ton	1	18,000	18,000	18,000	54,000	54,000
Crane, overhead, 1,820 ton	1	18,200	18,200	18,200	54,600	54,600
Crane, overhead, 1,840 ton	1	18,400	18,400	18,400	55,200	55,200
Crane, overhead, 1,860 ton	1	18,600	18,600	18,600	55,800	55,800
Crane, overhead, 1,880 ton	1	18,800	18,800	18,800	56,400	56,400
Crane, overhead, 1,900 ton	1	19,000	19,000	19,000	57,000	57,000
Crane, overhead, 1,920 ton	1	19,200	19,200	19,200	57,600	57,600
Crane, overhead, 1,940 ton	1	19,400	19,400	19,400	58,200	58,200
Crane, overhead, 1,960 ton	1	19,600	19,600	19,600	58,800	58,800
Crane, overhead, 1,980 ton	1	19,800	19,800	19,800	59,400	59,400
Crane, overhead, 2,000 ton	1	20,000	20,000	20,000	60,000	60,000
Crane, overhead, 2,020 ton	1	20,200	20,200	20,200	60,600	60,600
Crane, overhead, 2,040 ton	1	20,400	20,400	20,400	61,200	61,200
Crane, overhead, 2,060 ton	1	20,600	20,600	20,600	61,800	61,800
Crane, overhead, 2,080 ton	1	20,				

X. FINANCING PROPOSAL (in US\$)

1. Capital costs (total): \$ 1,000,000

4. Supplier credits

2. Short-term credits:

Short-term credits (total): \$ 100,000

Supplier credits (total): \$ 100,000

5. Remarks on the financing policy: The project will be implemented by the company itself. The company has no experience in financing projects. Therefore, it is proposed to obtain a loan from a bank or other financial institution. The loan will be used to finance the construction of the plant and to cover working capital requirements. The loan will be repaid over a period of 10 years.

XI. IMPLEMENTATION PLAN

The implementation plan consists of two main phases: the planning phase and the execution phase. The planning phase includes the preparation of the project plan, the selection of contractors, and the preparation of the implementation schedule. The execution phase includes the construction of the plant, the commissioning of the plant, and the start-up of the plant.

Project management: The project will be managed by the project manager, who will be responsible for the overall management of the project. The project manager will be assisted by a team of experts, including engineers, technicians, and financial managers. The project manager will be responsible for the implementation of the project, including the selection of contractors, the preparation of the implementation schedule, and the supervision of the implementation process.

Recruitment and training of personnel: The project will be staffed by a team of experts, including engineers, technicians, and financial managers. The team will be recruited from the local labor market and will be trained in the specific skills required for the implementation of the project. The team will be supervised by the project manager and will be responsible for the implementation of the project.

4. Other items

5. Time schedule: The time schedule of the project is as follows: the planning phase begins with the preparation of the project plan, which is completed in month 1. The implementation phase begins in month 2 and ends in month 12. The commissioning phase begins in month 13 and ends in month 18. The start-up phase begins in month 19 and ends in month 24. The project is completed in month 25.

XII. DATA FOR EVALUATION**1. Profitability evaluation**

- Break-even analysis
- Return on investment
- Weighted return on capital
- Weighted return on equity

2. Further profitability analysis for given project life (Bankability test)

- Check
- Internal rate of return
- Net present value
- Any other method used

3. National economic benefit-cost analysis (National priority test)

- Direct value added and employment effect
- Indirect payment effect
- Social marginal productivity of capital
- Backward and forward effect
- Synthetic benefit-cost analysis
- Any other method used

6. Illustration of the methods used and major findings

Capital cost equipment: In the calculation the production volume is determined by the total weight of manufactured units, which is approximately 1,000 units per year. The production costs consist of fixed costs (\$100,000) and variable costs of raw materials, labor, and operating supplies, electric power, water, etc. The production costs are estimated at approximately \$100,000 per year. The break-even point lies at an annual production of approximately 1,000 units, i.e. approximately 10% of the capacity.

Capital costs: Assuming a tax rate of five years, gross profit (excluding depreciation) amounts to approximately \$100,000. The rate of return on investment (percentage of profit after depreciation) amounts to approximately 10%.

Interest and equipment effects: The direct annual distribution of the interest on investment (net of depreciation) is approximately \$10,000. The interest on investment is approximately 10%. The interest on investment is approximately 10%.

Interest effects: The effects on the balance of payments is determined by comparing foreign exchange earnings from exports of oil with foreign exchange expenditure for imports of raw materials. Calculating with current exchange rates, the foreign exchange expenditure for the procurement of raw materials and equipment investments amounts to approximately \$100,000 against additional expenditure totaling an average of \$10,000. Net foreign exchange earnings thus amount to approximately 10% per year. The foreign exchange expenditure for the erection of the plant will be offset by foreign exchange savings in about 10 years from the start of production.

Capital and forward effects: Backward effects might not be felt as strongly, since demand for oil and oil products is relatively stable. But the oil price decline and the relative dependence of world oil prices might stimulate programmes for energy conservation.

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XII SUPPLEMENT

THE CASH FLOW TABLE (000 US \$)										
	Year	1980	1981	1982	1983	1984	1985	1986	1987	Terminal value of assets
A. Source of cash										
1. Current income										
a) Sales		4,120	20,357	26,000	27,200	26,000	27,200	27,200	27,200	
b) Income from investment		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
c) Income from capital		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
d) Income from equity		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
e) Income from other		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
f) Other		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
g) Total current income		7,120	23,357	29,000	30,200	29,000	30,200	30,200	30,200	
2. Capital expenditure										
a) Fixed capital expenditure										
i) Land & buildings		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
ii) Machinery & equipment		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
iii) Motor vehicles		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
iv) Furniture & equipment		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
b) Net working capital										
i) Raw materials		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
ii) Work in progress		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
iii) Finished goods		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
iv) Pre-investment		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
c) Pre-investment										
i) Start-up expenses		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
d) Production expenditure										
i) Raw materials		111,200	111,200	111,200	111,200	111,200	111,200	111,200	111,200	
ii) Purchasing commodity		20,000	20,000	20,000	20,000	20,000	20,000	20,000	20,000	
iii) Materials		30,000	30,000	30,000	30,000	30,000	30,000	30,000	30,000	
iv) Administration expenditure		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	
v) Indirect taxes & royalties		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	
vi) Other expenditure items - contingencies etc.		10,000	10,000	10,000	10,000	10,000	10,000	10,000	10,000	
e) Debt service										
i) Interest on loans		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
ii) Repayment of loans & credits		1,000	1,000	1,000	1,000	1,000	1,000	1,000	1,000	
f) Dividends & profit losses paid										
i) 31,500		31,500	31,500	31,500	31,500	31,500	31,500	31,500	31,500	
g) Surplus/Deficit (A - B)										
g) SURPLUS DEFICIT ACCUMULATED		18,300	16,157	14,700	14,700	14,700	14,700	14,700	14,700	14,700

Comments
1. All different terms should be shown separately
2. Total value of production of finished goods minus the accumulation of finished goods inventories
3. Total due to early time production costs of finished goods
4. Not including interest charge on construction
5. Annual profit has minimum annual re-investment in materials inventories
6. This item stands for the part of profit which is to be divided among profits, dividends (less of the number of the executive board, managerial staff's salaries, profits etc.). Actually this sum will be established after allowances have been made for taxation which are not included under item 4 (production expenditure). The cash flow balance should be programmed therefore in such a way that necessary replacement (B.1.3.) can be covered completely by the accumulated surplus

PROJECT: PRODUCTION OF DOMESTIC AND EXPORTABLE EXPLOSIVES

Planning year: 1981

I. ORIGIN OF THE STUDY

1. This study was prepared by a independent consulting firm for the Ministry of Economy and Finance of the Federal Republic of Germany.

2. The study was intended to examine the possibility of establishing a domestic explosives industry in the Federal Republic of Germany, which would produce intermediate products for the production of explosives for military purposes and for civilian purposes, such as dynamite, ammonium nitrate, and other explosives.

3. Size of the economy considered:

Production capacity: 100,000 tonnes/year
Percentage of factor cost: 70%
Interest rate: 10%

II. GENERAL DESCRIPTION

1. Products: The products of the following plants have been proposed: 1) Intermediate products - sulphuric acid, hydrochloric acid, ammonia, nitric acid, potassium chlorate, potassium permanganate, 2) Mixed explosives - RDX, TNT, ammonium nitrate, 3) Blasts, fuses, detonators, 4) Gunpowder, 5) Explosives for military purposes, 6) Explosives for civilian purposes, 7) Explosives for mining, 8) Explosives for quarrying, 9) Explosives for demolition, 10) Explosives for blasting, 11) Explosives for mining, 12) Explosives for quarrying, 13) Explosives for demolition.

2. Major input materials: The major inputs of the industry are shown in Table I. The following table shows the estimated consumption of raw materials.

3. Alternative technologies available and technology adopted for the study: There are three alternative technologies available for the different products, namely, single and double emulsion type units and the ring plant with intermediate products. The first two proposed processes are conventional, whereas the third consists of intermediate products. These will be, however, different manufacturing stages for NPK, gunpowder, fertilizers and triple mixed explosives. The production of intermediate products is planned to begin in 1981, followed by the manufacture of explosives in the second half of the decade.

