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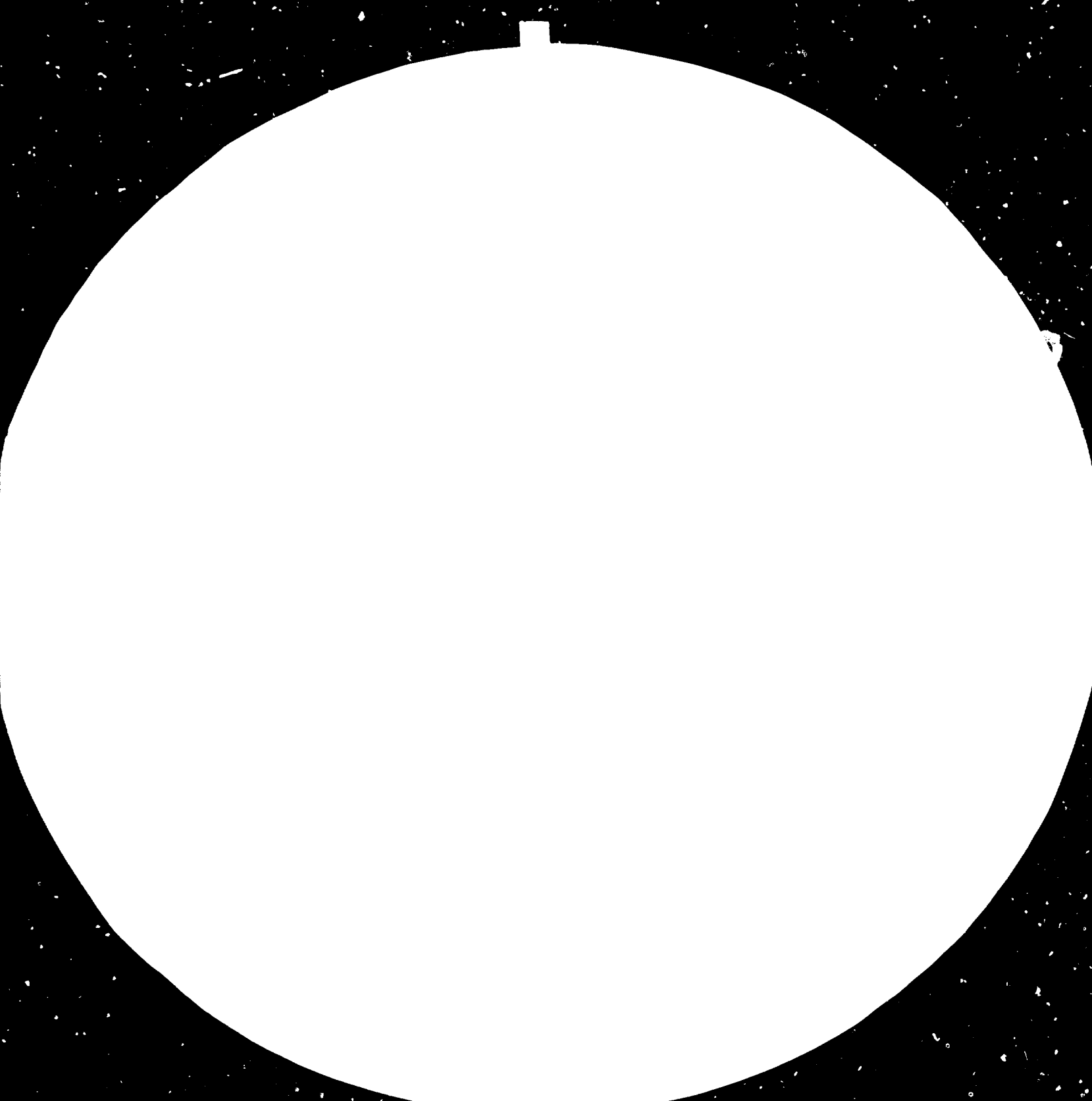
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Nigeria.

SEMINAR ON INDUSTRIAL PROJECT

PREPARATION, EVALUATION,

AND CONTRACTING.

13300

5th Sept - 14th Oct 1983

LAGOS, NIGERIA

Final Report

13300

J. GLÜCK

J. DUBYŃSKI

M. WEBER

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13300

Nigeria.

SEMINAR ON INDUSTRIAL PROJECT PREPARATION,
EVALUATION, FINANCING & CONTRACTING

From 5 th September - 14 th October, 1983

LAGOS, NIGERIA

F I N A L R E P O R T

RP/NIR/82/002/11-53/31.6.A

prepared by: J. GLÖCKL, UNIDO-Expert, Industrial Economist
J. KOPYTOWSKI, UNIDO-Expert, Industrial Engineer
M. WEPER, UNIDO-Expert, Financial Analyst

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I. **Final Report**

1. OFFICIAL ARRANGEMENTS AND CONTRIBUTIONS

The SEMINAR ON INDUSTRIAL PROJECT PREPARATION, EVALUATION, FINANCING & CONTRACTING was sponsored and organized under the joint auspices of the:

- United Nations Industrial Development Organization (UNIDO)
- Federal Ministry of Industry (FMI), and
- Nigerian Industrial Development Bank (NIDB).

The UNIDO experts on mission to Nigeria appointed as seminar lecturers were: J. Glöckl (Austria), J. Kopytowski (Poland), and M. Weber (United States).

The Government of the Federal Republic of Nigeria nominated 28 to 30 participants to the seminar. Of this group, 22 participated in the seminar. The participants represented personnel engaged in both Federal and State administrative posts in Nigeria, including the directors, advisors, and evaluators of industrial investment projects.

In addition, the NIDB sent 2 of their staff to this seminar. The cross-section of participants as concerned their education and professional specification is indicated in the following table:

Number of Students:

By Education:

University:	13
Technical Schooling:	2
(Chem. Engineers)	
Master's:	6
Doctorate:	1

By Profession:

Economist:	1
Banking:	3
Administration:	7
Finance:	1
Industr. Promotion:	10

Before the course commenced, the instructors held coordination meetings with:

- The FMI - Department Director G. Amusa-Eke (AD-P&P)
- The UNDP - Resident Representative A. R. Roejkjaer and JPO Ove Bjerregaard
- The NIDB - Controller Assistant - O. Famuyiwa.

The meetings discussed the timing, methodology and requirements of the co-sponsors of the Course. The facilities at the NIDB were explained, and Messrs: Wale Johnson for the FMI, and O. Famuyiwa for the NIDB were appointed 'course monitors and coordinators' respectively, reporting to their sponsoring institutions.

2. OBJECTIVES OF THE MISSION

The objective of this mission was to contribute to the first UNIDO/FEDERAL REPUBLIC OF NIGERIA national Training Course in Industrial Project Preparation, Evaluation and Financing as lecturers, discussion monitors, and test administrators. The Basic Aims of the course were to:

- teach the proven methodology developed in the UNIDO MANUAL FOR THE PREPARATION OF INDUSTRIAL FEASIBILITY STUDIES to the participants;
- teach the UNIDO/IDCAS methodology for Project Evaluation as expounded in the MANUAL FOR EVALUATION OF INDUSTRIAL PROJECTS;
- teach the methodology for Social Cost Benefit Analysis as exposed in the UNIDO GUIDELINES FOR PROJECT EVALUATION and the PRACTICAL APPRAISAL OF INDUSTRIAL PROJECTS;

- teach the concepts on contract administration expostulated in the UNIDO GUIDELINES FOR CONTRACTING FOR INDUSTRIAL PROJECTS IN DEVELOPING COUNTRIES;
- train in the practical application of these methodologies and the use of the appropriate tables and schedules in the Manuals through a Nigerian Case Study.

The task of the workshop was to cover the following main subjects:

- market analysis and forecasting techniques
- investment cost, production cost, financing plan, basic accounting concepts, and the preparation of financial statements
- investment profitability analysis and financial project appraisal
- evaluation methods such as uncertainty, sensitivity and risk analysis for ranking industrial project choices
- presentation of the basic principles of cost-benefit-analysis on the macro-economic level based on UNIDO's methods and incorporating Nigeria's national objectives.

The goal of the mission was to train a corps of officials from the Federal Ministry of Industry and the Nigerian Development Bank in the techniques of project preparation, evaluation and financing to achieve self-sufficiency to adequately prepare and assess the feasibility of proposed industrial development projects.

This goal is part of the general goals and objectives of the UNDP SECOND COUNTRY PROGRAMME FOR NIGERIA for the period 1983-1986 (UNDP - DC/CP/NIE/2 and NOTE/2 - November 1982).

This seminar is expected to strengthen the Nigerian government's national planning machinery, mainly at the state (and Ministry) levels, including economic planning towards diversification of the national economy and balanced development of all the sectors and geographical areas of the country. The ultimate objective is to emphasize annual plan preparation and implementation for national and state governments.

3. ORGANIZATION OF THE COURSE

The course was organized along the lines of the UNIDO Feasibility Studies Section's Seminar Modules on Project Development. The 'core' modules of the course and the relative time in terms of percentage allocated to each were:

Module	1. Outline of the Project Development Cycle	10 %
	2. Market Analysis	15 %
	3. Plant Capacity and Technical Analysis	25 %
	4. Financial Analysis	25 %
	5. Social Cost Benefit Analysis	15 %
	6. Nigerian Feasibility Study Case	10 %

Each class day was divided into three 1 1/2 hour lecture/discussion periods, with a coffee break between the two morning sessions, and 1 1/2 hour lunch break before the afternoon session. Time at the conclusion of each session, up to 1/2 hour, was allocated by the instructors to answering individual questions, not appropriate to the consideration of the entire class group.

The course was held in the Conference Room of the Nigerian Industrial Development Bank, 63/71 Broad Street, Lagos, First Floor. The course was inaugurated on Monday the 5th of September and continued through Friday, the 14th of October. National Holidays were declared on September 19th and 20th and October 4th.

The course was inaugurated by the Chairman of the Session, the Managing Director of the NIDB, and the Federal Minister of Industries, at an opening session. This session was televised and otherwise reported for the local press in Nigeria.

At this ceremony, the Federal Minister of Industries gave the opening lecture. In this exposé, he outlined the government policies and strategies of development for Nigeria. He also outlined the general results he expected from the seminar. At the response, given by one of the UNIDO lecturers, M. Weber, this speech was proclaimed the first lecture, and officially attached to the course teaching material.

At the opening ceremony, numerous other high officials of the Federal Nigerian Government were in attendance. The UNDP was represented by Mr. A. R. Roekjaer, the Resident Representative in Nigeria. Mr. Ove Bjerregaard, JPO, represented UNIDO as acting SIDFA.

4. METHODOLOGY OF THE COURSE

In accordance with the methodological guidelines of the workshop, the material was divided into five modules or groupes plus the case study. The Outline of the Project Development Cycle, the introductory section of the course, was jointly taught by Mr. Weber and Mr. Kopytowski.

The Technical Analysis for Project Preparation was taught by Mr. Kopytowski. The Marketing section, including Demand Analysis and Forecasting Methods and the Financial Analysis section, including Accounting Principles, Ratio Analysis and the Financing of Development Projects was taught by Mr. Weber. The Social Cost Benefit Analysis Section and the Nigerian Case Study were taught by Mr. Glöckl.

In addition, three guest lecturers were invited from the Nigerian Investment community - including the Chief Economist at the NIDE; the Director (ag) National Office of Industrial Property, Federal Ministry of Science and Technology; and the Deputy Secretary, Federal Ministry of Industries - Investment Center.

Their subjects were the Problems of Obtaining Accurate Data for Marketing Analysis in Nigeria; the Evaluation of Technology Transfer Agreements; and Special Problems of Investment in Infrastructure.

Additional two lectures by Mr. Weber introduced the participants to the approximately 50 UNIDO and UNDP publications that were presented by the course lecturers. A complete listing is found in paragraph VII.

Mr. Glöckl's additional lecture on UNIDO's COMPUTER MODEL for FEASIBILITY ANALYSIS and REPORTING (COMFAR) was met with great interest, since this program also could ease the necessary calculation-work for the numerous feasibility studies to be completed in Nigeria.

The course material was covered by the lecture, class discussion, exercise and case methods. Lecturers were interrupted by questions from the students regarding relevance of the course material to the Nigerian situation, so continual adaptation was necessary.

Where possible, the lecturers introduced economic and market data from Nigeria to prove the relevance of their methods.