4. Economic factors:

Industrially important factors: The economic situation in the Federal Republic of Germany is characterized by high inflation rates, high interest rates, and high costs of labour. The cost of labour is the most important factor in determining the cost of production. The cost of labour is influenced by the cost of living, the cost of production, and the cost of distribution. The cost of living is influenced by the cost of food, the cost of clothing, the cost of housing, and the cost of transportation.

A fully proposed market: The market for explosives is a saturated market, and the demand for explosives is very low. The market for explosives is saturated because there is no demand for explosives in the Federal Republic of Germany. The market for explosives is saturated because there is no demand for explosives in the Federal Republic of Germany.

III. MARKET: Estimation of estimated demand in domestic and export markets

Product	Unit	Current annual consumption (t)	Of which imported (t)	Projected demand in 1981 (t)	Increase per year (%)
Sulphuric acid	t	1000	100	1200	10
Nitric acid	t	1000	100	1200	10
Ammonium nitrate	t	1000	100	1200	10
Hydrochloric acid	t	1000	100	1200	10
Intermediate products	t	1000	100	1200	10
Explosives	t	1000	100	1200	10
Gunpowder	t	1000	100	1200	10
Dynamite	t	1000	100	1200	10
TNT	t	1000	100	1200	10
RDX	t	1000	100	1200	10
Ammonium nitrate	t	1000	100	1200	10
Other explosives	t	1000	100	1200	10
Blasts	t	1000	100	1200	10
Fuses	t	1000	100	1200	10
Detonators	t	1000	100	1200	10
Mining explosives	t	1000	100	1200	10
Quarrying explosives	t	1000	100	1200	10
Demolition explosives	t	1000	100	1200	10
Blasting agents	t	1000	100	1200	10
Other explosives	t	1000	100	1200	10

4. Notes on market strategy: The market for explosives is a saturated market, and the demand for explosives is very low. The market for explosives is saturated because there is no demand for explosives in the Federal Republic of Germany. The market for explosives is saturated because there is no demand for explosives in the Federal Republic of Germany.

5. Notes on market strategy: The market for explosives is a saturated market, and the demand for explosives is very low. The market for explosives is saturated because there is no demand for explosives in the Federal Republic of Germany. The market for explosives is saturated because there is no demand for explosives in the Federal Republic of Germany.

1. The market for explosives is the market for mixed acids (sulphuric acid, nitric acid, hydrochloric acid, ammonium nitrate).
2. There will be possibilities for exporting to neighbouring countries the intermediate products for the production of approximately 10,000 tonnes of existing explosives.

3. An estimate of 1000 t.

3. Selection of product mix: The task of the study was to plan a chemical complex with products that can provide a basis for further development of the domestic chemical industry. The possibility of production of ammonia, calcium carbide, caustic soda and chlorine was examined, but rejected because of the lack of relevant raw materials and excessive costs. Semiblocking products are the most important of the envisaged products in commercial sense. For these commodities potential selling prices are excellent. Other products were selected mainly to guarantee a better utilization of production capacities.

² Expected sales and inventory build up: It is assumed that initial production (expected maximum output) will be reached during the first year. During the second year, production will increase by 10% and reach 110% of the maximum output. In the third year, the output will increase by another 10% to 121% of the maximum output.

Pricing policy - ~~most often price were validated in the frame of the current tariff, prices for the airports remain the same as the ones in the previous year, except if levels went 10% lower than the initial price after 10 years. The airport can request to change the level of the airport tariff, except once a fixed period of time.~~

4. Planned sales organization: The sales organization must serve a specific customer market. It may consist of one or more sales offices, branches, or districts. The number of sales offices depends upon the size of the market and the nature of the products.

VIII - ANNUAL OPERATING COSTS AND PROFITS				Annual costs (1000 US \$)	Foreign currency component (1000 US \$)
Cost item	Unit	Unit price (US \$)	Quantity	Annual costs (1000 US \$)	Foreign currency component (1000 US \$)
1. Material costs				1000	1000
1.1 Direct material costs				1000	1000
1.1.1 Raw materials	t	100	1000	1000	1000
1.1.2 Components	t	100	1000	1000	1000
1.1.3 Intermediate products	t	100	1000	1000	1000
1.1.4 Other material costs	t	100	1000	1000	1000
1.2 Indirect material costs				100	100
1.2.1 Consumables	t	100	100	100	100
1.2.2 Maintenance supplies	t	100	100	100	100
1.2.3 Office supplies	t	100	100	100	100
1.2.4 Other indirect material costs	t	100	100	100	100
1.3 Total material costs				1100	1100
2. Personnel costs (*)				1000	1000
2.1 Wages & salaries				1000	1000
2.1.1 Contributions to social security				100	100
2.1.2 fringe benefits				100	100
2.2 Interests				100	100
2.3 Rents				100	100
2.4 Indirect taxes at company level				100	100
2.5 Depreciation				100	100
2.5.1 Buildings				100	100
2.5.2 Machinery & equipment				100	100
2.5.3 Office equipment				100	100
2.5.4 Other				100	100
2.6 Administrative expenses & sales costs				100	100
2.7 Other costs				100	100
2.8 Profit before tax				100	100
2.8.1 of which: profit tax & subsidies				100	100
3. Domestic					
4. Foreign					
4.1 Categories of persons employed				No. of persons	Annual wages & salaries & fringe benefits (1000 US \$)
4.1.1 Top managers				1	100
4.1.2 Engineers				1	100
4.1.3 Technicians				1	100
4.1.4 Commercial staff				1	100
4.1.5 Clerks & typists				1	100
4.2 Foremen				1	100
4.3 Skilled operatives				1	100
4.4 Semi-skilled operatives				1	100
4.5 Unskilled operatives				1	100
4.6 Part-time operatives				1	100
4.7 Other special categories				1	100

• FINANCING PROPOSAL (in US \$)

Equity capital (total)

equation (note that δ is the same as δ_{max})

4 Suppliers' credits

6. Remarks on the financing policy

IMPLEMENTATION PLAN

Collaboration services are used to support the development of new products and services, as well as the delivery of existing ones.

Evaluation and training of personnel. The evaluation system for the screening and diagnosis of patients with suspected COVID-19 infection should be based on the following criteria: (a) the presence of symptoms; (b) the presence of laboratory evidence of SARS-CoV-2 infection; and (c) the presence of radiographic findings consistent with COVID-19.

... $\tau_1 \tau_2 \cdots \tau_n$

whether the day before tomorrow for the next edition of the press, or even longer, if necessary, to give time for examination of the incoming documents, recognition of authors, finding of sources, and so on. It is best to have a definite period of time for the preparation of the news item, so that the editor can be sure that the news item will be ready for publication by the time it is due.

5. DATA FOR EVALUATION

• Table 2. *Median estimates*

REFERENCES AND NOTES

— 1 —

Higher profitability & the Bankability test

hard

3.3 Net assets of the

3.1 Anytime method used

3. Nutritive value of beet pulp

Fig. 1. Directly induced and repressive effect.

Table 1. Relationship between patient age and sex

“*It is a good idea to have a well-organized system for keeping track of your expenses.*”

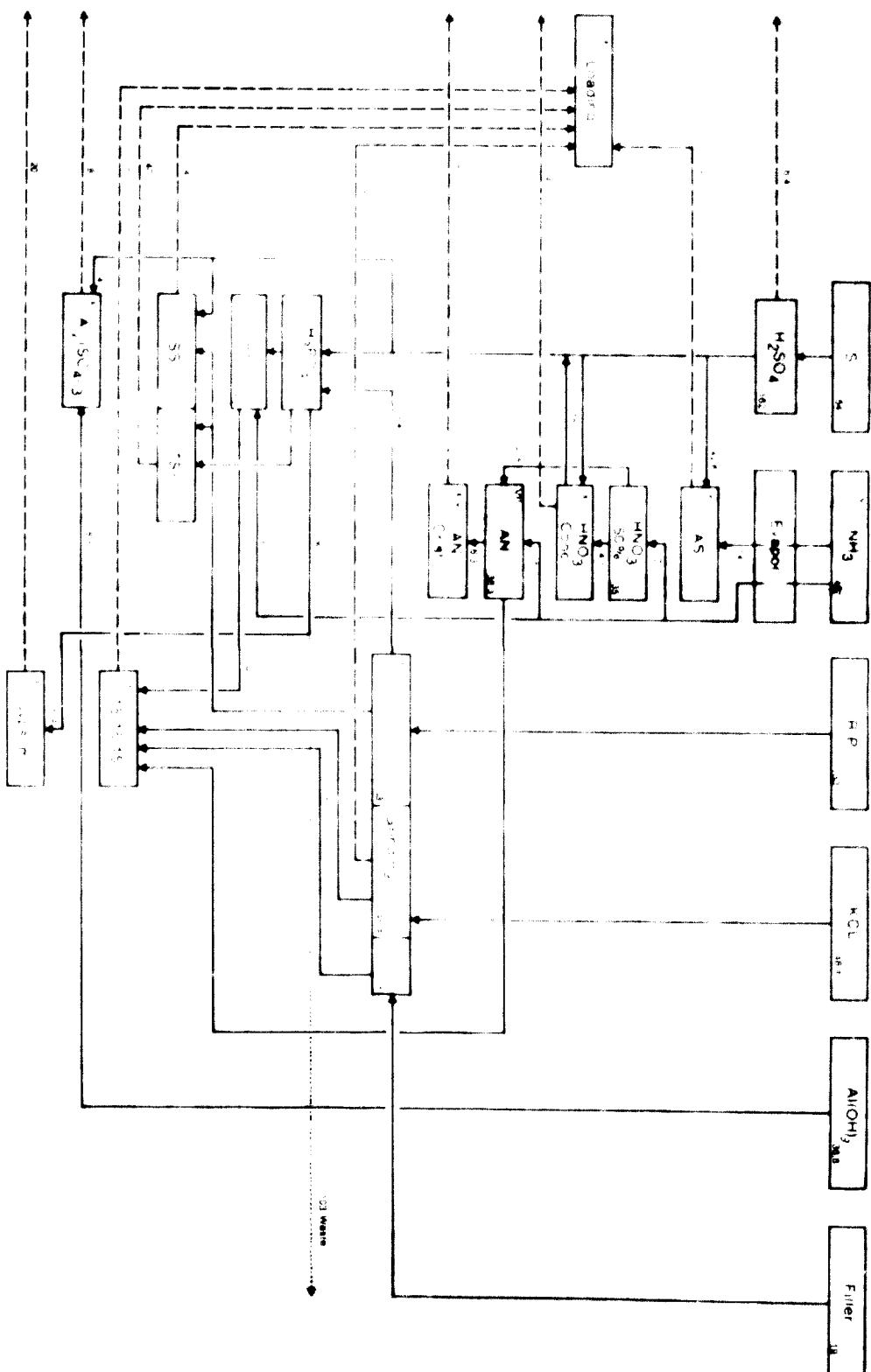
The result of the experiment was taken as the third term of the series of the second order, and the compatibility of the $\text{Fe}^{2+}\text{MnO}_4$ intercalation system was confirmed. The value of the diffusion coefficient of the cations in the polymer matrix was determined by the method of the steady-state concentration profile of the salt. At a constant temperature of 20°C , the capacity of 170% maximum of the intercalation system was obtained.