During the sessions the participants were requested to calculate and evaluate data supplied from real case studies and insert the results in the appropriate Tables and Schedules of the UNIDO Feasibility Manual. Considerable support in this regard was lent by the UNIDO supply of pocket calculators and Discount Tables to all participants. In addition to standard UNIDO developed course material, the lecturers prepared and developed the following collateral material:

- Economic Indicators of Nigeria (GNP, Production etc)
- Comparisons of Nigeria with other neighboring Countries in Black Africa
- Comparisons of Nigeria's Oil Production with other non-OPEC Producers in terms of development indicators
- Case data from a current marketing study on the Nigerian Cement Industry (courtesy of ECA)
- A basic bibliography for Data Sources in the field of International Trade and Economics (ITC)
- The Nigerian SUNTI SUGAR Project reworked from a consultant's study into the UNIDO Feasibility format according to the Manual

Each participant was given the following UNIDO manuals and guidelines:

- MANUAL for the PREPARATION of INDUSTRIAL FEASIBILITY STUDIES
- MANUAL for EVALUATION of INDUSTRIAL PROJECTS

- Guidelines for Project Evaluation
- Guide to Practical Project Appraisal
- Guidelines for Contracting for Industrial Projects in Developing Countries
- Compounding and Discounting Tables (World Bank)
- Guide for Preparing Industrial Project Profiles
- List of Selected UNIDO Documents and the UNIDO Mailing List Questionnaire (Document Ordering)
- Tables from UNIDO's INPUT-OUTPUT DATA BANK for Nigeria
- A short list of SITC codes

5. COMMENTARY

The cooperation and facilities of NIDB were overall excellent. In the first instance, the conference room facility was modern and included working blackboards and an overhead projector. The students were seated in comfortable chairs arranged behind long conference table-type desks in amphi-theatre style.

Although the reproduction facilities for handouts and slides at the NIDB were necessarily shared with all the other requirements of day-to-day development banking, there was only minimal delay or rescheduling required of course modules/lectures. In addition, the reproduction and secretarial facilities of the UNDP were utilized where necessary for backup and holiday work.

In general, daily attendance and attentiveness at the working and class sessions was very good. The average presence at all sessions was approximately 90 %. Only the days immediately preceding or following Official Holidays evidenced a marked decline in attendance, and the material presented at these sessions was re-elaborated in abbreviated form at subsequent lectures/discussions etc. Therefore, it could be fairly stated that each and every participant has thus far been exposed to all the required course material.

However, assignments of exercises to be completed outside of the classroom was only minimally completed by a few participants. It was therefore decided that 'homework' assignments would be dropped in favor of classroom exercises.

Unfortunately, this also extended to the considerable amount of reading material, including Manuals, Guides, Guidelines, etc, that were given to each participant. It is hoped that the possession of these materials will permit each participant to read or re-read the material when either time or necessity permits or requires.

6. ACKNOWLEDGEMENT

The UNIDO team is grateful to the Federal Ministry of Industries of the Federal Republic of Nigeria and the Nigerian Industrial Development Bank for the arrangements and sponsorship of this course.

Special thanks are due to Mr. T.O. Johnson of the Federal Ministry and Mr. O. Famuyi, Deputy Controller of NIDB for their particular assistance which contributed greatly to the success of this mission to date.

The team is also grateful to Mr. Ove Bjerregaard, JPO and Acting SIDFA for UNIDO in Nigeria, who contributed his efforts to make the Course and the consultants stay in Nigeria a rewarding experience.

No acknowledgement would be complete without the teams gratitude being expressed to Mr. W. Behrens, Head of UNIDO's Feasibility Studies Section, as well as Mr. M. Kulczycki, and Mr. D. Rosati of the Feasibility Studies Section at UNIDO Headquarters in Vienna who programmed this seminar and assured the availability of necessary aids and Manuals. The special contribution of Mrs. Obi, Course Secretary must also be duly noted.

Messrs: J. Glöckl
J. Kopytowski
M. Weber

II. Seminar Program

Time	Monday 5.9.1983	Tuesday 6.9.	Wednesday 7.9.	Thursday 8.9.	Friday 9.9.
8:00 - 9.30		<u>Financial Analyst</u> - objectives of development (M:I, s. 2+3) L	<u>Financial Analyst</u> - Introduction to an Industrial Developm. Project (go through a summarized Feas.Study) (M:I, s.9) L + D	<u>Fin. Anal.</u> - principles of time preference - compounding and discounting (M:I, s.10,a,b) L + E	<u>Fin. Anal.</u> - DCF, NPV, IRR - Alternative methods of appraisal (M:I, s.10,d, +11.1) L
10:00 - 11:30	Opening Ceremony	<u>Industrial Engineer</u> - role of industrialization, industrial policies and strategies - project planning (M:I, s.5+6) L	<u>Ind. Eng.</u> - Overview of the Technical Analysis - Technical Analysis Procedure L	<u>Ind. Eng.</u> - developing the Production Schedule (M:III, s.3) L	<u>Ind. Eng.</u> - Choice of Technology - Technology and engineering design - Cost estimates (M:III, s.4) L + E
15:00 - 16:30	<u>Fin. Anal.</u> - presentation of the participants and the lecturers - course outline: the project cycle (M:I, s.1) D + L	<u>Fin. Anal.</u> - Project Identification, opportunity studies (outline the manual) (M:I, s.7+8) L	<u>Fin. Anal.</u> - Introduction to an Industrial Development project.-ctd. (Focus of the building-up of a cash-flow and its analysis) L + D	<u>Fin. Anal.</u> - compounding and discounting Exercises (M:I, s.10,c) E	<u>Fin. Anal.</u> - DCF - Exercises (M:I, s.10,e) E

Time	Monday 12.9.	Tuesday 13.9.	Wednesday 14.9.	Thursday 15.9.	Friday 16.9
8:00 - 9.30	<u>Ind. Eng.</u> - Production Programme and Capacity Requirements (M:II, s.15) L + E	<u>Fin. Anal.</u> - Market Research (M:II, s.3) L	<u>Ind. Eng.</u> - Space Requirements - Constructing a Preliminary Facilities Layout - Civil works and their cost (M:III, s.14) L	<u>Fin. Anal.</u> - Data Requirements case (2) E	<u>Fin. Anal.</u> - Time Series Exerc. (M:II, s.9) E
10:00 - 11:30	<u>Fin. Anal.</u> - Basic Market Elements - Demand, Supply, Price - Price and Income Elasticities (M:II, s.1+2) L	<u>Ind. Eng.</u> - Production Equipm. Requirements - Alternative Prod. Equipment (M:III, s.9+10) L + D + E	<u>Fin. Anal.</u> - Data Requirements case (1) (M:II, s.5) E	<u>Ind. Eng.</u> - Materials and Inputs (M:III, s.6) E	<u>Ind. Eng.</u> - Labour Requirements (M:III, s.12+13) E
15:00 - 16:30	<u>Ind. Eng.</u> - Planning the Prod. Process (M:III, s.7+8) L + E	<u>Fin. Anal.</u> - Data Requirements and Collection (M:II, s.4) L + (D)	<u>Ind. Eng.</u> - Materials and other Inputs (M:III, s.5) L	<u>Fin. Anal.</u> - Introduction to Forecasting Methods - Time Series Projections (M:II, s.7+8) L	<u>Fin. Anal.</u> - Regression Analysis (theory) - Regression Anal. (Exercise) (M:II, s.10+11) L + E

Time	Monday 19.9.	Tuesday 20.9.	Wednesday 21.9.	Thursday 22.9.	Friday 23.9.
8:00 - 9.30	<u>Fin. Anal.</u> - Marketing and Distribution Arrangements (M:II, s.12) L	<u>Fin. Anal.</u> <u>Econ. Anal.</u> - Demand Forecasting, Sales, Pricing, Marketing and Production Estimates (case) (M:II, s.16) E	<u>Fin. Anal.</u> - Project Accounting Procedures (1) (M:IV, s.1) L	<u>Fin. Anal.</u> - Investment Appraisal Methods (M:IV, s.3) L	<u>Fin. Anal.</u> - Dept Repayment Schedules - Dept Repayment Schedules, Exere M:IV, s.4+5) L + E
10:00 - 11:30	<u>Ind. Eng.</u> - Location and Site Analysis (theory) (M:IV, s.16) L	<u>Fin. Anal.</u> <u>Econ. Anal.</u> ----" (M:II, s.16) E	<u>Ind. Eng.</u> - Location and Site Analysis (case) (M:III, s.17) E	<u>Ind. Eng.</u> - Technology transfer L	<u>Ind. Eng.</u> - Implementation Schedule (M:III, s.15?) L + E
15:00 - 16:30	<u>Fin. Anal.</u> - Pricing Policy (M:II, s.13+14) L + E	<u>Fin. Anal.</u> <u>Econ. Anal.</u> ----" (M:II, s.16) E	<u>Fin. Anal.</u> - Project Accounting Procedures (2) - Total Cost Schedules (M:IV, s.1+2) L	<u>Econ. Anal.</u> - Introduction into the national case study (I) E	<u>Econ. Anal.</u> - Carrying on national case study (II) E

Time	Monday 26.9.	Tuesday 27.9.	Wednesday 28.9.	Thursday 29.9.	Friday 30.9.
8:00 - 9.30	<u>Fin. Anal.</u> - Cost of Capital to the firm (M:IV, s.6) L	<u>Fin. Anal.</u> - Ratio Analysis (M:IV, s.8) L + E	<u>Fin. Anal.</u> - Source of Finance - Impact of Inflation (M:IV, s.9+10) L + D	<u>Fin. Anal.</u> - Risk, Break Even and Sensitivity Analysis (M:IV, s.11) L	<u>Fin. Anal.</u> - Sensitivity Analysis ctd. and Exercise (M:IV, s.11+12) L + E
10:00 - 11:30	<u>Fin. Anal.</u> <u>Econ. Anal.</u> - Project Accounting Exercises (1) (working capital estimates, cash flows) (M:IV, s.7) E	<u>Fin. Anal.</u> - Ratio Analysis (M:IV, s.8) E	<u>Econ. Anal.</u> - Introduction to SCBA - Interdependence between Prices and National Economic Policy (M:V, s.1+2) L	<u>Econ. Anal.</u> - Introduction to Shadow Prices (M:V, s.4) L	<u>Econ. Anal.</u> - Procedures for Shadow Price Determination - Shadow Exchange Rate Calculations (M:V, s.7+8) L + E
15:00 - 16:30	<u>Fin. Anal.</u> <u>Econ. Anal.</u> - Project Accounting Exercises (2) (balance sheets, rates of return) (M:IV, s.7) E	<u>Econ. Anal.</u> - Carrying on national case study (III) E	<u>Econ. Anal.</u> - carrying on national case study (IV) E	<u>Econ. Anal.</u> - Calculation of Shadow Prices (linear programme) (M:V, s.5) E	<u>Econ. Anal.</u> - Shadow Exchange Rate Calculation ctd. - Shadow Wage Rate Calculations (M:V, s.8+9) L + E

Time	Monday 3.10.	Tuesday 4.10.	Wednesday 5.10.	Thursday 6.10.	Friday 7.10
8:00 - 9.30	<u>Fin. Anal.</u> - Project Financial Plan (M:IV, s.13) L + E	<u>Fin. Anal.</u> - Review of Financial Analysis (M:IV, s.14) L	<u>Econ. Anal.</u> - Value Added Method (Effects-Method) (M:V, s.15) L	<u>Econ. Anal.</u> - UNIDO + IDCAS Method (V) L	<u>Econ. Anal.</u> - Comprehensive Method of Project Evaluation (M:V, s.14) L
10:00 - 11:30	<u>Econ. Anal.</u> - National Objectives and Project Evaluat. - Regional Development Objectives (M:V, s.10+11) L + E	<u>Econ. Anal.</u> - OECD - Method, Little-Mirrlees - SCBA, Squire Von der Tak (V) L	<u>Econ. Anal.</u> - Value Added Method Exercise (V) E	<u>Econ. Anal.</u> - UNIDO - IDCAS Method (case) (V) E	<u>Fin. Anal.</u> - written quiz on project evaluation L
15:00 - 16:30	<u>Econ. Anal.</u> - Income Distribution Objective (M:V, s.12) L + E	<u>Fin. Anal.</u> - Application of Risk and Sensitivity Analysis to the national case study (to be prepared by Fin.An.) (IV) E	<u>Fin. Anal.</u> - Application of Risk and Sensitivity Analysis to the national case study, ctd. (IV) E	<u>Econ. Anal.</u> - Economic Analysis of the national case study (V) E	<u>Econ. Anal.</u> - Economic Analysis of the national case study (V) E

Week 6

Time	Monday 10.10.	Tuesday 11.10.	Wednesday 12.10.	Thursday 13.10.	Friday 14.10.
8:00 - 9.30	<u>Guest</u> - Investment in infrastructure (special problems, financing, costs and benefits) (VI) L	Study Visit to Nigerian Distilleries Ltd. and Central Packages of (Nig.) Ltd.	<u>Econ. Anal.</u> (II) Magera Fruit Processing Project E	<u>Econ. Anal.</u> (IV) E	<u>Mr.M. Kulczycki</u> UNIDO and its work for development importance of the Feasibility Studies Section (VI) L
10:00 - 11:30	<u>Guest</u> - Project Promotion L		<u>Econ. Anal.</u> (II) E	<u>Econ. Anal.</u> (V) E	<u>Mr.M. Kulczycki</u> Evaluation of the seminar by the participants
15:00 - 16:30	<u>Guest</u> - Tendering Procedures - Management and Marketing Arrangements (VI) L		<u>Econ. Anal.</u> (III) E	<u>Econ. Anal.</u> (V) E	Closing Ceremony

III. List of Participants

LIST of PARTICIPANTS

Adeshina Ola ADIGUN	NIDB
David Chukwuemeka OKOYE	Min. Indust. - IMO
Jeff Tihi YAJI	Min. Indust. - BENUE
James Adeniran OLAWUNI	Min. Indust. - OYO
Wesley O. AIYEGBOKA	Nat. Bank Comm. & Ind.
E. C. ECHOMGBE	Min. Indust. - RIVERS
L. A. JUNAID	NIDB
B. J. DAWA	Exec. Off. President
Williams F. BOKASSAH	Min. Indust. - NIGER
Jacob Adeyanju ALEGBELEYE	Fed. Min. Indust.
S. C. IWUCHUKWU	Min. Indust. - BAUCHI
T. A. ABIJO	IDC - Benin City
A. ADESEYE	IDC - Oshogbo
G. A. AKINGBALA	Min. Indust. - OGUN
V. O. E. ADEOBA	Exec. Off. President
O. A. KAYODE	IDC - Oshogbo
Alexie N. NJOKU	Fed. Min. Indust.
M.A. NWACHUKWU	Fed. Min. Indust.
F. A. OGUNTOYE	Min. Plan - OGUN
Nwafor C. OJI	IDC - Owerri
L. G. SALAMI	IDC - Port Harcourt

IDC = Industrial Development Center
NIDB = Nigerian Industrial Development Bank

IV. Program of Opening Ceremony

SEMINAR ON INDUSTRIAL PROJECT PREPARATION,
EVALUATION, FINANCING & CONTRACTING ORGANISED UNDER THE
AUSPICES OF THE FEDERAL MINISTRY OF INDUSTRIES IN COLLABO-
RATION WITH THE NIGERIAN INDUSTRIAL DEVELOPMENT BANK AND
THE UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION.