Capitalized and employment effects: The largest net value added amounts to \$1,330,000,000, net profit before tax, 1970-1971. The present provides an excellent example of the potentialities of thermodynamics and chemical engineering.

Investment effects: The annual foreign exchange expenditures will amount to U.S.\$1,000,000 and above. Investments in plant (U.S.\$1,000,000), aware parts (U.S.\$300,000) and replacement investment (300,000%), the salaries of the management personnel, imports of raw materials and imports of chemical products equivalent to the enterprise's proposed production will amount to some U.S.\$1,000,000. There will be an import of foreign currency of nearly U.S.\$1,000,000 per annum.

Marginal productivity of capital imply the output-capital ratio of the engaged labour complex calculated as
using added 1,650 AUS.

Flow Sheet of the Entire Complex



XIII. CASH FLOW TABLE (000 US \$)

Comments	The budget form is also designed to include a column for the place of entry. This is for the convenience of the user who wants to enter the data independently. The place of entry is not mandatory, but it is helpful for the identification and analysis of the data. The place of entry is also used for the preparation of financial statements of the enterprise.
Items of different terms should be shown separately.	
Annual value of production of finished goods minus annual accumulation of finished goods inventory.	
Total production costs minus production costs of finished goods.	
Not including interest during construction.	
Annual purchase minus annual accumulation of materials inventories.	
This item stands for the part of profit which is to be paid out namely profit tax, dividends, fees of the members of the executive board, managerial staff, share in profits etc. Actually this sum will be established after allowances have been made for depreciation which are not included under item 4 (production expenditure). The cash flow balance should be programmed therefore in such a way that all necessary replacement (I.I.3) can be covered every year by the accumulated surplus.	

1. ORIGIN OF THE STUDY

• This study was prepared by [REDACTED] for [REDACTED]

¹ See also the discussion of the relationship between the two concepts in the section on "Theoretical framework".

www.ijerpi.org | The International Journal of Engineering and Research in Computer Science

GENERAL DESCRIPTION

¹ See also the discussion in the previous section.

Alternative technologies available and technology adopted for the study The study area has been developed by using different technologies. The following are the technologies adopted for the study:

Nonparametric tests

the number of participants in each group was 10, and the number of patients per group was 10.

III MARKET

III MARKET | Validation of estimated demand for low-carbon energy - 19

2. Reasons for the delay The reasons for the delay in the implementation of the new system are varied and complex. One reason is the lack of political will and commitment from the government to prioritize and invest in the modernization of the tax system. Another reason is the lack of technical expertise and resources required to develop and implement such a complex system. There are also concerns about the potential impact on the economy and the need for a smooth transition without causing significant disruption. Additionally, there are legal and constitutional challenges that must be overcome, particularly regarding the constitutionality of the proposed changes.

the first time, the author has been able to demonstrate that the *in vitro* growth of *Escherichia coli* is inhibited by the presence of *Leptospiral* lipopolysaccharide. The inhibition is dose-dependent, reversible, and specific for *Leptospiral* LPS. The inhibition is not dependent upon the presence of *Leptospiral* antigenic components other than LPS.

3. Selection of product mix: Only the production of Portland cement has been chosen (item). Packaging materials (packs) are to be imported.

15. CAPACITY OF PROPOSED PLANT

1 Nominal maximum capacity according to major process: The maximum capacity of the plant is determined by the limiting factor, which is the minimum of the following: Maximum capacity of the individual processes, material availability, plant capacity, and production cost factors. The capacity of each individual process is determined by the capacity of the individual equipment.

Maximum feasible capacity of the plant - Having due regard to the market and the time when the plant will be required to meet the demand.

Estimated maximum output of the plant - The plant in the extreme, and maximum capacity, could produce 1000 kg of dried product per day.

VI MANNING TABLE

Shops	1st shift	2nd shift	3rd shift	Shops	1st shift	2nd shift	3rd shift
Primary operative shops (including supervisory staff)	65	17	17	2. Auxiliary operative shops	12	12	12
Manufacturing	38	—	—	Repair & maintenance	—	—	—
Office operation and auxiliaries	17	17	17	Utilities control	—	—	—
Including transport crew:				Product & material storage	—	—	—
Manufacturing	—	—	—	Off-site transport	—	—	—
Office operation	—	—	—	Guards, cleaners etc.	—	—	—

VII ANNUAL PRODUCTION

1 Total annual expected maximum output - \$1,100,000

Product	Unit	Quantity	Domestic sales		Foreign sales	
			Unit price ex factory (US \$)	Annual turnover (000 US \$)	Quantity	Unit price ex factory (US \$)
Leveller	ton	100	100	10,000	100	100

Some export levellers will be sold to foreign companies which depend on local demand for sale.

2 Expected sales and inventory build up No time schedule was explicitly mentioned.

- 3 Pricing policy** It is assumed that potential buyers would content themselves with a retained profit sufficient to repay the loan within a period of 10 years. Their net profit has to remain after deduction of income tax. Therefore, income tax, which amounts to 33% to 35% of the gross margin, is exempted until the 10th year, has to be offset. Thus, sales prices are calculated as the sum of remaining profit plus minimum payment for payment of taxes and repayment of loans. But the price for export cannot be too much above the existing export prices. Therefore, very low prices are suggested to keep foreign markets. The export prices can be considered reasonable. See also 15% minimum profit in § 12.1. The selling price is \$ 11,000 f.o.b. delivery, based upon a residual profit of \$ 1,000 per ton, and a minimum profit of 10%.
- 4 Planned sales organization** The establishment of a sales organization and the necessary activities of the who-sellers was based on the assumption of a specialized department for the clients of whom no specific information was available. In the first year, the sales department will consist of one manager who handles the sales and who is responsible for the collection of debts. After the first year, the possibility of adding additional staff is considered in the future.

VIII ANNUAL OPERATING COSTS AND PROFITS

Cost item	Unit	Unit price (US \$)	Quantity	Annual costs (000 US \$)	Foreign currency component (000 US \$)	Cost item		Annual costs (000 US \$)	Foreign currency component (000 US \$)
						Domestic	Foreign		
Cost item	Unit	Unit price (US \$)	Quantity	Annual costs (000 US \$)	Foreign currency component (000 US \$)				
1 Personnel costs (*)									
1.1 Wages & salaries									
1.2 Contributions to social security									
1.3 Social security									
1.4 fringe benefits									
1.5 Interests									
1.6 Rents									
1.7 Indirect taxes at company level									
1.8 Depreciation									
1.9 Buildings	sq m	100	100	10,000	10,000	100	100	100	100
1.10 Machinery & equipment	sq m	100	100	10,000	10,000	100	100	100	100
1.11 Office equipment	sq m	100	100	10,000	10,000	100	100	100	100
1.12 other fixed assets	sq m	100	100	10,000	10,000	100	100	100	100
1.13 Administrative expenses & sales costs									
1.14 Other costs									
1.15 Profit before tax									
1.16 of which profit tax subsidies									
2 Domestic									
2.1 Categories of persons employed						No. of persons			
2.2 Top managers						2	2	2	2
2.3 Engineers						10	10	10	10
2.4 Technicians						10	10	10	10
2.5 Commercial staff						10	10	10	10
2.6 Clerks and typists						10	10	10	10
2.7 Foremen						2	2	2	2
2.8 Skilled operatives						10	10	10	10
2.9 Semi skilled operatives						10	10	10	10
2.10 Unskilled operatives						10	10	10	10
2.11 Part time operatives						10	10	10	10
2.12 Other special categories						10	10	10	10
2.13 Foreign									
2.14 Annual wages & salaries & fringe benefits (000 US \$)									
2.15 No. of persons									

- 2 Limestone, clay and gypsum are internally supplied; the transporting costs are included in respective cost items.
3 The first 10 years are free of taxation, thereafter income tax amounts to 33% of profit.

IX FINANCING PROPOSAL (in US \$)

1 Equity capital (total) - Capital required for the project, including working capital.

2 Short-term loans (total) - Short-term loans required for the project, including working capital.

3 Other items - Other items required for the project.

4 Suppliers credits - Interest-free supplier credits, if any, available from suppliers.

5 Remarks on the financial policy

Project capital will be provided by:

X IMPLEMENTATION PLAN

1 Financial evaluation service - The financial evaluation service will be responsible for the implementation of the financial plan, including the preparation of financial statements and reports.

2 Project management - The project manager will be responsible for:

3 Recruitment and training of personnel - After an initial period of about 1 to 3 months, the proportion of the local labour force should be sufficient. Further recruitment of foreign staff would depend on the project needs, as well as on the availability of qualified personnel.

4 Other items -

5 Time schedule - The implementation of the project.

XI DATA FOR EVALUATION**1 Profitability evaluation**

- 1.6.4
 Break-even point analysis
 Return on total capital
 Pay back
 Ability to return to equity capital

2 Further profitability analysis for given project life (Bankability test)

- Check
 Internal rate of return
 Net present value
 Any other method used

3 National economic benefit analysis or National priority test check

- Present value and marginal effect
 Balance of payments
 Social marginal productivity of capital
 Backward and forward effects
 Economic cost analysis
 Any other method used

4 Evaluation of the methods used for major findings

5 Current market prices - Total costs of raw materials, direct costs and variable costs. The following table gives an estimate of the current market prices at these levels, to know after that how much of the total production period, the price level will be affected by the following factors:

6 Capital return on equity capital - Taking into account the conditions and the results of the financial plan, the following table gives an estimate of the capital return on equity capital, net profit after taxes and represents a range between 10% and 15% depending on the type of investment.

7 Investment site and equipment effect - The recent initiative is one of the most up-to-date technique and latest technology. The selected investment site has been chosen with very high skilled and experienced, honest, courageous, diligent workers willing to work in the factory. More than 10% is expected to be invested for each unit created. Thus, the direct equipment effect must be considered in investment analysis. A positive influence on investment effect.

8 Change of payment effect - Effects on the balance of payments in two ways: positively by avoidance of import and reducing foreign currency outflow; negatively by import of fuel, supplies, payment of salaries for foreigners, export services, foreign exchange of imported materials. An effect on the balance of payment may be quantified roughly as follows: amount of foreign currency \$1,000,000.00 per ton of iron ore, 1000 t/ton of foreign employees (\$10,000), fuel (\$10,000), purchase materials (\$1,500) supplies (\$1,000) transportation (\$1,000) insurance (\$1,000), interest (\$100,000), remittance of funds (\$100,000). Thus, net increase of foreign currency due to imports of iron ore is \$1,000,000. The net effect of shipment would have to be paid in foreign currency, thus with further reduce the net increase of foreign currency. Other factors to take into account are the substitution of foreign employees and imported supplies, additional payment of interest \$100,000 per year, etc.

XII. SUPPLEMENT

COSTS OF PRODUCTION

ITEM	UNIT	PRICE	QUANTITY	AMOUNT
Land acquisition	ACRES	\$1,100	50.00	\$55,000
Plant	ACRES	\$2,000	14.00	\$28,000
Alum.	TONS	\$0.34	1,000	\$400
Rebar	TONS	\$0.11	1,440	\$154.40
Steel	TONS	\$0.10	2,448	\$244.80
Cao	TONS	\$2.00	54,000	\$108,000
Mgo	TONS	\$0.02	2,687	\$53.74
SO ₃	TONS	\$0.10	1,200	\$120.00
K ₂ O	TONS	\$0.11	0.40	\$0.44
N ₂ O ₅	TONS	\$0.20	1,000	\$2,000
C1	TONS	\$0.30	0.30	\$0.90
Private Motors	UNITS	\$2.00	1,200	\$2,400

Estimated investment plan with capacity of 14,000 tons per year:

The study also gives estimates for investments, as well as earnings forecast for a factory producing 14,000 tons of cement annually. The estimated investment would be:

\$80,000

Real estates	\$0
Costs of building of raw materials	\$0
Cement machines and mining equipment	\$1,000
Auxiliaries	\$100
Electrical equipment	\$0
Diesel power station	\$100
Assembly	\$0
Construction	\$1,000
Fuel tanks	\$50
Road connections	\$100
Vehicles	\$200
Working capital	\$200

The investment thus amounts to approximately \$80 million. Production costs are estimated as follows:

\$200,000

Wages	\$64	(30 skilled and 30 unskilled workers)
Salaries	\$100	
Taxes	\$100	
Packing material	\$100	
Supplies	\$100	
Depreciation	\$100	
Office parts and repairs	\$100	
Interest (average)	\$100	
Administration and marketing costs	\$100	

The production thus amounts to approximately \$200 million. At this capacity it is assumed that 10,000 tons can be sold in the home market and 4,000 tons be exported at a price of \$100 per ton. This export price is so low due to considerable competition. Under these assumptions, sales return would amount to approximately \$10 million. Thus, return to total capital would be 12% on the average.

XIII CASH FLOW TABLE (000 US \$)

PRACTICE

Year		Comments	Terminal value of assets
A Source of cash			
1 Financial resources total			
1.1 Bank overdraft			
1.2 Bank loans			
1.3 Capital investment			
1.4 Dividends			
1.5 Sales revenue			
B Uses of cash			
1 Fixed capital expenditure total			
1.1 Land site improvements & buildings			
1.2 Machinery & equipment new installations			
1.3 Machinery & equipment replacements			
2 Net working capital total			
2.1 Stock of materials			
2.2 Work in progress			
2.3 Current assets & current liabilities			
3 Pre-investment & start up expenses			
4 Production expenditure total			
4.1 Personnel expenditure			
4.2 Materials			
4.3 Administrative expenditure			
4.4 indirect taxes & royalties			
4.5 Other expenditure items contingencies etc			
Debt service total			
5 Interest on loans			
6 Repayment of loans & credits			
Dividends & profit taxes paid			
Surplus/Deficit (A - B)			
SURPLUS DEFICIT ACCUMULATED			

- Exports of different terms should be shown separately
- Annual value of production of finished goods minus annual accumulation of finished goods inventories = total production costs minus production costs of finished goods

⁴ Not including interest during construction.

Annual purchase minus annual accumulation of materials inventory

This item stands for the part of profit which is not due to materials inventory.

...on the part of profit which are to be paid out, namely profit tax, dividends, fees of the members of the executive board, &c.

customers of the executive board - managerial staff's share in profits, etc. Actually this sum will be established by the shareholders.

It is estimated that by January this sum will be established after allowances have been made for depreciation which are not included in it.

(production expenditure). The cash flow balance should be presented as follows:

should be programmed, therefore, in such a way that all necessary replacement (R) can be

any year by the accumulated surplus.

—

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Continued

The present study investigated the relationship

PROJECT 18: THE CLOTHESLINE PROJECT

(Planning year)

SUBSTANCE USE STIGMA

- 1** This study was prepared by the Bureau of Land Management, Denver, Colorado.

The area described by the author is located in the eastern part of the plateau of Kachinland between the missing links in the chain of hill ranges formed by the Shan Plateau and the northern part of the Tengchong Plateau, in the northern part of the Shan State, Kachin State, Hukawng Valley, Hukawng River, building a bridge across the river.

THE ANNUAL REPORTS.

¹ M. L. T. M. de Vries, *Journal of International Accounting Auditing and Taxation*, 1996, 5(1), 1-12.

Information techniques available and technology adopted for the study The information system used in this study was a personal computer, running under the Windows 98 operating system. Two different programmes were used for the experiment, one for the hunter and one for the target. The target was suggested for the computer by the manufacturer of the programme. The range of values which can be entered in the different fields of the programme are as follows: age (1-100), sex (male or female), height (1-200 cm), weight (1-100 kg), and sex (male or female). In the software program, the target represents the

4.1.10. *Abstract* function

Indirect potential deposit factors. The indirect potential deposit factor is the ratio of the total weight of fine sand to the total weight of coarse sand in the sample. This factor is used to calculate the total amount of sand deposited.

³ I am grateful to Daniel Gitterman and the two anonymous referees for their comments. This research was funded by grants from the National Science Foundation.

III MARCH 1

Journal of Environmental Assessment and Management

— 1 —

3 Selection of product mix. The main field of application for Aluminium will be: roofing sheets and sidings, household utensils, construction and building sections, packagings like tubes and cans, foils, conductive wires. Flat intermediates form the majority of all Aluminium products imported now. The minimum capacity of an extrusion plant, about 1,000 tons per year, does not allow a profitable production of building sections and intermediates for packagings and wire during the next decades. Therefore, the project is designed to produce Aluminium foil with a thickness of 0.05 mm to 1.0 mm. Sheets and caniles are obtained from these coils on separate finishing lines.

IV CAPACITY OF PROPOSED PLANT

Final maximum capacity according to plan or norm

$\hat{t}^{\dagger} = \chi_1 + t_{\text{max}}$

C. Maculipennis (Fabricius) (see p. 46)

⁴ Expected to occur in one or more of the following years.

V INVESTMENT (000 U.S.)