Programme of Events for the Opening
Ceremony

1. 9.30 a.m. Participants get seated
- 9.45 a.m. Guests get seated.
3. 10.00 - 11.30 a.m.
 - The Honourable Minister arrives,
 - Introduction of the Chairman - Mr
MR. M. A. PASHANU, AGM (MDD)-NIDB.
 - The Chairmans Opening Remarks -
Managing Director, NIDB.
 - The Honourable Minister's Opening
speech.
 - UNIDO Representative's Remarks.
 - Chairman's Closing Remarks.
 - Vote of Thanks - MR. G. AMUSA-EKE,
AD(P&P) - F.M.I.
 - Coffe Break.
- 11.30 a.m. The Honourable Minister departs.

V: **Speech delivered by the honourable Minister
of Industries, ALHAJI AKANBI ONIYANGI**

SPEECH DELIVERED BY THE HONOURABLE MINISTER OF
INDUSTRIES, ALHAJI AKANBI ONIYANGI A COURSE
ON INDUSTRIAL PROJECT PREPARATION, EVALUATION,
FINANCING AND CONTRACTING HELD AT ~~NDS, IANOC~~
FROM 5TH SEPTEMBER - 14TH OCTOBER, 1983

Ladies and Gentlemen,

You will permit me to start by expressing my appreciation to the Organizers of this Seminar which is considered a very important mile-stone in the efforts of United Nations Industrial Development Organization (UNIDO) to translate into reality the desire of the United Nations to contribute its quota to the manpower development programme of the Third World.

2. Hitherto, Nigeria has sent its personnel outside the country for training facilities in project preparation and evaluation. It is gratifying that, today, UNIDO is making history by bringing to our door steps the same knowledge which we scouted round the world to acquire. It is my hope that the experience gathered in the process of organizing this course will be utilized in future to enable more Nigerians gain from similar exercises conducted wholly by Nigerians.

3. Project Preparation: Nigeria has for sometime embraced the practice of project preparation, evaluation financing and contracting and I am particularly happy that this course will afford our experts the opportunity to apprise themselves of the latest techniques and practices in these fields. Project Preparation is a vital instrument in the realisation of the objectives of National Development Plans. It therefore has to be undertaken with national goals in mind. This inevitably involves consideration of national priorities according to which resources are allocated for the achievement of identified goals. The main parameters I consider very important in the allocation of national resources are the Standard of living of the populace, development of agriculture, industry, imports and exports, employment generation and provision of social services. However, our main area of attention in ^{the} course we about to begin today is the industrial sub-sector. Here, the maximum utilisation of the

locally available agricultural and mineral resource is a key factor to be considered in the process of project preparation. The feasibility of projects may also rest on the availability of market for their products, availability of raw material inputs, skill in securing the right technology, availability of manpower for project implementation, access to capital for investment and method of financing and procurement of inputs. It is therefore necessary for our planners and project managers to have adequate knowledge of these issues to ensure that the nation's resources allocated to the attainment of national goals do not go down the drain. Indeed, our experience in the early stages of the development of some of our projects has shown that even the best experts may be tempted to give wrong advice as a result of wrong assumptions totally unrelated to the Nigerian experience. The course organizers will do well to take note of this very important consideration (i.e. assumptions and local realities) in plan preparation and ensure that the Course will bear relevance to our national environment and aspiration.

4. Project Contracting: As I gathered, the objective of the Course is to assist the Government and Semi-Government Agencies concerned with industrial project planning to improve their current practices in all the subjects to be covered. The objective is laudable and commendable. However, in the pursuit of the objective, I would like the Organizers of the Course to bear in mind the best utilisation of the available national resources in terms of technology, manpower, raw materials, time and finance. Project Contracting play a very crucial role in maximizing national gains in these areas particularly in the transfer of technology, manpower development, project financing, spare parts requirements, guarantee of raw materials etc. It is also a vital aspect in the process of project execution. I therefore wish that this subject be given the close attention it deserves. From the Nation's past experiences, it is imperative that our experts have to get

to grips with the rudimentaries of certain essential contract elements in order to forestall circumstances which have hitherto led to difficult experiences in the implementation of some of our industrial projects. Such contract elements include for example (a) the role of the supplier/contractor of technology, equipment etc.; (b) administrative provisions, (c) agreement on language to be used in respect of production instructions, (d) determination of the boarder between the scope of undertakings of the supplier/contractor and the duties of the employer, (e) appropriate procedures for monitoring of contract performance (f) the right to request change, (g) control over use of sub-contractors, sub-suppliers and personnel so as to enable us tap, as much as possible, available local resources (h) the right to terminate the contract if deemed necessary in the national interest, and most importantly (i) applicable law and arbitration. If not properly understood, this lastly mentioned contract element could cause hard feelings in international relations. Indeed, my Ministry already has a story to tell on this.

5. Project Financing: In the area of project financing, I believe that Government usually loses out to its technical partners, largely through ignorance or over-sight on the part of our relatively in-experienced project planners and managers who **inadvertently** allow components of project expenditure usually incurred by the Government at the initial stages of a project to remain unrecovered. A good example is in respect of expenditure incurred in travelling abroad to negotiate for technical partners or in arranging relevant facilities locally for project to take off. These expenditures, I believe, should be taken into consideration while discharging our financial obligations on contracts. In most cases this is not so. The present economic circumstances of the country which calls for austere measure, in all realms of our economic endeavours must be borne in mind in our approach to project financing. There should be a thorough

examination of existing practices with a view to ensuring efficient use of our meagre financial resources. Consideration is therefore to be given to various means of bringing this about. In this regard, we should endeavour to examine the use of Supplier's Credits for complete financing or as supplement to loans or grants, Compensation deals or buy-back deals, assumptions about interest rates, grace periods, amortization periods, bank charges, sources of equity and loan finance etc.

6. Project Evaluation/Appraisal:

I should let you know that in the immediate future, the policy of Government as far as project financing in the industrial sector is concerned is to concentrate the available meagre resources on consolidating what we already have in the industrial set-up rather than on new projects. Thus, more attention is to be focussed, in the short-term, on the existing industrial plants and on-going projects. In this connection, the knowledge to be gained from what you teach on Project Evaluation and Appraisal will be most valuable. I have no doubt that you will expose our experts to the latest techniques in financial and economic analysis. You should examine the various approaches to this subject and ensure that parameters relevant to our economic circumstances are taken into consideration. Most developing countries have had cause to disagree with some aspects of the World Bank approach but whatever approach is considered best in the interest of our national economy should be our concern. The maximization of LOCAL VALUE-ADDED by our industrial projects should be given the attention it deserves. How this could be achieved in the existing and on-going projects should be looked into and the criteria for its achievement in any project examined. Such criteria may include the use of local natural resources in our commercial products, development of

commercial and technological know-how, minimisation of imported inputs, export promotion drives etc. All these touch on the important issue of local resource utilization that should receive adequate attention in our approach to Project Evaluation and Appraisal.

7. The present Administration, as you are well aware, has among its top priority areas, iron and steel, agro-based industries, petro-chemical, pharmaceutical and engineering industries. The course organizers should therefore endeavour to see how the course can address itself to our problems in these and other industrial areas. A major concern to the entire Nation is the existence of several Public Sector Industries that have proved unviable despite promising Evaluation Reports prepared by experts on the viability of the projects before they were embarked upon. One is tempted to feel that either wrong assumptions must have been made in the examination of the projects or that things went wrong at the implementation or execution stage. I sincerely hope that this course will take account of the Nigerian experience so that the country can be properly guided in its future industrial investments.

8. I would like to congratulate the various participants for their nomination for this course. I am particularly happy that my Ministry brought in State Government officials to benefit from the course. I have no doubt that their exposure will be beneficial to the industrial sector of the National Economy.

9. Lastly, let me express my appreciation to the Managing Director of the Nigerian Industrial Development Bank and his officials for making the Bank's facilities available for the organizers of the course. My heartfelt thanks also go to the United Nations Industrial Development Organization who have contributed immensely to the organization of the course. It is my candid hope that my Ministry and your organisations will continue to collaborate in similar and other ventures.

11. Ladies and Gentlemen, it is with me that light and pleasure
that I declare the course is on.

11. Thank you.

VI. Program of Closing Ceremony

SEMINAR ON INDUSTRIAL PROJECT PREPARATION, EVALUATION, FINANCING
AND CONTRACTING ORGANISED UNDER THE AUSPICES OF THE FEDERAL MINISTRY
OF INDUSTRIES IN COLLABORATION WITH THE NIGERIAN INDUSTRIAL DEVELOP-
MENT BANK AND THE UNITED NATIONS INDUSTRIAL DEVELOPMENT ORGANISATION

Programme for the Closing Ceremony

- 1.30 p.m. Participants get seated.
- 1.45 p.m. Guests Arrive.
- 1.50 p.m. The Permanent Secretary, Federal Ministry of Industries;
The Chairman of the occasion and the Managing Director
- NIDB arrive.
- 2 - 3.30 p.m.
- Introduction of the Chairman - MR. FASHANU, AGM(MDD) NIDB.
 - The Chairman's Opening Remarks
 - UNIDO Representative's Remarks
 - Remarks by a Representative of Course-Participants.
 - Presentation of Certificates to Course - participants -
The Permanent Secretary Federal Ministry of Industries.
 - Refreshments.
 - Chairman's Closing Remarks
 - Vote of Thanks - Mr. G. AMUSA-EKE (AD(P&P) F.M.I.
- 3.30 p.m. The Permanent Secretary F.M.I, the Chairman, the
Managing Director - NIDB and the Guests depart.