INVESTMENT 1000 US \$		Foreign currency component	Total	Foreign currency component
	Total			
TOTAL INVESTMENT				
1. Fixed assets -	1000000	500000	1000000	500000
1.1 Land & site development	1000000	500000	1000000	500000
1.1.1 Land acquisition	1000000	500000	1000000	500000
1.1.2 Site development	1000000	500000	1000000	500000
1.1.3 Other	1000000	500000	1000000	500000
1.1.4 Total land & site development	1000000	500000	1000000	500000
1.1.5 Total land & site development, FOB, ex-works, \$ 1000000	1000000	500000	1000000	500000
1.2 Buildings	1000000	500000	1000000	500000
1.2.1 Factory buildings	1000000	500000	1000000	500000
1.2.2 Office buildings	1000000	500000	1000000	500000
1.2.3 Other	1000000	500000	1000000	500000
1.2.4 Total buildings	1000000	500000	1000000	500000
1.3 Equipment	1000000	500000	1000000	500000
1.3.1 Major equipment	1000000	500000	1000000	500000
1.3.1.1 Land & site development equipment	1000000	500000	1000000	500000
1.3.1.2 Construction equipment	1000000	500000	1000000	500000
1.3.1.3 Other	1000000	500000	1000000	500000
1.3.1.4 Total major equipment	1000000	500000	1000000	500000
1.3.2 Minor equipment	1000000	500000	1000000	500000
1.3.2.1 Tools & fixtures	1000000	500000	1000000	500000
1.3.2.2 Office equipment	1000000	500000	1000000	500000
1.3.2.3 Other	1000000	500000	1000000	500000
1.3.2.4 Total minor equipment	1000000	500000	1000000	500000
1.3.3 Furniture	1000000	500000	1000000	500000
1.3.3.1 Office furniture	1000000	500000	1000000	500000
1.3.3.2 Other	1000000	500000	1000000	500000
1.3.3.4 Total furniture	1000000	500000	1000000	500000
1.3.4 Total equipment	1000000	500000	1000000	500000
1.3.5 Total equipment	1000000	500000	1000000	500000
1.4 Total fixed assets	1000000	500000	1000000	500000
2. Working capital	1000000	500000	1000000	500000
2.1 Inventories	1000000	500000	1000000	500000
2.1.1 Production materials, fuel & auxiliary materials	1000000	500000	1000000	500000
2.1.2 Parts & supplies for repair & maintenance	1000000	500000	1000000	500000
2.1.3 Work in process	1000000	500000	1000000	500000
2.1.4 Finished goods	1000000	500000	1000000	500000
2.1.5 Account receivable	1000000	500000	1000000	500000
2.1.6 Other liquid assets	1000000	500000	1000000	500000
2.2 Other current assets	1000000	500000	1000000	500000
2.3 Current liabilities	1000000	500000	1000000	500000
2.3.1 Payables	1000000	500000	1000000	500000
2.3.2 Accrued expenses	1000000	500000	1000000	500000
2.3.3 Other	1000000	500000	1000000	500000
3. Other investments	1000000	500000	1000000	500000
3.1 Pre-investment costs	1000000	500000	1000000	500000
3.1.1 Preliminary expenditure	1000000	500000	1000000	500000
3.1.2 Planning costs	1000000	500000	1000000	500000
3.1.3 Engineering costs	1000000	500000	1000000	500000
3.1.4 Interest during construction	1000000	500000	1000000	500000
3.1.5 Training costs	1000000	500000	1000000	500000
3.1.6 Others	1000000	500000	1000000	500000
3.2 Start-up expenses	1000000	500000	1000000	500000
3.2.1 Consulting fees	1000000	500000	1000000	500000
3.2.2 Cost for test run	1000000	500000	1000000	500000
3.2.3 Others	1000000	500000	1000000	500000
4. Major machinery & equipment	1000000	500000	1000000	500000
4.1 Land & site development equipment	1000000	500000	1000000	500000
4.1.1 Land acquisition	1000000	500000	1000000	500000
4.1.2 Site development	1000000	500000	1000000	500000
4.1.3 Other	1000000	500000	1000000	500000
4.1.4 Total land & site development equipment	1000000	500000	1000000	500000
4.2 Construction equipment	1000000	500000	1000000	500000
4.2.1 Excavators	1000000	500000	1000000	500000
4.2.2 Dredges	1000000	500000	1000000	500000
4.2.3 Other	1000000	500000	1000000	500000
4.2.4 Total construction equipment	1000000	500000	1000000	500000
4.3 Other major equipment	1000000	500000	1000000	500000
4.3.1 Land & site development equipment	1000000	500000	1000000	500000
4.3.2 Construction equipment	1000000	500000	1000000	500000
4.3.3 Other	1000000	500000	1000000	500000
4.3.4 Total other major equipment	1000000	500000	1000000	500000
4.4 Total major machinery & equipment	1000000	500000	1000000	500000
4.5 Minor equipment	1000000	500000	1000000	500000
4.5.1 Tools & fixtures	1000000	500000	1000000	500000
4.5.2 Office equipment	1000000	500000	1000000	500000
4.5.3 Other	1000000	500000	1000000	500000
4.5.4 Total minor equipment	1000000	500000	1000000	500000
4.6 Furniture	1000000	500000	1000000	500000
4.6.1 Office furniture	1000000	500000	1000000	500000
4.6.2 Other	1000000	500000	1000000	500000
4.6.4 Total furniture	1000000	500000	1000000	500000
4.7 Total equipment	1000000	500000	1000000	500000
5. Total investment	1000000	500000	1000000	500000

VI MANNING TABLE

Index

VII. ANNUAL PRODUCTION

1. Total annual expected maximum output: 30,000,000

Product	Domestic sales				Foreign sales		
	Unit	Quantity	Unit price ex factory (US \$)	Annual turnover (1000 US \$)	Quantity	Unit price ex factory (US \$)	Annual turnover (1000 US \$)
Electrolytic copper sheets	ton	7,500	0.80 per ton	6,000			
Electrolytic copper sheets	ton	1,500	0.80 per ton	1,200			

Source:

In order to obtain an output of 30,000 tons of electrolytic copper sheets, 7,500 tons of copper oxide are necessary.

2. Expected sales and inventory build up

(1000 US \$)

Year of operation

1st	2nd	3rd	following years
Production	1,000	1,000	1,000
- Net inventory accumulation (finished products)	1,000	1,000	1,000

3. Pricing policy: The market prices of imported products are taken as the basis, in which all landing and handling charges and 20% customs duty are included. The prices of the landing costs, excluding customs duty, were taken as the basis; the annual turnover would fall to \$1,564,000.

4. Planned sales organization: The organization of new sales offices will be determined by the number of salesmen required. Therefore, the sales organization will consist of 10 salesmen.

VIII. ANNUAL OPERATING COSTS AND PROFITS

Cost item	Cost item		Annual costs (1000 US \$)	Foreign currency component (1000 US \$)
	Domestic	Foreign		
1. Wages & salaries			1,000	100
1.1. Wages & salaries	1,000	100	1,000	100
1.2. Wages & salaries	1,000	100	1,000	100
1.3. Wages & salaries	1,000	100	1,000	100
1.4. Wages & salaries	1,000	100	1,000	100
1.5. Wages & salaries	1,000	100	1,000	100
1.6. Wages & salaries	1,000	100	1,000	100
1.7. Wages & salaries	1,000	100	1,000	100
1.8. Wages & salaries	1,000	100	1,000	100
1.9. Wages & salaries	1,000	100	1,000	100
1.10. Wages & salaries	1,000	100	1,000	100
1.11. Wages & salaries	1,000	100	1,000	100
1.12. Wages & salaries	1,000	100	1,000	100
1.13. Wages & salaries	1,000	100	1,000	100
1.14. Wages & salaries	1,000	100	1,000	100
1.15. Wages & salaries	1,000	100	1,000	100
1.16. Wages & salaries	1,000	100	1,000	100
1.17. Wages & salaries	1,000	100	1,000	100
1.18. Wages & salaries	1,000	100	1,000	100
1.19. Wages & salaries	1,000	100	1,000	100
1.20. Wages & salaries	1,000	100	1,000	100
1.21. Wages & salaries	1,000	100	1,000	100
1.22. Wages & salaries	1,000	100	1,000	100
1.23. Wages & salaries	1,000	100	1,000	100
1.24. Wages & salaries	1,000	100	1,000	100
1.25. Wages & salaries	1,000	100	1,000	100
1.26. Wages & salaries	1,000	100	1,000	100
1.27. Wages & salaries	1,000	100	1,000	100
1.28. Wages & salaries	1,000	100	1,000	100
1.29. Wages & salaries	1,000	100	1,000	100
1.30. Wages & salaries	1,000	100	1,000	100
1.31. Wages & salaries	1,000	100	1,000	100
1.32. Wages & salaries	1,000	100	1,000	100
1.33. Wages & salaries	1,000	100	1,000	100
1.34. Wages & salaries	1,000	100	1,000	100
1.35. Wages & salaries	1,000	100	1,000	100
1.36. Wages & salaries	1,000	100	1,000	100
1.37. Wages & salaries	1,000	100	1,000	100
1.38. Wages & salaries	1,000	100	1,000	100
1.39. Wages & salaries	1,000	100	1,000	100
1.40. Wages & salaries	1,000	100	1,000	100
1.41. Wages & salaries	1,000	100	1,000	100
1.42. Wages & salaries	1,000	100	1,000	100
1.43. Wages & salaries	1,000	100	1,000	100
1.44. Wages & salaries	1,000	100	1,000	100
1.45. Wages & salaries	1,000	100	1,000	100
1.46. Wages & salaries	1,000	100	1,000	100
1.47. Wages & salaries	1,000	100	1,000	100
1.48. Wages & salaries	1,000	100	1,000	100
1.49. Wages & salaries	1,000	100	1,000	100
1.50. Wages & salaries	1,000	100	1,000	100
1.51. Wages & salaries	1,000	100	1,000	100
1.52. Wages & salaries	1,000	100	1,000	100
1.53. Wages & salaries	1,000	100	1,000	100
1.54. Wages & salaries	1,000	100	1,000	100
1.55. Wages & salaries	1,000	100	1,000	100
1.56. Wages & salaries	1,000	100	1,000	100
1.57. Wages & salaries	1,000	100	1,000	100
1.58. Wages & salaries	1,000	100	1,000	100
1.59. Wages & salaries	1,000	100	1,000	100
1.60. Wages & salaries	1,000	100	1,000	100
1.61. Wages & salaries	1,000	100	1,000	100
1.62. Wages & salaries	1,000	100	1,000	100
1.63. Wages & salaries	1,000	100	1,000	100
1.64. Wages & salaries	1,000	100	1,000	100
1.65. Wages & salaries	1,000	100	1,000	100
1.66. Wages & salaries	1,000	100	1,000	100
1.67. Wages & salaries	1,000	100	1,000	100
1.68. Wages & salaries	1,000	100	1,000	100
1.69. Wages & salaries	1,000	100	1,000	100
1.70. Wages & salaries	1,000	100	1,000	100
1.71. Wages & salaries	1,000	100	1,000	100
1.72. Wages & salaries	1,000	100	1,000	100
1.73. Wages & salaries	1,000	100	1,000	100
1.74. Wages & salaries	1,000	100	1,000	100
1.75. Wages & salaries	1,000	100	1,000	100
1.76. Wages & salaries	1,000	100	1,000	100
1.77. Wages & salaries	1,000	100	1,000	100
1.78. Wages & salaries	1,000	100	1,000	100
1.79. Wages & salaries	1,000	100	1,000	100
1.80. Wages & salaries	1,000	100	1,000	100
1.81. Wages & salaries	1,000	100	1,000	100
1.82. Wages & salaries	1,000	100	1,000	100
1.83. Wages & salaries	1,000	100	1,000	100
1.84. Wages & salaries	1,000	100	1,000	100
1.85. Wages & salaries	1,000	100	1,000	100
1.86. Wages & salaries	1,000	100	1,000	100
1.87. Wages & salaries	1,000	100	1,000	100
1.88. Wages & salaries	1,000	100	1,000	100
1.89. Wages & salaries	1,000	100	1,000	100
1.90. Wages & salaries	1,000	100	1,000	100
1.91. Wages & salaries	1,000	100	1,000	100
1.92. Wages & salaries	1,000	100	1,000	100
1.93. Wages & salaries	1,000	100	1,000	100
1.94. Wages & salaries	1,000	100	1,000	100
1.95. Wages & salaries	1,000	100	1,000	100
1.96. Wages & salaries	1,000	100	1,000	100
1.97. Wages & salaries	1,000	100	1,000	100
1.98. Wages & salaries	1,000	100	1,000	100
1.99. Wages & salaries	1,000	100	1,000	100
1.100. Wages & salaries	1,000	100	1,000	100
1.101. Wages & salaries	1,000	100	1,000	100
1.102. Wages & salaries	1,000	100	1,000	100
1.103. Wages & salaries	1,000	100	1,000	100
1.104. Wages & salaries	1,000	100	1,000	100
1.105. Wages & salaries	1,000	100	1,000	100
1.106. Wages & salaries	1,000	100	1,000	100
1.107. Wages & salaries	1,000	100	1,000	100
1.108. Wages & salaries	1,000	100	1,000	100
1.109. Wages & salaries	1,000	100	1,000	100
1.110. Wages & salaries	1,000	100	1,000	100
1.111. Wages & salaries	1,000	100	1,000	100
1.112. Wages & salaries	1,000	100	1,000	100
1.113. Wages & salaries	1,000	100	1,000	100
1.114. Wages & salaries	1,000	100	1,000	100
1.115. Wages & salaries	1,000	100	1,000	100
1.116. Wages & salaries	1,000	100	1,000	100
1.117. Wages & salaries	1,000	100	1,000	100
1.118. Wages & salaries	1,000	100	1,000	100
1.119. Wages & salaries	1,000	100	1,000	100
1.120. Wages & salaries	1,000	100	1,000	100
1.121. Wages & salaries	1,000	100	1,000	100
1.122. Wages & salaries	1,000	100	1,000	100
1.123. Wages & salaries	1,000	100	1,000	100
1.124. Wages & salaries	1,000	100	1,000	100
1.125. Wages & salaries	1,000	100	1,000	100
1.126. Wages & salaries	1,000	100	1,000	100
1.127. Wages & salaries	1,000	100	1,000	100
1.128. Wages & salaries	1,000	100	1,000	100
1.129. Wages & salaries	1,000	100	1,000	100
1.130. Wages & salaries	1,000	100	1,000	100
1.131. Wages & salaries	1,000	100	1,000	100
1.132. Wages & salaries	1,000	100	1,000	100
1.133. Wages & salaries	1,000	100	1,000	100
1.134. Wages & salaries	1,000	100	1,000	100
1.135. Wages & salaries	1,000	100	1,000	100
1.136. Wages & salaries	1,000	100	1,000	100
1.137. Wages & salaries	1,000	100	1,000	100
1.138. Wages & salaries	1,000	100	1,000	100
1.139. Wages & salaries	1,000	100	1,000	100
1.140. Wages & salaries	1,000	100	1,000	100
1.141. Wages & salaries	1,000	100	1,000	100
1.142. Wages & salaries	1,000	100	1,000	100
1.143. Wages & salaries	1,000	100	1,000	100
1.144. Wages & salaries	1,000	100	1,000	100
1.145. Wages & salaries	1,000	100	1,000	100
1.146. Wages & salaries	1,000	100	1,000	100
1.147. Wages & salaries	1,000	100	1,000	100
1.148. Wages & salaries	1,000	100	1,000	100
1.149. Wages & salaries	1,000	100	1,000	100
1.150. Wages & salaries	1,000	100	1,000	100
1.151. Wages & salaries	1,000	100	1,000	100
1.152. Wages & salaries	1,000	100	1,000	100
1.153. Wages & salaries	1,000	100	1,000	100
1.154. Wages & salaries	1,000	100	1,000	100
1.155. Wages & salaries	1,000	100	1,000	100
1.156. Wages & salaries	1,000	100	1,000	100
1.157. Wages & salaries	1,000	100	1,000	100
1.158. Wages & salaries	1,000	100	1,000	100
1.159. Wages & salaries	1,000	100	1,000	100
1.160. Wages & salaries	1,000	100	1,000	100
1.161. Wages & salaries	1,000	100	1,000	100
1.162. Wages & salaries	1,000	100	1,000	100
1.163. Wages & salaries	1,000	100	1,000	100
1.164. Wages & salaries	1,000	100	1,000	100

IX. FINANCING PROPOSAL (in US \$)

- 1 Equity capital (total) \rightarrow *the total amount of shareholders' equity in the company*
 - 2 Long-term loans (total)
Rate of interest
Repayment \rightarrow *the total amount of money that has to be repaid to the bank during the loan period*
 - 3 Other loans

4. Suppliers' credits

As a general rule, it is best to have a single person do all the interviewing. If two people are used, one should be responsible for the interview and the other for the notes. When interviewing, the interviewer should sit when possible, and when standing, should stand upright.

5 Remarks on the future research

- ## **IMPLEMENTATION PLAN**

- 1. Technical collaboration service.** - During the collaboration with the client agency, the Master Engineer's company will provide the following services:
 - a) Writing of technical reports and studies;
 - 2. Project management.** - A specialized project management environment. The technical supervision and control of the construction operation will be carried out by:
 - 3. Recruitment and training of personnel.** - Three expatriates will run the company. One supervisor and three foremen will be employed half year period. The costs of this personnel are estimated as follows:
An expatriate should not be recruited before the end of the first quarter of 1985.

4.3.3.1

5. Eine schadet

- Timeline schedule** For the realization of the project, a total period of 6 months will be necessary.
 Planning and issuing of contracts: 1 month
 Construction period, including simultaneous delivery and shipping of materials: 4 months
 Assembly of vehicles and test runs: 1 month

Customer project: An extension of time and/or capacity can partially account for delays. In the event of such a delay or if the growth of demand

XI. DATA FOR EVALUATION

- 1. Profitability evaluation:
 - Check*
 - (a) Break-even point analysis
 - (b) Return to total capital
 - (c) Pay-back
 - (d) Profitability - return to equity capital

2 Further proto-shapes

- b) Profitability analysis (Bankability test)
 C) Check
 D) Internal rate of return
 E) Net present value
 F) Any other answer

National Economic Trends

- **Analysis** (National priority test check)
 - **1. Directly related and implied test effects:**
 - **2. Balance of payment effect**
 - **3. Long-run marginal productivities of input**
 - **4. Backward and forward linkages**
 - **5. Synthetic capital and labor**
 - **6. Any others worth?**

TABLE 4. Short review of the methods used.

Assuming a tax holding of five years, the rate would be 10% in the first year and 5% in the long position on average.

The net value added at factor costs amounts to \$1,000,000 per year. The project provides work for 100 persons.

The amount of present interest, the amount per annum from the situation of property, or the value after deduction of the exchange expenses for the import of a building, the net amount will be subject to one-half of the tax.