VII. List of Documents Previewed Daily by Seminar Participants

LISTING of DOCUMENTS PREVIEWED
DAILY BY SEMINAR PARTICIPANTS

WORLD INDUSTRY IN 1980	ID/269
WORLD INDUSTRY SINCE 1960	ID/Conf.4/2
INDUSTRY 2000 - NEW PERSPECTIVES	ID/237
A PROGRAM FOR THE INDUSTRIAL DEVELOPMENT DECADE FOR AFRICA	ID/287
FINANCIAL RESOURCES FOR INDUSTRIAL PROJECTS IN DEVELOPING COUNTRIES	P1/61/Rev.2 Vols 1 & 3
LIMA DECLARATION AND PLAN OF ACTION ON INDUSTRIAL DEVELOPMENT & COOPERATION	P1/38
IMPLEMENTATION OF LIMA DECLARATION AND PLAN	ID/238
NEW DELHI DECLARATION AND PLAN OF ACTION	P1/72
THE INITIATION AND IMPLEMENTATION OF INDUST- RIAL PROJECTS IN DEVELOPING COUNTRIES	ID/146
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GUIDELINES FOR THE ESTABLISHMENT OF INDUST- RIAL ESTATES IN DEVELOPING COUNTRIES	ID/220
THE EFFECTIVENESS OF INDUSTRIAL ESTATES IN DEVELOPING COUNTRIES	ID/216
INDUSTRIAL AND TECHNOLOGICAL INFORMATION BANK	P1/68
MARKETING MANAGEMENT AND STRATEGY FOR THE DEVELOPING WORLD	ID/153
INDUSTRIAL TECHNOLOGY IN AFRICA	IS/222
UNIDO INPUT-OUTPUT DATABANK	IS/238
AN INVENTORY OF INDUSTRIAL STATISTICS IN THE UNIDO DATA BANK	IS 385
OPPORTUNITIES FOR COOPERATION AMONG THE DEVELOPING COUNTRIES FOR THE ESTAB- LISHMENT OF THE PETROCHEMICAL INDUSTRY	IS/376
PETROCHEMICAL INDUSTRIES IN DEVELOPING COUNTR.	ID/46
HANDBOOK ON INDUSTRIAL STATISTICS	ID/284
AGRICULTURAL MACHINERY AND RURAL EQUIPMENT IN AFRICA	IS/377
TECHNICAL CRITERIA FOR THE SELECTION OF WOOD- WORKING MACHINERY	ID/247
UNIDO MODEL FORM OF TURNKEY LUMP SUM CONTRACT FOR THE CONSTRUCTION OF A FERTILIZER PLANT INCLUDING GUIDELINES	PC.25
INDUSTRIAL DEVELOPMENT STRATEGIES AND POLICIES AND SOCIO-ECONOMIC DEVELOPMENT IN THE DEVELOPING COUNTRIES	IS/380

CONCEPTUAL AND POLICY FRAMEWORK FOR APPROPRIATE INDUSTRIAL TECHNOLOGY	ID/232 vol.1
APPROPRIATE INDUSTRIAL TECHNOLOGY FOR LOW COST TRANSPORT IN RURAL AREAS	" vol.2
APPROPRIATE INDUSTRIAL TECHNOLOGY FOR PAPER PRODUCTS AND SMALL PULP MILLS	" vol.3
APPROPRIATE INDUSTRIAL TECHNOLOGY FOR TEXTILES	" vol.6
APPROPRIATE INDUSTRIAL TECHNOLOGY FOR SUGAR	" vol.8
APPROPRIATE INDUSTRIAL TECHNOLOGY FOR DRUGS AND PHARMACEUTICALS	" vol.10
INDUSTRIALIZATION OF DEVELOPING COUNTRIES-- PROBLEMS AND PROSPECTS :	ID/40 series
IRON AND STEEL INDUSTRY	" vol.5
CHEMICAL INDUSTRY	" vol.8
MANUAL FOR PLANNING THE DEVELOPMENT OF CAPITAL GOODS INDUSTRIES	IO/548
INDUSTRIAL PRODUCTION OF COCONUT CREAM	IO/528
CHANGING PATTERNS OF TRADE IN WORLD INDUSTRY : AN EMPIRICAL STUDY ON REVEALED COMPARATIVE (ECONOMIC) ADVANTAGE	ID/281
SOCIAL ASPECTS OF INDUSTRIALIZATION	IS/356
POTENTIAL FOR THE DEVELOPMENT OF A PROTEIN SWEETNER INDUSTRY IN AFRICA	IS/397
UNIDO'S CONTRIBUTION TO THE INTERAGENCY STUDY ON INTERRELATIONSHIP BETWEEN POPULATION, RESOURCES, ENVIRONMENT AND DEVELOPMENT	IS/374
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ITC CORE LIST - BASIC DOCUMENTATION FOR TRADE INFORMATION SERVICES	1982 ed.
DEVINDEX AFRICA - UN ECONOMIC COMMISSION FOR AFRICA -1980 ed.	vol. 1 & 2
NIGERIAN INDUSTRIAL POLICY AND STRATEGY - GUIDELINES FOR INVESTORS	Min. Plan Nigeria
DEVELOPMENT OF INDUSTRIAL EXPORTS	ID/17
INDUSTRY AND DEVELOPMENT ISSUES 5, 6 and 7	ID/SER/M
FINANCE AND DEVELOPMENT QUARTERLY Sept. 1983 Issue	IMF/WORLD BANK
UNIDO NEWSLETTERS	
UNDP ASSISTANCE REQUESTED BY THE GOVERNMENT OF NIGERIA 1983-1986	UNDP/CP/NIR/2
FOREIGN ECONOMIC TRENDS FOR NIGERIA - JULY 1983	U.S. EMBASSY ECONOMIC DEPT.
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BASIC INDUSTRIES	" vol.13
INDUSTRIALIZATION OF DEVELOPING COUNTRIES--	ID/40 Series
PROBLEMS AND PROSPECTS :	
FOOD PROCESSING	" vol.9
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REGIONAL COOPERATION	" vol.18
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ANNEX 1: Guest lecture:

"Investment in Infrastructure: Special Problems, Financing, Costs and Benefits"

given by guest lecturer:

Dr. O.O. ILESANMI, Fed. Min. of Indust.,
Investment Information & Promotion Centre

UNIDO SEMINAR ON INDUSTRIAL PROJECT PREPARATION EVALUATION,
FINANCING AND CONTRACTING: 5TH SEPTEMBER TO 14TH OCTOBER, 1983

SEMINAR PAPER ON "INVESTMENT IN INFRASTRUCTURE: SPECIAL
PROBLEMS, FINANCING, COSTS AND BENEFITS"

BY

DR. O. O. ILESANMI
Federal Ministry of Industries,
Investment Information & Promotion Centre,
New Secretariat,
Ikoyi, Lagos

In most African countries, especially in the period since most of them attained political independence, investments have been largely concentrated on directly productive sectors of the economy such as industry, transport, telecommunications, power, and agriculture. Most economists involved in their planning processes believe, almost as an article of faith, that investments in these productive sectors contribute more to the acceleration of rapid economic growth. This trend was first noticed in Nigeria with the launching by the Colonial Government of the Ten-Year Programme of Development and Social Welfare in 1946 (Government Printer, 1946). This same trend has been repeatedly articulated in the country's post-independence development programmes by successive Governments.

In a mixed developing economy like ours, one principal role of Government is the provision of infrastructural facilities for social and economic development. The efficiency and effectiveness of infrastructural facilities is not only crucial to integrated social development but also to rapid industrialisation. This is because the way these public utilities are managed not only affect the cost of industrial production and consequently the price level of goods and services produced and consumed but also has positive or negative linkage effects on the business community and the consuming public.

Infrastructural facilities in the context of this seminar refer to essential public utilities such as electricity,

water, roads, rail, inland airways, telephones, telecommuni-
cations and mail services whose adequacy not only enhances a
country's ability to fully integrate socially and economically
its rural and urban communities but also accelerates industria-
lisation of the country as a whole. Infrastructural development
by Government has its origin in the fewness of people with
sufficient capital and the required managerial capability to
promote and execute such enterprises. Moreover, the need to
avoid the uneconomic duplication of these services is also
responsible for Government monopoly of infrastructural
development. It is also significant to note that the original
underpinning philosophy guiding the establishments of infra-
structures is service although in the performance of such
services, they are expected to be self-supporting.

The current dilemma of these service-oriented establishments
is how to reconcile the demands for cheap and efficient service
with financial self-sufficiency. There is, therefore, the
recurring problem of striking a satisfactory balance between
the demands of a public-service oriented enterprise and the
monetary expectation of a commercially-oriented service.
This present dilemma is apparently the root cause of the much
flogged inefficiency of the country's key public utilities,
which has, for sometime, generated a great deal of controversy
among industrialists as well as the consuming public. The
view is widely held in some quarters that the inefficiency of
the key parastatals has contributed in no small measure to
the inefficient use of foreign exchange earnings. It is the
belief in these quarters that the inability of the Nigerian
Electric Power Authority (NEPA) to guarantee continuous supply
of electricity has led to the massive importation of generators
for household and industrial uses. Similarly, it is also
alleged that the inability of the various water corporations
to guarantee continuous flow of water has resulted in
"unwholesome" expenditure on sinking boreholes for households
and industries. It has equally been pointed out that the

the telephone system has created a situation where private firms have had to buy and install radio contact among member firms. The apparent consensus, therefore, is that the amount of foreign exchange required on these key utilities are more often than not colossal and because they are avoidable could have been available for other essential uses (especially in this period of acute shortage of foreign exchange) to finance importation of raw materials and other essential industrial inputs.

The point must, however, be made that prior to the oil-boom of the 1970s, discrepancies between available levels of infrastructural facilities and sectoral requirements especially in the urban areas were either hardly noticeable or rarely aggressively aggenising. This seemingly harmonious state of affairs began to disintegrate when the gap between investments in manufacturing and allied economic activities, building and construction and infrastructural facilities like electricity, water and telecommunications began to widen. The present inadequancies of these infrastructural facilities which are now constituting enormous constraints on further industrial and business expansion are products of past discrepancies in resource allocations and resource mix by both the private and public sectors of the economy. It is significant to observe in this connection that whilst public sector resources allocation to infrastructural development from the 1960s has been increasing steadily, private sector investment in industrial construction and business expansion has been increasing rather more rapidly.

From available records, the public-sector capital investment allocation for infrastructural development from the 1970-74 to the 1981-85 Plan Periods is as follows:-

Plan Period	Plan Size N million	Power N million	Transport N million	Water N million	Communi- cations N million
1970 - 74	2,050.738	90.650	472.398	3.646	23.282
1975 - 80	43,314.009	1,075.238	9,677.541	1,358.553	1,338.944
1981 - 85	70,276.225	3,106.259	10,706.616	3,746.109	2,000.000

It will be observed from the table at page 3 that a considerable chunk of the total capital investment allocations during the three plan periods have been allocated to the four sub-sectors constituting the main public utility sector. This allocation pattern also shows the concern of Government that growth in the manufacturing and allied sectors can only be promoted and accelerated through improved and expanded infrastructural facilities.

In essence, Government has continued to give a great deal of attention to the constraints posed to project implementation by inadequate physical infrastructural facilities. A great deal of capital investment in infrastructural development is, therefore, continuously being generated through budgetary allocations and foreign loans from such bodies as the World Bank and its affiliates and European Investment Bank. The Nigerian Electric Power authority (NEPA) is continuously being assisted with funds for the purchase of equipment whilst inadequate water supply is being tackled through huge investment by Government. Similarly, the infrastructural inadequacies arising from poor postal and telecommunications system are being gradually removed through intensive capital investments in telecommunications networks. Telecommunications Equipment Manufacturing is presently one of Government's listed priority industries. Foreign investments in telecommunications both in capital and equipment are increasing whilst local investors are being encouraged.

Special Problems:

However, and inspite of the efforts by Government to make these various public utilities efficient and effective, a number of problems continues to plague these organisations. The existing plethora of problems can be subsumed under the following:-

- inadequate power supply to meet the demand of a rapidly growing economy;
- excessive reliance on large-scale hydro power (Kainji hydro electric power station alone accounted for about 50-70% of total energy generation in 1975-79);
- frequent power failures and load shedding (rate of energy loss estimated at 20% between 1975 and 1980 and losses due mainly to long distances between generation stations and load centres as well as poor maintenance of transmission facilities and sub-stations);
- overloaded distribution facilities (Use of single circuits to transmit bulk power over long distances);
- inadequate maintenance facilities;
- dearth of experienced and competent staff;
- inadequate funding and poor financial management;
- underpinning philosophy (service-oriented) on which it exists;
- lack of cooperation from the public (consumers) through damaging of cables, transformers, meters, etc.
- unwillingness by many consumers to settle their bills for services enjoyed;
- illegal connections or tapings by some consumers and lack of co-ordination between industries and NEPA having regard to requirements, establishment, etc.
- inadequate motivation of workers;
- lack of commitment by many of its workers even when well motivated;
- problems arising from its harmonization with the civil service;
- inadequate supply of essential working tools and materials since these tools/materials are all

- dearth of sufficiently accurate data on economic factors on which to base proper forecast of power demands.
- (ii) Transport
 - demand management, i.e., dearth of experienced and competent staff to promote operational efficiency;
 - poor financial management;
 - inadequate funding for maintenance.
- (iii) Water
 - inadequate supply and distribution network;
 - low quality of water itself;
 - inadequate funding;
 - shortage of technical and supervisory manpower (resulting in inadequate maintenance and incessant break-down of water supply system);
 - lack of cost recovery measures (that would have permitted more facilities to be provided).
- (iv) Communications
 - inadequacy of technical and engineering staff;
 - non-standardization of equipment;
 - inadequate maintenance and supporting facilities;
 - institutional and organisational problems;
 - incessant damage to external line plants, cables and ducts in urban centres by the public;
 - unwillingness of many consumers to settle their bills for services enjoyed.

The structural inadequacies of the various public utilities highlighted above must, of necessity, create special problems for the industrialists, the business community and the consuming public at large. Such problems include:-

- (1) Equipment damages and underutilisation of capacity arising from frequent power interruptions.

- (ii) Heavy capital outlay in procurement of machinery, generators and transformers with attendant consequences on production overheads and related high price levels of locally produced goods and services.
- (iii) Further capital outlay on sinking boreholes, water tankers and radio communication equipment arising from inadequate water supply and unreliable postal and telecommunications facilities with consequent increases in production overheads and attendant high prices of locally produced goods and services.
- (iv) Continuing 'inefficient' and 'ineffective' use of our scarce foreign exchange earnings for the procurement of necessary equipment in items (i) - (iii) above since most (if not all) are not produced locally and must therefore be imported.

Government is, however, aware of all these problems and has initiated measures to minimize the disincentiveness of the structural inadequacies of the publicly-owned utilities. First, in its recently published Nigerian Industrial Policy and Strategy: Guidelines to Investors (Government Press, 1980), Government has accepted, as a matter of policy, to cooperate with private entrepreneurs to minimize the adverse effects of current infrastructural inadequacies such as irregular electricity and water supplies and poor access roads by proposing tax concessions, to offset substantially, necessary expenses incurred in providing such facilities. The concessions will, however, apply only to industries located in the hinterland and will also take into account the cost of transportation of imported raw materials required by such industries. Secondly, Government has also recently accepted the recommendation that public utilities like the Nigerian Electric Power Authority and the Post and Telecommunications Department (which, by nature, are economic organisations) should be self-financing and efforts are now being made to restructure them to make them

self-financing and cost-effective. Finally, another form of infrastructural facility which is often not so apparent as the other physical infrastructures already dealt with in this paper, is banking. In this connection, it should be pointed out that Government, as a matter of policy, has already taken steps to increase banking services in the rural areas by directing existing banks to establish branches in the rural areas. The essence of this directive is to provide easy access to loanable capital in the rural areas in order to facilitate and accelerate the development of entrepreneurship in these areas. Government, itself, has established a number of banks, notably, the Central Bank of Nigeria (CBN), the Nigeria Industrial Development Bank (NIDB), the Nigeria Bank for Commerce and Industry (NBCI) and the Nigeria Agricultural Credit Bank whilst some of the State governments have also established banks in their various areas of jurisdiction. These banks, including those in the private sector, are supposed to be source of investment capital for integrated development.

Financing

The offshoot of the foregoing is that money must be available for increased investment in infrastructural development. The source of financing and its utilisation will depend, to a large extent, on the types of project envisaged. Generally, the sources of capital for investment are:-

- Equity capital
- Development agencies
- Aid Finance
- Export Credits
- Local Currency Markets
- Medium-term Euro-Currency Market
- International Capital Market

However, since infrastructural facilities are publicly provided and owned in this country, investment in infrastructural development will, of necessity, be undertaken by the Government.

The sources of financing by Government are usually through:-

- Budgetary allocation
- Foreign loans from friendly countries
- Euro-Currency market
- International Capital Markets
- Multilateral financial sources such as World Bank, Inter-American Development Bank, African Development Bank, European Investment Bank, Asian Development Bank, etc.

Multilateral financial sources can be used for co-financing (in conjunction with one or all of the above development banks) infrastructural projects such as express roads, rail roads or electric power supply grid. Soft loans can also be obtained from such sources for a period of twenty years with five years grace period at non-subsidized interest rates. The World Bank can also be a source of loans for infrastructural projects of high priority in the nation's development programme.

However, since capital is scarce, only economic considerations are relevant for granting such loans. The other conditions for World Bank loans are as follows:-

- loans only to Governments (or under Government guarantees)
- reasonable rate of return
- financing of foreign exchange costs
- non-subsidized fixed interest rates
- long-term loans
- exchange risks in different currencies
- international competitive bidding for procurement
- loans to credit-worthy borrowers only

These same conditions also apply to loans from other development banks and Agencies.

It would, at this stage, be useful to enumerate some simple principles to be borne in mind when scouting for investment fundings. Some of these basic principles are as follows:-

- Maximization of long-term debt
- Maximization of fixed rate financing
- Maximization of foreign exchange exposure
- Minimization of re-financing risks
- Minimization of interest payments whilst construction is in progress.

Costs and Benefits

Projects are rarely conceived and implemented in isolation. They are normally linked to the development programme of the sector or subsector to which they fall, as well as the overall development of all the sectors of the economy. The generally accepted norm is that since capital is scarce, it must be put into the most effective use to assure possible identification of all accruable direct and indirect costs as well as the direct and indirect benefits. It is in this connection that special attention is usually given to the criteria employed in the measurement of economic costs and economic benefits including the validity of the values of the parameters used in measuring social costs and social benefits.

It is, however, not always possible to fully document the costs of an investment in infrastructure. This is because estimated costs will largely be based on experience and quotations furnished by contractors. The level of accuracy of the estimate may, however, be defined by stating the standard of the documentation of the project under consideration. As a guide, such documentation in a feasibility study, for example, will include the following items of estimate:-

Items of Documentation	Level of Accuracy of Estimate to be used
Maps Soil Investigation Layout (Area) Process Diagram Materials/Balance Layout (Plant) Process Equipment Buildings	1 : 2000 Preliminary Approximate Optimized (but not final) Optimized (but not final) Preliminary Optimized (but not final) Conceptual

The cost/benefit study of a project is essentially an economic appraisal focusing on the commercial and financial viability of the project. This appraisal is, however, subject to certain distortions of a competitive market structure brought about by tariff and quantitative restrictions, unrealistic exchange rates, government control of interest rates and prices, and monopolistic influences and labour union activities on real wages. The commercial appraisal examines all the arrangements and procedures for the procurement of goods and services required for the project and also arrangements for obtaining the necessary inputs including measures for the disposition of the expected output. The ultimate objective is to ensure that the best value is obtained for the money spent on the project. The financial appraisal, on the other hand, examines the amount of money required for project take-off and the sources of such funds and the probable operating costs and revenues and the financial viability of the project. These considerations must, however, take cognisance of the social benefits derivable from investment in infrastructures especially since these benefits cannot be expressed in quantitative monetary terms. The cost-effectiveness of infrastructural projects can always be achieved by relating the dimension and choice of technology to the demand forecast and ensuring that the capability of the community/society to afford the chosen least-cost investment is not in doubt.

The essence of a cost/benefit evaluation of infrastructural projects is to ascertain and be convinced that the development of such infrastructures is likely to contribute significantly to the overall socio-economic development of the country. Thereafter, there is also the need to be convinced that the expected contribution is likely to be great enough to justify the use of scarce resources such as investment capital (domestic and foreign), managerial talents (domestic and foreign) and skilled labour, etc. Moreover, in a situation

where there is an existing Development Plan, the infrastructural project must be evaluated to ensure consistency and re-assurance that the project is being implemented within the priorities set for the economy. The assessment of its contribution will therefore be determined through the process of assigning market values to the benefit and cost components, that is, values will be assigned to direct benefits, indirect benefits, scrap value at terminal year, capital costs, operating costs, and indirect costs.

Following from the foregoing, it is apparent that the benefits derivable from investment in infrastructures are usually not quantifiable. It is not very often useful to consider the willingness of users to pay as an estimate of project benefits since the true value of infrastructures to the consumer is more often than not greater than the willingness to pay - the difference is usually referred to as 'consumer surplus'. Moreover, the social and financial benefits accruable from investment in infrastructures are manifold and include socio-economic integration of rural and urban communities, increased standard of living, creation of employment opportunities, increased industrial and agricultural production levels, increased sources of revenue (rent and service charges), and conservation of foreign exchange earnings. The proposition that is, in effect, being put forward in this paper is that investment decision in respect of infrastructures should focus directly on the qualitative assessment of the benefits derivable therefrom. The price mechanism may, however, be employed to achieve optimum use of infrastructural factors of production within the framework that the expected benefits from the infrastructures must, at least, be equal to their costs.

APPENDIX 1

CONSIDERATIONS FOR A FINANCING PLAN

- RATIO OF DEBT TO EQUITY
- SOURCES OF EQUITY AND LOAN FINANCE
- LOCAL BORROWINGS CONTRA EXTERNAL
- PROPORTIONS OF LOAN FINANCE TIED TO SUPPLY OF IMPORTED GOODS AND SERVICES
- ASSUMPTIONS ABOUT INTEREST RATES
 - GRACE PERIODS
 - AMORTIZATION PERIODS
 - BANK CHARGES
- WORKING CAPITAL REQUIREMENTS
- INTEREST UNDER CONSTRUCTION PERIOD
- FOREIGN CURRENCIES

EQUITY FINANCE

HIGHER RISKS - MORE EQUITY FINANCE

- SOURCES: - INITIATOR OF PROJECT
- PURCHASER OF THE PRODUCTS
 - SUPPLIERS TO THE PROCESS
 - SUPPLIERS OF EQUIPMENT TO THE PRODUCT

RISK EVALUATION

- SUPPLIER'S COMPETENT RISK
- COOPERATION PARTNER'S COMPETENT RISK
- SUBSUPPLIER'S COMPETENT RISK
- FORCE MAJEURE RISK (NON POLITICAL)
- TECHNICAL RISKS
- POLITICAL RISKS
- SOLIDITY RISKS
- CUSTOMER'S COMPETENCE RISK
- CURRENCY RISKS
- CALCULATION RISKS
- INFLATION RISKS
- CONTRACTUAL RISKS

INFRASTRUCTURAL PROJECT	Expenditure accumulated to date	Commitment incurred to date	Expenditure required to complete	Anticipated final cost (total forecast)	Budget	Difference 4 ./. 5	Notes :
Power station							
Power distribution							
Gas piping							
Communications							
Service & Utility							
Staff							

1
2
3
4
5
6

ANNEX 2: Guest lecture:

"Evaluation of Technology Transfer Agree-
ments"

given by guest lecturer:

Mr. F.J. OKONO - AG Director - National
Office of Industrial Property (NOIP)

EVALUATION OF TECHNOLOGY TRANSFER AGREEMENTS

Lecture given by:-

MR. F. J. OKONO - AG. DIRECTOR - NOIP AT

THE TRAINING COURSE ON

INDUSTRIAL PROJECT PREPARATION EVALUATION AND FINANCING

ON 12TH OCTOBER, 1983 AT NIDB, LAGOS.

1. I. INTRODUCTORY REMARKS

It gives me great pleasure to be in your midst on this occasion and more so, to share with you my thoughts and experiences on this important subject. I wish to congratulate the organisers of this Course for thinking it fit to request the National Office of Industrial Property which is an Agency of the Federal Ministry of Science and Technology to speak to you on its activities in this area which is of national concern towards the current technological race. There are several reasons for believing that the activities and experience of the National Office of Industrial Property might be of interest for you who will be responsible for preparation, evaluation and designing financial schemes for industrial projects. The acquisition of foreign technology constitutes quite often an essential element of the industrial project and, therefore, that aspect has to be carefully taken into account in the process of project preparation and evaluation. I have been told that you have learned during the course basic methods used for evaluation of foreign technology acquisition. Therefore, I am freed from repeating or continuing classroom approach. I would rather share with you the experience of the National Office of Industrial Property in the application of these techniques, in the process of evaluation and registration of technology transfer agreements between Nigerian enterprises and foreign partners.

The National Office of Industrial Property is one of the youngest agencies in the Federal administration. One of the essential problems which still has to be solved is the lack of awareness of the existence of the National Office and its activities among industrial enterprises, financial institutions and even state administration. I sincerely hope that this opportunity of meeting you represent important banking and government institutions from various states will help in closing this information gap.

2. The presentation will be divided in two parts. In the first part I would like to outline in the first instance the legal and institutional framework for controlling technology transfer in Nigeria. Next, I will present the scope and methods of evaluation of technology transfer agreements currently used in the National Office of Industrial Property. I shall conclude by providing an outlook for the future expansion of the activities of the National Office and suggesting practical forms of co-operation and exchange of information between various institutions participating in the process of preparation and evaluation of industrial projects with foreign technological inputs.

In the second part we shall follow more pragmatic approach. I have asked one of my officers who is directly involved in evaluating technology agreements - Mr. Abubakar to present a case study so that you may see the practical application of the evaluation methods to be outlined in the first part.

II. LEGAL AND INSTITUTIONAL FRAMEWORK FOR CONTROLLING TECHNOLOGY
TRANSFER IN NIGERIA

1. Rationale for government intervention in the area of
technology transfer

3. In view of the fact that some people consider that contractual arrangements for the acquisition of foreign technology should be left exclusively for the private contracting parties, let me dwell a little more on the rationale for government intervention in this area. Two main groups of reasons provide the rationale for Government intervention in the technology field. Firstly, given the fact that technology is being sold and purchased in very imperfect markets, intervention is justified in order to minimise the misallocation of resources that results from monopoly pricing, and from discriminatory and restrictive business practices. Secondly, as a consequence of the imperfect appropriability which characterises the knowledge creation process, there is a built-in tendency for the system to allocate less than the optimal amount of resources to the creation of new technology. These two reasons amongst others reflect a need for alternative ways of Government regulation designed to bring the economic system somewhat closer to an optimal position.

With respect to market imperfections, research work of recent years has shown that the list of restrictive business practices is quite substantial, ranging from discriminatory royalty rates to purchase tie-in clauses dealing with capital equipment and raw material and passing through export restrictions and free grant-back of adaptive know-how to the original licensor.