Capital mobility and productivity of capital. Rich States of capital investment attract firms, which exerts the pressure on the European management to increase the productivity of capital.

The Aluminum semi-processing plant utilizes the experience of its management staff.

XII SUPPLEMENT

1996-1997 學年上學期
中大學生會

and the few early, short, distinct processes have been developed. These are easily recognizable in the manufacture of semi-finished products by the characteristic, uncoordinated assimilation of glucose, estimated to be 10% for the organisms of the *Bacillus* group, and the portion of the plant material which were selected as the most fermentable materials. Estimated to be 10% and greater of the latter, it is apparent that the results are best for the following organisms:

www.IBMWatson.com | 1-800-IBM-9636 | 1-800-IBM-9636

²⁶ See also the meeting between the two men at the beginning of the play.

For more information about the study, please contact Dr. Michael J. Hwang at (310) 794-2622 or via email at mhwang@ucla.edu.

在本研究中，我們發現了多個與疾病相關的基因座，這些基因座可能參與了疾病的發病過程。

Section	Key Information	Key Metrics	Comments
System Configuration	Deployment environment Hardware specifications Software stack	Uptime % Latency ms Throughput MB/s	Performance benchmarks Resource utilization
Data Integrity	Consistency rules Audit logs	Error rate % Failure count	Compliance status Regulatory requirements
Access Control	Role-based authentication Multi-factor authentication	Success rate % Failure count	Identity provider integration Session management
Encryption	Protocol support Key management	Encryption rate % Decryption time ms	Compliance status Regulatory requirements
Monitoring & Logging	Metrics collection Log aggregation	Avg. latency ms Error count	Alerting thresholds Compliance status
Compliance	Regulatory requirements Audit findings	Non-compliance count Risk score	Penalty history Mitigation plan
Incident Response	Emergency contacts Incident tracking	Avg. response time hrs Failure count	Compliance status Regulatory requirements
Training & Awareness	User training programs Security awareness	Completion rate % Failure count	Compliance status Regulatory requirements
Physical Security	Access control Surveillance	Incident count Failure count	Compliance status Regulatory requirements
Supply Chain	Supplier vetting Traceability	Failure count Risk score	Compliance status Regulatory requirements
Third-party Vendors	Contractual obligations Audit findings	Non-compliance count Risk score	Penalty history Mitigation plan
PCI DSS	PCI DSS compliance Audit findings	Non-compliance count Risk score	Penalty history Mitigation plan
GDPR	GDPR compliance Audit findings	Non-compliance count Risk score	Penalty history Mitigation plan
HIPAA	HIPAA compliance Audit findings	Non-compliance count Risk score	Penalty history Mitigation plan
SOX	SOX compliance Audit findings	Non-compliance count Risk score	Penalty history Mitigation plan
PCI DSS	PCI DSS compliance Audit findings	Non-compliance count Risk score	Penalty history Mitigation plan
GDPR	GDPR compliance Audit findings	Non-compliance count Risk score	Penalty history Mitigation plan
HIPAA	HIPAA compliance Audit findings	Non-compliance count Risk score	Penalty history Mitigation plan
SOX	SOX compliance Audit findings	Non-compliance count Risk score	Penalty history Mitigation plan

¹ For a discussion of the relationship between growth rates and the number of children per woman, see Chapter 1.

The following are calculated values of S_{min} and Δh height difference, using the space required for the production plant area.

¹¹ Moreover, the conversion rate would be 11.3 d/s for a 100% conversion rate.

* The cost for the materials price will be intended for mass production only, and if the quantity is reduced by the production volume used in the treatment, then the price will be that which the producer can be expected from further purchases.

XIII CASH FLOW TABLE (000 US \$)									
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9
A. Source of cash									
1. Financial resources total	2,164	-1,640	-418	34	-116	110	-114	90	100
1.1. Equity	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500	1,500
1.2. Suppliers' credits	600	600	600	600	600	600	600	600	600
1.3. Debtors	2,164	-1,640	-418	34	-116	110	-114	90	100
2. Other incomes									
	142	142	142	142	142	142	142	142	142
B. Uses of cash									
1. Direct capital expenditure total	2,164	2,164	2,164	2,164	2,164	2,164	2,164	2,164	2,164
1.1. Fixed production equipment	1,464	1,464	1,464	1,464	1,464	1,464	1,464	1,464	1,464
1.2. Working capital Stockholding	700	700	700	700	700	700	700	700	700
1.3. Machinery & equipment new & replacement	100	100	100	100	100	100	100	100	100
1.4. Machinery & equipment replacement	100	100	100	100	100	100	100	100	100
2. Net working capital use									
2.1. Stock of materials	42	42	42	42	42	42	42	42	42
2.2. Work in process	200	200	200	200	200	200	200	200	200
2.3. Stocks of finished products	100	100	100	100	100	100	100	100	100
3. Pre-investment & start up expenses	676	126	748	2	196	100	7	7	100
4. Production expenditure total									
4.1. Personnel expenditure	3,280	4,248	4,187	4,187	4,187	4,187	4,187	4,187	4,187
4.2. Materials ¹	234	234	234	234	234	234	234	234	234
4.3. Administrative expenditure	2,467	3,560	4,096	4,096	4,096	4,096	4,096	4,096	4,096
4.4. Indirect taxes & royalties	102	102	102	102	102	102	102	102	102
4.5. Other expenditure (including折旧 expense)	112	112	112	112	112	112	112	112	112
4.6. INT depreciation	180	230	260	260	260	260	260	260	260
5. Debt service total									
5.1. Interest on loans	159	317	1,029	1,245	1,245	1,245	1,245	1,245	1,245
5.2. Repayment of loans & credits	159	317	317	297	125	125	65	65	65
6. Dividends & profit taxes paid									
	166	166	166	166	166	166	166	166	166
C. Surplus/Deficit (A - B)	2,164	-1,640	-418	34	-116	110	-114	90	100
SURPLUS DEFICIT ACCUMULATED	2,164	-1,640	-418	34	-116	110	-114	90	100

¹ Loans of different terms should be shown separately

² Annual value of production of finished goods minus annual accumulation of finished goods inventory

³ Total production costs minus production costs of finished goods

⁴ Not including interest during construction

⁵ Annual purchase minus annual accumulation of materials inventory

⁶ This item stands for the part of profit which is to be paid out, namely profit tax, dividends of the members of the executive board, managerial staff's share in profits, etc. Actually, this sum will be established after allowances have been made for depreciation which are not included under item 4 (production expenditure). The cash flow balance should be programmed therefore in such a way that all necessary replacement (B.I.3) can be covered in any year by the accumulated surplus

Comments

IV. CAPACITY OF PROPOSED PLANT**1. Nominal maximum capacity according to major process**

- 2. Maximum feasible capacity of the plant.** Some machines can be used in several production lines e.g. wood working machinery, many parts of the plant departments where the maximum feasible capacity of the main departments differ and resulting from the different characteristics of the products produced. At full production of the department the labelling machine must work on continuous basis.
- 3. Expected economic output of the plant.** The output is determined by the expected market volume for the various products, the relative prices, local factors and the cost of production.

V. INVESTMENT (000 US \$)

	Total	Foreign currency component	Total	Foreign currency component			
TOTAL INVESTMENT							
1. Fixed assets							
- Land & site development	1,21	10%					
- Buildings	1,47	12%					
Factory buildings (1,11 m²)	1,11	10%					
Office buildings (1,17 m²)	1,17	10%					
Storage buildings	23	10%					
Others - auxiliary departments (1,17 m²)	1,17	10%					
2. Machinery & equipment	667	57%					
Detailed below:							
It is assumed that the project is granted exemption from import duty under an investment promotion decree.							
Imports for land; industrial sites can be rented.							
The plastic department is equipped with 2 die-casting machines and 1 bottle-blown machine for the manufacture of screw caps for ink pots, bottles for glue, capsules for stamp pads, pencil sharpeners and casings for colour boxes.							
Major machinery & equipment							
	Capacity power kW	f.o.b. Supplier country's port	Transport cost (insurance freight)	Import duty	Landing, local installation cost	Total	Foreign currency component
Manufacture of ordinary, coloured and blue pencils	132						
- Pencil slate manufacture		48	3,0	7,5%	10	10	10
- Pencil finishing		113	1	24	10	10	10
Manufacture of pensolines	14	24	1,65	6,0%	10	10	10
Manufacture of rulers	12	24,7	1,0	3,3	10	10	10
Manufacture of ink	6	16,3	1,1	3,6	10	10	10
Manufacture of carbon paper	40						
- Colour manufacture		13,7	1	2,1	10,8	10	10
- Carbon paper manufacture		40	3	6,5	43,5	47	47
Manufacture of typewriter ribbons	7	4,8	0,3	1,2	10,6	10	10
Manufacture of glue	2	9,6	0,7	1,5	5,6	5	5
Manufacture of erasers	14	4,4	0,3	0,8	11,8	11	11
Manufacture of stamp pads	10	8,5	0,6	1,3	10,4	10	10
Manufacture of chalk	15	40,2	2,8	6,4	49,4	49	49
Manufacture of pencil sharpeners	-	4,1	0,3	0,6	5,0	5	5
Manufacture of colour boxes	22	16,2	1,2	2,6	20,0	20	20
Auxiliary and service departments							
- Plastic department	25	17,3	1,2	2,9	21,3	21	21
- Power, steam and water supply	500 kVA	52	4	10,5	65	62	62
- Repair shop	10	21,4	1,0	2,4	26,0	26	26
- Factory and office equipment	35	**	**	**	36	36	36
- Vehicles	-	**	**	**	19	19	19

VI. MANNING TABLE

	Total number of persons		
Shops	1st shift	2nd shift	3rd shift
1. Primary operative shops (including supervisory staff)	189	-	-
- Pencil production	85		
- Penholder production	9		
- Ruler production	12		
- Ink production	17		
- Carbon paper production	18		
- Typewriter ribbons production	18		
- Glue production	4		
- Eraser production	3		
- Stamp pads production	5		
- Chalk production	3		
- Pencil sharpener production	11		
- Colour boxes production	4		
- Plastic department	12		
2. Auxiliary operative shops			
Repair & maintenance	15		
Utilities control	1		
Product & material storage	1		
Off-site transport	1		
Guards, cleaners, etc.	1		
3. Administration			
Production management	1		
Research & development	1		
Sales & purchase	1		
General administration	1,1		

VII ANNUAL PRODUCTION

1 Total annual expected maximum output

No explicit frequency

2. Expected sales and inventory build up. The average utilization of capacity by all departments will be 40% in the 1st year; 50% in the 2nd, and 60% in the 3rd and subsequent years of expected maximum output. No further details are given.