During the recent years, a number of developing countries have sought to counteract some of those restrictive business practices, through the creation of Government agencies responsible for the examination and approval of technology contracts signed by private parties. There is no question that in an area so much affected by oligopolistic and monopolistic practices, a public screening mechanism of some sort would be useful in redressing the unequitable business practices. The solution that emerged in this country after several years of hard work and consultations with such well meaning organizations as UNIDO, UNCTAD, the ECA, is the establishment of the National Office of Industrial Property in 1979, to regulate the terms and conditions for acquiring foreign technology. Similarly in many other developing countries, regardless of whether special legislation regulating in-flow of technology has been introduced or not, national registries for regulation of transfer of technology have been created or going to be created.

2. Legal framework and the functions of NOIP

Let me turn now to the experience of Nigeria with respect to the regulation of technology transfer. As I mentioned already, the major breakthrough in that field took place in 1979, with the establishment of the National Office of Industrial Property by Act No. 70 of 1979 in the Federal Ministry of Industries as a mechanism to regulate technology transfer in Nigeria. With the creation of a Federal Ministry of Science and Technology in the past administration, whose functions include the promotion and administration of technology transfer programmes,

Mr . President transferred the National Office in May, 1980 from the Federal Ministry of Industries to the New Ministry as the supervising Ministry. The National Office of Industrial Property is one of the main instruments to carry out the Nigerian Technologicc Policy; which in turn is a basic expression of the overall developmen policy of the Federal Government. Nigerian Technological Policy has several goals that are being considered when a transfer of technology agreement is being analysed. The principal goals of these technological policies to be achieved are the following:-

- (i) To encourage the flow of technology into the country in order to strengthen the industrial development;
- (ii) To encourage domestic enterprises to acquire foreign technologies that may be suitable to the indigenous requirement: In this sense, it is considered particularly important that the technology contributes to the creation of employment to fully use Nigerian labour forces;
- (iii) To assist Nigerian enterprises in the selection of foreign Technology;
- (iv) To strengthen the negotiating capacity of Nigerians so that they may obtain the appropriate technology they need, at the best terms and conditions, especially concerning the price;
- (v) To achieve a more efficient process for a rapid absorption and assimilation of foreign technology by Nigerian technicians;

- (vi) To properly adapt foreign technologies to the requirements of the local markets;
- (vii) To gradually develop local technologies;
- (viii) To encourage future exportation of the locally developed technologies to other markets, especially those of the neighbouring countries.

5. The National Office of Industrial Property as a regulatory body is aimed at supervising the selection and acquisition of foreign technology, as well as the forms in which the acquisition is materialized, while at the same time encouraging the most efficient use of the technology so obtained for the benefit of the national economy. More specifically, the functions of the Office include:-

- (a) the encouragement of a more efficient process for the identification and selection of foreign technology;
- (b) the development of the negotiating skills of Nigerians with a view to ensuring the acquirement of the best contractual terms and conditions by Nigerian partners entering into any contracts or agreement for the transfer of foreign technology;
- (c) the provision of a more efficient process for the adaptation of imported technology;
- (d) the registration of all existing and new contracts or agreements entered into for the transfer of foreign technology to Nigerian partners.

III. SCOPE AND METHODS OF EVALUATION OF TECHNOLOGY TRANSFER AGREEMENTS USED IN THE NOIP

1. Types of agreements being evaluated and registered by NOIP

6. A transfer of technology contract is a legally binding instrument It contains the will of the parties thereof. It is, properly speaking an agreement reached among two parties: the supplier or transferor and the recipient or transferee.

The contract may be seen as a legal document. But it is also the way in which a commercial transaction took place. The contract is a unity in itself. At first the analysis should try to classify the contract into one or several categories established in Section 4(d) of the Act No. 70. These categories are:

- (i) the use of the trade-marks,
- (ii) the right to use patented inventions,
- (iii) the supply of technical expertise in the form of the preparation of plans, diagrams, operating manuals or any other forms of technical assistance of any description whatsoever,
- (iv) the supply of basic or detailed engineering,
- (v) the supply of machinery and plant, and
- (vi) the provision of operating staff or managerial assistance and the training of personnel.

This is a very important task to be executed because the contracts should be treated and analysed in a different manner in accordance with its nature.

It happens very frequently that a single contract could cover several types of these categories mentioned in Section 4. For instance, a contract for the authorisation to use a trade-mark frequently involves also the supply of technical know-how or technic assistance.

2. General criteria used for the evaluation of technology transfer agreement

7. In view of the scarcity of time it would be difficult for me to conduct detailed presentation of the evaluation techniques applied to each type of technology transfer agreement. I would rather attempt to outline general rules and procedures used by the National Office and point out the most important aspects of the evaluation process.

The overall purpose of the evaluation once the contract has been classified is to carry out a social cost benefit analysis to be able to get to the final conclusion about if the commercial transaction involved in the agreement do comply with the goals of the Nigerian Technological Policy.

To be able to realise the so-called social cost benefit analysis NOIP examines the agreement under three different points of view: the legal, economic and technical approach. Each of these different analysis is being done by highly experienced and trained personnel and in a very careful manner.

Some of the criteria that must be used to perform the social cost benefit analysis are:

- a) Type and nature of the technology to be transferred.

Special reference has to be made concerning:

- a) The royalty payments (cost of the Technology):
- b) The way in which the agreement contributes to the improvement of national technological capabilities.
- c) The existing relationship among the parties involved, i.e. a parent-subsidiary agreement.
- e) The other contributions or disadvantages of the agreement in the light of the national interest.

3. Novelty and availability of technology in Nigeria

8. According to the Section 6 (2) (a):

Director (of NOIP) shall not register any contract or agreement:

"where its purpose is the transfer of technology freely available in Nigeria."

This provision means that the NOIP should not accept those agreements in which the transferor is trying to sell a technology that may be obtained without a payment, for instance, in a technical book, because it is a well-known process that has been applied for many years. This section must be applied, and the contract rejected by NOIP when:

- i) The scope of the agreement is the exploitation of a patented invention but the patent has already expired and then is no longer valid in Nigeria.

Frequently, patent licences also cover know-how. In that case, the NOIP is expected to obtain from the parties an amendment of the agreement and a reduction of royalty payments to suppress the granting of the use of the null and void patent and authorise only the supply of the technical know-how.

ii) It refers to foreign technical know-how that a local research institute or university may provide to the Nigerian enterprise at a lower cost or freely.

iii) It involves technical knowledge that any Nigerian technician could provide.

4. The price of technology

9. Section (2) (b) of the ~~Decree~~^{Act} No. 70 stipulates that

Director shall not register the agreement:

"where the price or other valuable consideration therefore is not commensurate with the technology acquired or to be acquired."

Without any doubt this is the most important provision among Section 6 and among the law itself. It calls for the economic analysis of the royalty payments included in the agreement.

The question of payments, involved in transfer of technology agreements depend heavily on the technology that is going to be supplied, the technical assistance required to support the transferee's activities, or the degree of complexity of the patent, or the prestige of the trademark that are going to be use.

Although there are not general rules concerning the adequate level of payments but nevertheless, there are some good rules to be taken into account where a transfer of technology agreement is going to be analysed.

The rules are the following:-

- i) It is very important that the base and the formula to calculate royalty payments is clearly specified in the contract. The person that is analysing the agreement usually demands any explanation needed from the parties as to very clearly understand all the payments involved in the agreement. Wide and open formulae to calculate payments must be rejected.
- ii) It is very important that the contract clearly provides that Nigerian taxes due on royalties are the responsibility of the transferor. When the contract establishes all taxes to be paid by the transferee it is being rejected.
- iii) Calculation is being done by NOIP considering the total flow of payments involved in the contract, including those to cover technical services or technical assistance.

To determine the total flow of payments involved in a transfer of technology agreement, the following aspects are considered:

- a) The form and time in which the payments are going to take place.
- b) Projected volume of sales or production during the term of the contract;
- c) The duration of the agreement;
- d) The other specific payments involved, for instance, the ones related to the visit of technical personnel coming from the transferor's plant;

e) The dates when payments should take place.

Once NOIP has the total flow of payments already calculated, the first step of economic evaluation has been completed. NOIP has then the "cost" of the technology.

Now NOIP carefully analyses "the benefit" that the agreement shall bring to the Nigerian enterprise (recipient party) and to the national economy.

10. How ^{do we} to establish the contribution of a concrete technology as such? How ^{do we} to define the "real" price of the technology and it's "social" value?

To answer these questions the following has to be done:

- i) To establish the "on-going" international price of that technology;
- ii) To establish the price of similar technologies acquired by Nigerian enterprises.
- iii) To take into consideration the rate of royalty payments in the industrial sector concerned.
- iv) To establish the impact of royalty payments on the profits of the Nigerian enterprise (recipient party).

With all these elements put together, NOIP has a tentative picture of the "value" of the technology in terms of "private economy" as such.

5. Social value of technology

Concerning the "social" value of the technology, the following elements are taken into consideration:-

i) The importance of the technology agreement for the national economy, considering specially the industrial sector involved. It is a rather different situation when the technology involved in the agreement is devoted to the production of "capital goods" than when it is going to be applied to manufactured "cosmetics". A different treatment should be given to those contracts.

ii) If the products to be made are "consumption" goods or industrial inputs.

Again it is important to support the industrialisation process of the country and to give priority to those agreements that contribute to obtain that purpose.

iii) If the production of goods locally will substitute imported items.

iv) If the products to be made with the technology involved are going to be exported.

v) If a new plant is going to be built up.

vi) If new jobs are going to be created.

vii) If the products to be manufactured are going to enhance the living standards of Nigerian people.

viii) If the establishment of the plant is not going to pollute the atmosphere or the weather.

ix) If the new industrial activity is not going to substitute Nigerian products already being manufactured and with good quality, because of its foreign origin, without any benefit for the country's national economy.

These are some of the questions that NOIP's staff should answer when analysing a technology transfer agreement.

In order to determine if the payments involved are appropriate, it is necessary to examine them at the scope of "social cost benefit analysis", and to compare the "costs" (royalties to be paid, and other burdens) with the "benefits" the agreement should bring to the country. As a matter of principle, NOIP discourages the whole concept of minimum royalty payments because it involves a burden on the development of the contract and also provides to the licensor with a guarantee of the receipt of a fixed amount independently of his engagement in the successful development of the contract and of the performance of the technology transferred. Although the basis of the calculation of royalties are generally net sales, in some instances, NOIP has changed net sales in the contract into other basis deemed more adequate to reflect the interest of the licensee and the needs of the economy. Such basis include local value added, exports, or profits. Such a flexible approach has proved useful for a country in our stage of development.

IV. ASSESSMENT OF THE RECENT EXPERIENCE AND THE RESULTS OF NOIP INTERVENTION

12. Although the National Office of Industrial Property reached its operational stage only towards the end of 1982 some concrete results are already visible. Since that time approximately, 250 contracts have been evaluated. The concrete achievements can be related in the first instance to the decreasing of payments for technology acquired by Nigerian enterprises.

The intervention of NOIP contributed also to the shortening of the duration of technology agreements which often exceeded the time limits necessary for the proper assimilation of imported technology by the local partner. Some other effects are difficult to measure in financial terms but they are of utmost importance for achieving full advantages from technology transfer in the long run. These are related mostly to the elimination of the various restrictive clauses found in technology agreements presented for NOIP's approval. Most often these are limitations to exports, tie-in clauses and the failure to observe reciprocity in rights and duties.

13. It has to be pointed out in that respect that Nigerian companies are often seeking NOIP's guidance and assistance at the stage when the agreement with foreign partner is being negotiated. This proves to be most effective in view of the limited negotiating capabilities of the Nigerian entrepreneurs in the area of technology transfer.

V. FUTURE DEVELOPMENTS

14. It is gratifying to note that the objectives which had been set by the Federal Government in introducing the measures to regulate the acquisition of foreign technology have to a large degree been met in spite of the relatively short existence of the Office. In the first place, the establishment of the Office had made it possible to know the nature of technology flow, the countries of origin and the sectors for which the imported technology is intended. This knowledge has contributed significantly towards the identification of priority sectors and the adoption of measures to promote technology innovations. It is to be mentioned too that the work of the Office in giving guidance in the wording of contracts/agreements has been found useful by most companies and organizations as seen in the fact...

subsequent contracts from these organisation have been improving in their form and tending to ensure a balance between the rights and obligations of the partners and greater clarity in their definition. In view of the above the regulatory function of NOIP should be further strengthened. In the near future, however, new areas of NOIP's activities will gain importance. In the first place close contacts with Nigerian enterprises which are planning or are already engaged in the negotiations of technology agreements are being established. In an effort to further improve the negotiating capacities of Nigerian enterprises, the Office is currently working on the guidelines to guide entrepreneurs while negotiating technology agreements with their foreign partners. Such guidelines will also greatly enhance the quality of technology agreements that are submitted to the Office for registration. Further activities in that field include specialised workshops on negotiating technology agreements at the enterprise level. NOIP also plans to launch regular publication for the Nigerian enterprises aimed at strengthening their negotiating capabilities and more effective utilization of imported technology.

15. The registration of technology agreements should be merely treated as the beginning of technology transfer process. The most important stage comes later when the foreign technology is being properly assimilated by the Nigerian partner. Therefore, NOIP will further extend its functions towards continuous monitoring of the implementation of technology agreements being registered.

16. In the recent period, substantial effort has been made to co-ordinate technology transfer regulation within the framework of Nigerian Science and Technology Policy. Since the substantial share of technology transfer agreements involves foreign equity participation there is a definite need for co-ordination of policies and the activities of relevant government agencies in these two inter-related areas. In the long run, technology acquisition should contribute to the expansion of manufactured exports from Nigeria. At the moment the Nigerian enterprises buying foreign technology are almost entirely oriented towards satisfying local demand. A definite step should be taken by the various government agencies and institutions in collaboration with NOIP in order to expand manufactured exports based on acquired technology. This in turn will lead to the improvement of the balance of payments ~~related to the improvement of the balance of payments~~ related to the transfer of technology programme.

VI. INTERNATIONAL CO-OPERATION

17. My presentation would not be complete without outlining the role of international co-operation among developing countries and the assistance provided by the United Nations Industrial Development Organization (UNIDO) for the establishment of the National Office of Industrial Property. In this connection, I wish to mention that UNIDO has provided immense assistance towards the establishment and effective functioning of the Office.

This year alone, UNIDO has provided five foreign experts from similar offices in other developing countries to assist in the training of the newly recruited staff. It may be mentioned here that even at this moment, one of the UNIDO experts from Poland is with us. The Office has found the contributions of these experts extremely useful. The regulatory functions of the National Office of Industrial Property are being substantially enhanced through training programmes, publications on licensing matters, and access to external source of information like UNIDO Technological Information Exchange System (TIES) and bi-lateral co-operation schemes with similar Offices in other countries.

VII. CONCLUDING REMARKS

18. I would like to conclude my presentation by offering specific suggestions for possible co-operation between the National Office of Industrial Property and institutions you represent. Since we are going to be involved in the evaluation of industrial project although looking on different sides there is a room for exchange of experience and results of analyses conducted. I would therefore, suggest that while evaluating industrial projects involving acquisition of foreign technology, you shall make an enquiry whether relevant agreement has been already registered or submitted for registration to the NUIP. In such cases the results of our analysis may prove useful for the evaluation of the entire project. In turn we shall make necessary arrangements for using ^{for} our purposes the results of evaluation conducted by your institutions. The co-operation and exchange of experience may have more general character and encompass methodology and techniques applied for evaluation. .../19

- 19 -

In that respect, I would like to emphasize that you are always welcomed in the National Office of Industrial Property.

ANNEX 3: Guest lecture:
Case Study of Evaluation and Registration of
Technology Transfer Agreements

A CASE STUDY OF EVALUATION
AND REGISTRATION OF TECHNOLOGY TRANSFER
AGREEMENTS

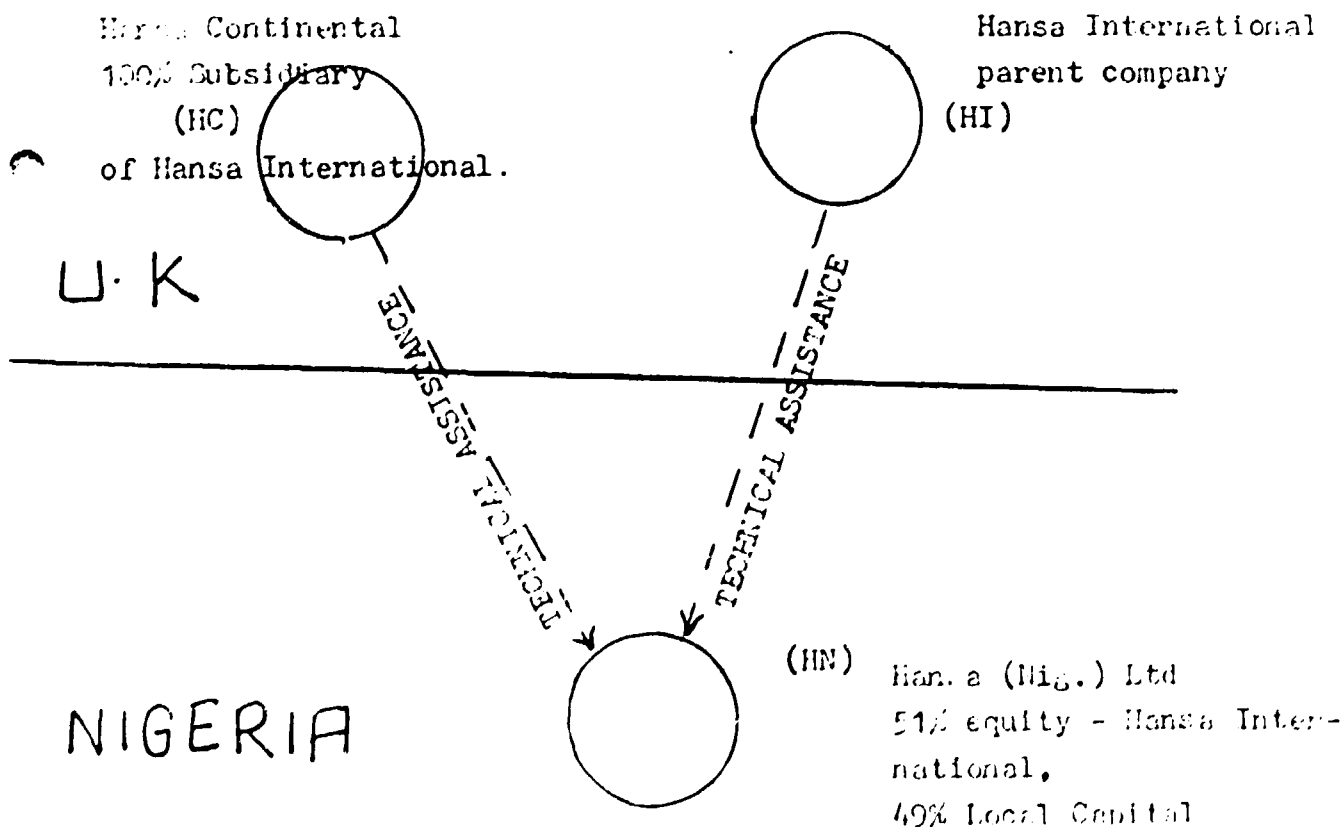
(Prepared by the National Office
of Industrial Property)

Lagos, 1983.

TECHNICAL ASSISTANCE AGREEMENT BETWEEN HANSA INTERNATIONAL LIMITED AND HANSA CONTINENTAL LIMITED BOTH OF U.K. AND HANSA (NIGERIA) LTD

1. Hansa International Limited is a United Kingdom based Rubber products and plastics Manufacturing Company. Hansa Continental is its wholly-owned subsidiary also based in U.K. It has in its possession some of Hansa International's know-how in the manufacture of plastics and rubber products. The two constitute the licensor under the above agreement.

Hansa (Nigeria) Limited is a private joint-venture enterprise incorporated in Nigeria with 51% Foreign Capital and 49% Local Capital. Hansa (Nigeria) Limited entered into separate agreement, with both Hansa International Limited and Hansa Continental Limited under which both shall supply it with all information processes and inventions together with the sole rights to manufacture and deal in various rubber products and plastics. Hansa International on its own and through its subsidiary (Hansa Continental), following the date of the agreement grant to Hansa (Nigeria) Limited registered user rights in respect of Trade Marks and Registered Designs. The triangle below depicts the know-how supply patterns.



----- agreement between Hansa International and Hansa
NI, INC (Nigeria) Limited.

----- Agreement between Hansa (Nigeria) Limited and Hansa
Continental U.K.

The agreement between Hansa (Nigeria) Limited and Hansa
Continental draws equal fees to that between the former and
Hansa International.

2. REMUNERATION

In consideration of the licensed know-how information and
other grants Hansa (Nigeria) Limited is obliged to make the
following payments:-

- (i) 4% royalty on P.B.T
- (ii) 2% on net turn over for use of Industrial Property Rights.
- (iii) 4% buying commission on f.o.b. invoice price on raw
materials.
- (iv) Settle all forms of insurance, freight and registration
charges incurred in the process of implementing the agreement

Under the second agreement, with Hansa Continental, Hansa
(Nigeria) Limited is also obliged to make exactly the same
payment as above.

From the attached fees capitalization sheet, the two sets
of payments constitute 8% each of licensor's profit. And since
both sets of payments are made against the same financial figure
of the licensee, the aggregate payment becomes 16%. Given the
licensee's discounted profit figure N13,666,070 the licensors
share of it is N2,186,912. On its raw material import average
figure of N10,000,000, 4% buying commission due to the licensor
constitute N400,000. By the time other charges on insurance,
freight, registration fees, and training of its personnel are
taken in to consideration, the total commitment annually at the
instance of the licensor would amount to N4,000,000.

3. TAXATION

The two agreements provide that all payments due to Hansa International Limited shall be free of "Withholding Charges" "taxes" and "deductions whatsoever". This is because Hansa International shall pay same in U.K. However if it is necessary to do so the agreement obliged Hansa (Nigeria) Limited to settle such payments on its own.

4. DURATION

The first agreement entered by Hansa (Nigeria) Limited and Hansa International of U.K. was twenty two years ago, for two equal terms of ten years each. The present one is the third. During these periods, from Hansa (Nigeria) Limited's records, the national content (Value Added) of its products grew by 5%. Its raw material import figure grew by 300%, while its export figure remains at zero.

5. GOVERNING LAW OF THE AGREEMENTS

As provided for in the two agreements, the governing law of the agreements shall be the law of England. Dispute shall accordingly be settled in U.K. in accordance with the arbitration law of England.

6. MISSING PROVISIONS

The agreements made no provision for the following clauses:

- (i) Clause warranting the licensed information processes.
- (ii) a training programme clause geared towards the development of the skills of Nigeria.
- (iii) a research and development programme geared towards the development of local raw materials.

7. RECOMMENDATIONS BY NOIP

The agreements containing the provisions such as those stipulated above and the non-inclusion of some vital ones, would only enhance the maximization of the returns on the licensor's (Hansa International Limited) know-how at the expense of both the

local venture partners and the national economy. The effective control of the enterprise would also be difficult since raw materials used by the firm and the law governing the agreements are as foreign as the know-how itself. The National Office of Industrial Property playing its role of screening and registration of Technology Agreements made the following recommendations:-

- (1) that a clause be incorporated in to the agreement granting the licensed information process and invention for the manufacture of the licensed goods. This clause shall make Hansa International liable to all loss and/or damages suffered by the licensee as a result of faulty information processes, supplied by it.
- (2) that a comprehensive training programme for Hansa (Nigeria) Limited's personnel be incorporated into the agreement. The programme among other things should state the field, calibre of staff, and duration of the such trainings.
- (3) that a research and development clause geared towards the development of local raw materials be included into the agreement in view of the fact that substantial part of such materials would be produced locally.
- (4) that a clause granting royalty free improvements to the licensee be incorporated with the agreement in view of the changing nature of technology.

The parties to the agreements have accepted this and the other three recommendations above.

- (5) the office further recommended that the two agreements be merged into one or the licensor proof that two distinct information processes are needed to manufacture the rubber products and plastics respectively. And if so, to justify that both processes involve the identical technology thereby drawing identical remuneration. To these observations, the licensor accepted the merger of the two

agreements against single set of remuneration. By the intervention of the Office, half of the nearly ₦4 million remitted has been saved.

- (f) that all fees earned in Nigeria should be taxed according to the Nigerian tax law. In the opinion of this Office Nigeria equally needs Foreign exchange through taxation just like U.K. The parties to the agreement had accepted this recommendation
- (g) that the duration of the agreement be reduced from 10 to 2½ years, since from records available, the durations (1962-83) played little role in getting the technology adapted in Nigeria. The parties to the agreement had agreed to the reduction of the term of the agreement but not to 2½ years in view of recommendations under a, b, c and d above. According to them, a period of five years is needed. A term of 5 years therefore was approved for the agreement.
- (h) that the law governing the agreement as well as dispute arising thereof shall be the Nigeria law. This recommendation was accepted and effected accordingly.

CONCLUSIONS

From the foregoing it is evident that foreign Companies typical of the ones under study, by down-playing the relationships of parties to technology agreements and making ambiguous provisions are able to maximize their remuneration to the detriment of the local venture partners and the national economy. For instance, the know-how to be supplied by the two licensors in question are vaguely stated as "all information process and inventions together with the sole right to manufacture and deal in various rubber products" and "plastics". The subsidiary Company and the parent firm under this arrangement also assumed distinct identities thereby justifying the remuneration attached to the two agreements.