3. Pricing policy Firms are fixed segment below the import substitution prices; that is, at 100 prices net including any import duty, for the products to be mainly sold to the private, but the products mainly sold to the public, all written including a 5% import duty and a 2% import margin, except those at a loss.

4. Planned sales organization The planned location of the dealers in the vicinity of the main consumers and the limited need for delivery in short distances make it sufficient to have one dealer in contact with the market. Also, it is expected that approximately 70% of the income will come from the sale of the products of the company.

VIII ANNUAL OPERATING COSTS AND PROFITS

IX FINANCING PROPOSAL (in US \$)**1. Equity capital (total)****2. Long term loans (total)**

Long term loans (total) **US \$ 1,000,000**
 Long term loans will be granted by the bank.
 Repayment will be made in four years, in monthly instalments of US \$ 250,000. The first instalment will be due in January 1981. The last instalment will be due in December 1984. The interest rate will be 12% per annum.

X IMPLEMENTATION PLAN**1. Technical collaboration service** **US \$ 100,000** This amount will be used for the technical assistance required for the manufacture of the equipment and the start-up of the project.**2. Project management** **US \$ 100,000****3. Recruitment and training of personnel** **US \$ 100,000** The 16 unskilled and 10 semi-skilled workers will be trained on the job during the first year of production. The nine managers in Europe will receive both on-the-job training abroad, and off-the-job training in their respective countries.**4. Other items****5. Time schedule** Since some special machines require a longer delivery time, two parallel implementation phases are envisaged:

	Phase I	Phase II
Planning and design	1 month	1 month
Manufacturing of parts	1 month	1 month
Assembly and equipment	1 month	1 month
Delivery of equipment	1 month	1 month
Commissioning of equipment	1 month	1 month

It takes a total of 11 months for the completion of phase I and 21 months for the realization of phase II. In phase I the following departments are to be set up: ink, typewriter ribbons, glue, erasers, stamp pads, pencil sharpeners, and office service departments; in phase II the departments for ordinary pencils, colored pencils, blue pencils, wooden pencils, wooden rulers, carbon paper and books. No extension in phase II is planned, since the second production shift can be introduced when demand growth calls for it.

XI DATA FOR EVALUATION**1. Profitability evaluation**

- (a) **Internal rate of return**
- (b) **Return on capital**
- (c) **Pay back**
- (d) **Profitability: return to equity capital**

2. Further profitability analysis for given project life (Bankability test)

- (a) **Check**
- (b) **Internal rate of return**
- (c) **Net present value**
- (d) **Any other method used**

3. National economic benefit-cost analysis (National priority test) check

- (a) **Direct value added and employment effects**
- (b) **Balance of payment effect**
- (c) **Social income productivity of capital**
- (d) **Backward and forward effects**
- (e) **Synthetic benefit-cost analysis**
- (f) **Any other method used**

Give a short outline of the methods used and major findings

Profitability: return to equity capital: Total costs and sales revenue of the first two years of production and its "normal" operating cash-flow availability for the early years of production, was also assumed. There will be a loss in the first year of production. In the second year, the return on equity capital amounts to 16%. In the long run, the return on equity capital after a 10% income taxation is approximately 13%.

Profitability: initial and employment effects: Net value added at factor cost amounts to some US \$ 8,000,- per year and employee (1,000), which will be unskilled. Members of the technical staff will be trained in Europe.

Balance of payment effects: An average annual foreign exchange expenditure amount to US \$ 1,000,- (the import of materials and machinery); US \$ 1,000,- for debt service (only during 4 years); US \$ 44,- for transfer of profit of a foreign partner in filing of equity non-recurring foreign exchange expenditure (investment) of US \$ 1,000,- annually, as compared with the

backward and forward effects: The project will give an impulse to the wood and packaging industries.

1. INSTITUTIONAL AND COMMERCIAL EXPENDITURE

Break down of total costs according to departments is given in supplement.

- 1. The cost must be branched, with administration retained. The cost generally used in pencil and ink cost, experiments with typewriter cost, etc., are where applicable.
- 2. For the manufacture of stationery.
- 3. On fuel, office furniture, postage items, because it is waste from the general production or sales.
- 4. The sales tax of 10% is not included in the sales price, although the basis for the calculation of the sales revenue, therefore sales tax is omitted here again.
- 5. According to our investment plan, the new basic establishment of integral industry, can be exempt from payment for ten years. The capital after liquidation will be automatically accumulated for bridge replacement, working capital, and so on requirement.

2. Breakdown of spending by individual segments

in thousand yen

(Operating costs of individual manufacturers) Appendix

Manufacture of pencils	328
Manufacture of penholders	73
Manufacture of erasers	26
Manufacture of ink	206
Manufacture of carbon paper	153
Manufacture of typewriter ribbon	39
Manufacture of glue	29
Manufacture of erasers	35
Manufacture of stamp pads	9
Manufacture of chalk	97
Manufacture of pencil sharpeners	15
Manufacture of colour boxes	67
Commercial and technical administration	<u>236</u>
	1,323

XIII CASH FLOW TABLE (000 US \$)

	Year production										Terminal value of assets
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10	Year 11
A. Source of cash											
1 Financial resources total	-	-	-	-	-	-	-	-	-	-	-
1.1 Credit	-	-	-	-	-	-	-	-	-	-	-
1.2 Equity	-	-	-	-	-	-	-	-	-	-	-
1.3 Supplies - costs	-	-	-	-	-	-	-	-	-	-	-
1.4 Subsidies	-	-	-	-	-	-	-	-	-	-	-
2 Sales revenue ¹	-	-	-	-	-	-	-	-	-	-	-
B. Uses of cash											
1 Fixed capital expenditure total	-	-	-	-	-	-	-	-	-	-	-
1.1 Land site improvements & buildings	328	486	333	-	-	-	-	-	-	-	-
1.2 Machinery & equipment new installations	262	262	333	-	-	-	-	-	-	-	-
1.3 Machinery & equipment replacement	69	92	833	-	-	-	-	-	-	-	-
2 Net working capital total	-	-	-	-	-	-	-	-	-	-	-
2.1 Stocks of materials	-	42	53	29	-	-	-	-	-	-	-
2.2 Work in process ²	-	42	53	-	45	48	-	-	-	-	-
2.3 Stocks of finished products	-	-	-	26	30	77	52	50	-	-	-
3 Pre-investment & start up expenses	1.6	77	22	-	-	-	-	-	-	-	-
4 Production expenditure total	-	-	-	-	712	988	1,171	1,171	1,171	1,171	1,171
4.1 Personnel expenditure	-	-	-	-	280	310	317	317	317	317	317
4.2 Materials ³	-	-	-	-	252	470	666	666	666	666	666
4.3 Administrative expenditure	-	-	-	-	67	67	67	67	67	67	67
4.4 Indirect taxes & royalties	-	-	-	-	30	45	60	60	60	60	60
4.5 Other expenditure (rents, contingencies, etc.)	-	-	-	-	83	96	61	61	61	61	61
5 Debt service total	-	20	18	61	124	118	233	218	140	140	-
5.1 Interest on loans	-	20	18	61	61	55	50	35	20	10	-
5.2 Repayment of loans & credits	-	-	-	-	63	63	183	183	120	120	-
6 Dividends & profit taxes paid	-	-	-	-	60	225	225	225	140	440	450
C. Surplus/Deficit (A - B)	546	-138	-126	-68	33	116	12	92	6	4	10
SURPLUS DEFICIT ACCUMULATED	546	408	282	214	247	363	375	467	471	475	545

¹Loans of different terms should be shown separately.²Annual value of production of finished goods minus annual accumulation of finished goods inventory.³Total production costs minus production cost of finished goods.⁴Not including interest during construction.⁵Annual purchase minus annual accumulation of materials inventory.⁶This item stands for the part of profit which is to be paid out, namely profit tax, dividends, fees of the members of the executive board, managerial staff's share in profits, etc. Actually this sum will be established after allowances have been made for depreciation which are not included under item 4 (production expenditure). The cash flow balance should be programmed, therefore, in such a way that all necessary replacement (B.1.3) can be covered in any year by the accumulated surplus.

Comments

"Net working capital" under **Uses of cash** excludes accounts receivable and other liquid assets, the latter being absorbed in "Accumulated surplus", together with the depreciation fund.



74.10.2