NOIP in the evaluation of the agreements was able to determine the contradiction and ambiguities in the said agreements and accordingly called for their merger and amendment. After a series of consultation with the representatives of the Companies concerned, the agreements were merged and amended and approved thereby saving ^{some foreign exchange} in the tune of N2 million, in addition to the adequate protection made for the licensee .

Bearing in mind that from a single agreement this Office could save N2 million, the ^{country} ~~ought~~ to have lost millions of naira in foreign exchange to foreign Companies before it was recently established. Furthermore ^{the} Office was able to get stringent provisions such as those regarding supply of raw materials, governing laws and duration of the agreement relaxed. This, with the incorporation of research and development, and training programmes geared towards the development of local raw materials and the enterprise's personnel would enhance the adaptability and profitability of the venture for the larger benefit of the economy.

At this juncture it is safe to say that, while technology transfer Agreements can be a vehicle through which a country could have immediate access to advance means of production and control over such means, it requires a regulatory role such as that played by NOIP to make the achievement of this noble goal a reality. The establishment of NOIP is thus an important step ^{the} in ~~quest~~ for technological and industrial take-off by the country.

RES CAPITALIZATION SHEET

	1979	1980	1981	1982	1983
Discount Factor	1.46	1.33	1.21	1.1	1.0
Net Profit	2,051,000	1,817,000	3,700,000	1,800,000	1,800,000
Net Sales	5,013,000	9,212,000	10,800,000	14,800,000	14,800,000
ENPV Sales	7,318,980,000	12,251,960	13,068,000	16,280,000	14,800,000
NPV Profit	2,994,460,000	2,416,610	4,477,000	1,980,000	1,800,000

ENPV Sales
63,718,940
ENPV Sales
ENPV Profit
13,668,070

1. PBT = $\frac{\text{ENPV Profit}}{R}$ = 24,851,036.36
2. 4% royalty ⁵⁵ = $24,851,036 \times \frac{4}{100}$ = 994,041.45 = R1
3. 2% on net turn-over = ENPV Sales $\times \frac{2}{100}$ = 63,718,940 $\times \frac{2}{100}$ = 1,274,378.80 = R2
4. TTF = $\frac{\text{PBT}}{R} = \frac{\text{PBT}}{R1+R2}$ = $\frac{24,851,036.36}{2,268,420.25}$ = 10.96
5. LSEP = $\frac{1}{1+TTF} = \frac{1}{11.96}$ = 0.08
6. ERF = 1 - LSEP = 1 - 0.08 = .92

ANNEX 4: Guest lecture:

"Sources and Quality of Data for Demand
Forecasting in Nigeria"

given by guest lecturer:

Mr. G. K. AJAYI, Chief Economist, Nigerian
Industrial Development Bank Limited (NIDB)

SOURCES AND QUALITY OF DATA FOR DEMAND
FORECASTING IN NIGERIA

I - INTRODUCTION

The evaluation of an industrial project consists of three broad aspects - technical, financial and economic. While these three areas do not fully exhaust all the issues involved in project analysis, they are the major ones in which the others are usually subsumed.

Technical appraisal considers the technical and engineering feasibility and soundness of the project concerning itself only with the availability, and supply at competitive prices, of all the physical facilities needed to make the project a reality. Such facilities include land, basic infrastructure, raw materials, machinery and equipment and technical skill. The primary focus of financial appraisal is on the financial viability of the project. It assesses the amount and sources of funds required to establish the project (balance sheet), relates costs to expected sales revenue to forecast profitability (profit and loss projections) and also examines the liquidity prospects of the project (cash flow analysis). As part of the financial appraisal exercise, market investigations have to be conducted to determine the marketing prospects of the project. Economic analysis evaluates the worthwhileness of the project from the viewpoint of the national economy particularly in relation to the basic economic and social objectives of the country as a whole.

My brief - highlighting the sources and quality of data for market evaluation - relates to a significant aspect of financial appraisal. As a matter of fact, demand forecasting represents the first step in the order of evaluation of any project. Before putting much effort into the appraisal of any project, an attempt must first be made to find out

whether its output can be sold. Much valuable time and effort must have been wasted if after completing all the other details of the appraisal, it is sadly discovered that the required market is either not there or is inadequate to accommodate even the minimum technical and economic scale of operation. Issues of marketability of product and output must, therefore, be resolved before embarking upon a comprehensive appraisal.

II - STATISTICAL REQUIREMENTS FOR DEMAND FORECASTING IN NIGERIA

In an economy like Nigeria with a rather unstable investment climate, demand analysis can be very arduous and cumbersome. This is because for any such analysis to be meaningful and reliable, it must embrace a wide variety of quantitative data as well as a host of qualitative information. However, the first nut to crack is a proper identification of the product of the project as this will guide the analyst immensely in his quest for information. Demand patterns often vary with the nature of products.

Factors influencing the demand for consumer goods vary from those of intermediate and capital goods. Even within each group, there may be differences which are basic to demand projection. For example, consumer durables and non-durables have factors that are common as well as others that are peculiar to each group. A product that is light in relation to its value may enjoy a national market owing to its relatively low transportation cost whereas the one that is bulky in relation to its value or fragile may have a more limited, local, market because of high transportation costs. It is also necessary to know for which income group the product is primarily meant - low income, middle income or upper income; rural or urban population; public or private sector. The nature of the product will determine the requirements from the following main types of data:

i. Quantitative data

The most direct statistics for demand forecasting are the time series of physical quantities of local output and imports of the product. Exports would have featured but for the fact that Nigeria scarcely exports any manufacturing product. Similarly variations in the stock of the product are relevant but could not be included for lack of information. Consumption (C) which is a proxy for actual or effective demand can be equated thus

$$C = \text{local output} + \text{imports} - \text{exports} - \text{stock increases}$$

bearing in mind that in the Nigerian context, only the first two may be necessary or available to work with.

In the case of Nigeria with a local entrepreneurship characterised by high risk aversion and a high propensity to rush into areas where others have gone and succeeded, local production statistics must not be limited to only the past and present but also include potential production. For example, any demand forecasting in Nigeria for beer or soft drinks (where the number of projects undergoing implementation and at the active planning stage are as large as, if not larger than, the number of existing ones) which is at the moment based on historical and present output would result in a grossly misleading supply gap. Any investment decision based on such analysis may end up in disaster.

Another very essential numerical information is the one on the trend of prices for the product. Time series of prices for the product (for the period corresponding with that of physical production) are required. They should include ex-factory prices, wholesale prices, retail prices and (in the case of internationally traded products) free-on-board (fob) prices (for products meant for export) and cost - insurance - and - freight (cif) prices (for import-

substituting products). It should be noted that price statistics are much more difficult to obtain than production and import statistics.

Apart from production, import and price data, there may be need (depending on the nature of the product) to consider macro-economic data which also influence demand. These include national income, customs tariffs, excise duties, household budgets (rural or urban). Availability of such macro-economic data permits the use of more elaborate techniques of demand forecasting.

ii. Non-Quantitative Data

In a country like Nigeria with a rather unstable investment climate, demand estimation must go beyond the analysis of numerical data to include all the qualitative factors prevailing in the environment of the project. Depending on the direction of the swing of the national economic pendulum, the Government may prohibit or liberalise the importation of the product. Many projects were set up to produce building materials including ceramic sanitary wares in the country in response to large-scale import restrictions only to find the door widely opened to importation of building materials shortly after they began commercial operation. The reason for the import liberalisation was the need to facilitate the execution of the housing programme by the Civilian Administration. Many such projects were hard hit until the oil glut and the resultant austerity provided some relief. Demand analysis should, therefore, examine the legislative and administrative environment of the project and attempt to project likely trends in that respect.

Similarly, any physical or political barriers to the free flow of goods must be considered. With inadequate infrastructural facilities, it may be difficult for the

if it is right in relation to its country

product to enjoy a market much wider than its locality even if it is a bulky product mainly consumed by the Government, such as crushed stones and sandcrete slabs and rings for road construction, the political leaning of the project owner in relation to the political party in power in the State or area must be considered. The line between politics and economics in Nigeria is often blurred. Despite a pressing economic need, a State Government may refuse to buy the products of a political opponent.

The distribution and marketing strategy of the project concerned must also be examined. For example, even during the days of a serious beer shortage in the country, there was an NIDB-assisted brewery which found it difficult to sell all its output on account of its distribution strategy. While the other breweries would deliver to their dealers and also collect empty bottles back, that brewery insisted on its dealers taking delivery at the factory and returning empty bottles on their own which most of its dealers found very inconvenient.

Qualitative information is vital to demand forecasting and should never be ignored. Despite the problem of quantification, it can be used to modify the quantitative results obtained from numerical forecasting. Just as at the present in Nigeria, demand forecasting in certain industrial subsectors (like textiles, shoes and electronics) which ignore the effect of smuggling would lead to a wrong investment decision.

III - SOURCES AND QUALITY OF MARKET DATA IN NIGERIA

Like some other developing economies, Nigeria has a very weak statistical base. Almost all research activities are plagued by the limited quantity and quality of available statistics. It is virtually impossible for the market

analyst to obtain adequate statistics from existing published and unpublished sources. He invariably has to undertake some survey to supplement whatever he can get from his study of existing documents. We shall discuss these two approaches in turn.

A. Data from Existing Documents

The study of existing information or desk research, can tap data from a wide variety of sources as follows:

a. Official sources: Data on macro-economic information such as national income, imports, consumer price indices and industrial production by sub-sectors can be obtained from the following official publications:

1. Nigeria Trade Summary, published by Federal Office of Statistics (FOS).
2. Annual Abstract of Statistics (FOS).
3. Digest of Statistics (FOS).
4. Economic Indicators (FOS).
5. Survey of Industrial Production Data (FOS).
6. Economic and Statistical Review (FOS).
7. Nigeria's Principal Economic and Financial Indicators (Central Bank of Nigeria, Research Department).
8. Review of External Trade (FOS).
9. Composite Price Indices (FOS).

Official information on prices are lacking, but data on tariffs and excise duties can be obtained from the Board of Customs and Excise.

However, the use of data from official sources demands caution. The degree of reliability is usually low. Frequent changes in the rules of data collection make comparability of series meaningless. A consistent trend can hardly ever be determined from official data. A much more serious problem is the existence of a wide time lag, sometimes reaching 4 or 5

years. No wonder the economic expert commissioned to write Nigeria's First National Development Plan, Stopler, wrote a book on his experience of statistical handicaps entitled Planning Without Facts. The main problem is that the Federal Office of Statistics has been given a legal monopoly in data collection such that no other body can venture into its area of jurisdiction. For example, the Research Department of the Central Bank of Nigeria used to provide very useful information on consumer prices until it was forced to stop by the Government.

b. Government Agencies: Useful market data can also be obtained from certain Government research agencies and development finance institutions. The Nigerian Institute of Social and Economic Research (NISER) has a Consultancy Division in Lagos which has undertaken a good number of useful studies. The Federal Institute of Industrial Research Oshodi (FIIRO) also has many valuable documents. So do the major development finance institutions (DFIs). The records of DFIs are indispensable when it comes to assessing potential production through the projects in their pipeline. The Industrial Division of the Central Bank Research Department also undertakes relevant studies which the demand analyst would find useful.

(3) International Agencies: Reference to the documents of international agencies could be highly rewarding. In this respect, the UN Yearbook of Industrial Statistics, the UNIDO Profiles of Manufacturing Establishments, the Industry Profiles of the United States Department of Commerce (to mention a few) are useful. So are the documents of the World Bank Resident Mission.

The major weakness of such data, however, is that data are often published as they are obtained from the Government with all the limitations of official statistics.

(4) Trade Associations: Such trade associations as the Nigerian Chamber of Commerce (particularly its Industrial Group) and the Manufacturers' Association of Nigeria have statistics that are superior to those in official documentation.

(5) Private Research Organisations and Consultants: Relevant documents in this area include ICON Merchant Bankers' INCH which gives details of a good number of manufacturing enterprises and the Industrial Profile of Nigeria prepared by Skcup (Consultants) for the Federal Ministry of Industries.

(6) Newspapers: Some weekly newspapers are of immense use to the demand analyst. They include the Business Concord, Business Times and Financial Punch. The London Financial Times also provides some useful price information.

B. Special Surveys

To supplement the information obtained from existing documents, the demand analyst may have to conduct a survey to obtain both quantitative and qualitative data. He may need to survey existing enterprises producing the product to obtain data on capacity, output, sales and prices and non-quantitative information on consumer feeling, marketing strategy and effect of the legislative and economic environment. Where the population of existing producers is too large for complete coverage, a sample has to be selected. The Industrial Directory of the Federal Ministry of Industries, the Manufacturers Association of Nigeria's Who Makes What in Nigeria, ICON's INCH mentioned above and Jikonzult Management Services Limited's Nigeria Company Handbook may all help in sample selection.

However, it should be noted that market surveys can be very costly. Moreover, its usefulness depends on such factors as the quality of the questionnaire or oral interview guide or the case may be, the experience of the investigator and

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